




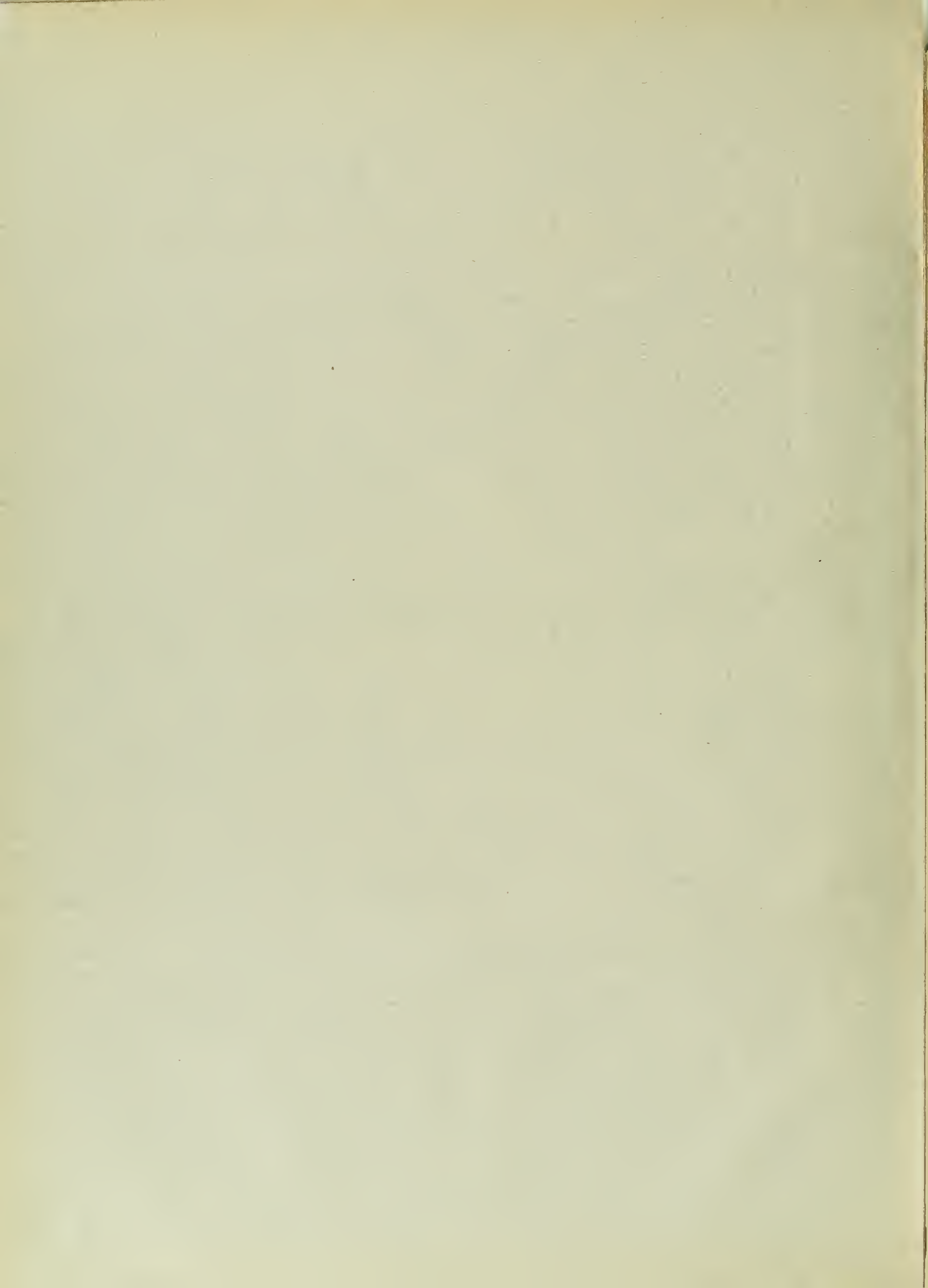


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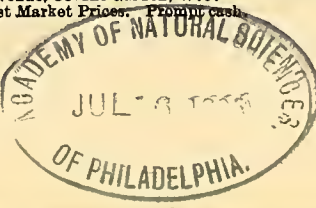
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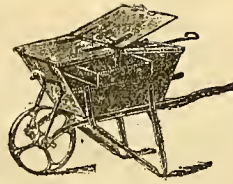
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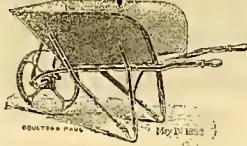
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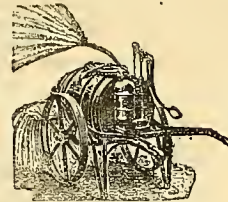


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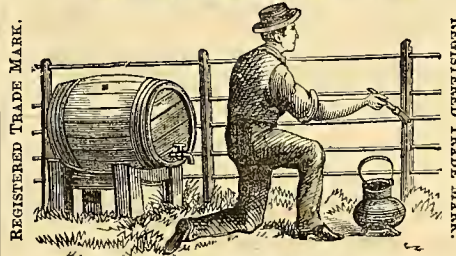
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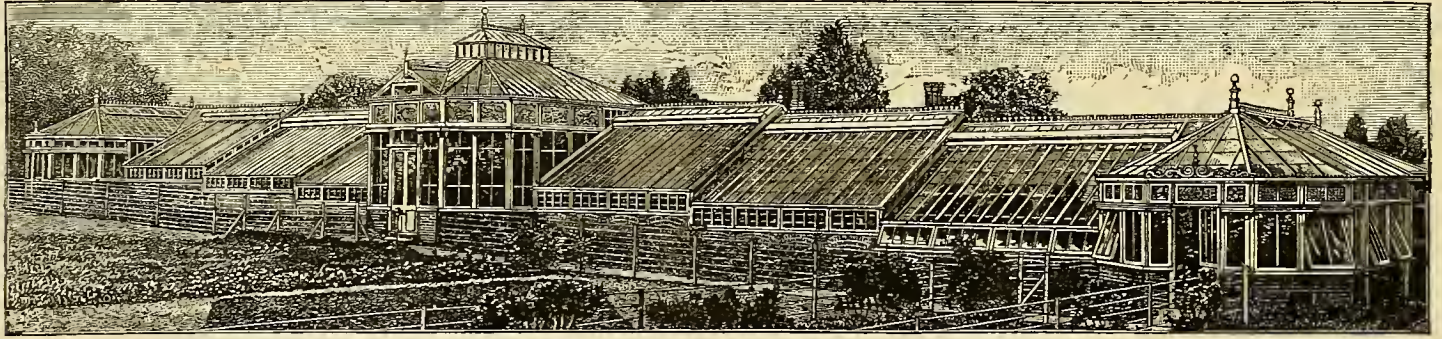
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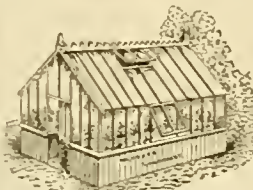
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THE

Gardeners' Chronicle.

SATURDAY, JULY 6, 1895.

PETER COLLINSON.

IT may be fairly questioned whether the annals of horticulture contain a more anomalous an individuality than that of Peter Collinson, who did more to encourage the cultivation of exotic plants during the earlier half of the last century than any other man, and who never wrote a book! It is more than passing strange that this restless and enthusiastic cultivator should have fallen into the great obscurity which surrounds his name and his work; for even the memoir of him in the *Dictionary of National Biography*, by the late Robert Hunt, F.R.S. (vol. xi., pp. 382-3), is far from satisfactory, one or two of the most important sources of information concerning him being entirely overlooked. Posthumous fame is more often than not the only species of gratitude vouchsafed to men who have done much on behalf of their country; but if the *post-mortem* eulogies of Peter Collinson have been few, faint, and far between, he enjoyed the much more substantial and satisfying advantages of an exceedingly wide repute and appreciation during half a century of his long and busy life.

Peter Collinson was born at the paternal estate of Hugall Hall, or Height of Hugal, near Windermere Lake, in the parish of Staveley, about ten miles from Kendal, Westmoreland, on January 14, 1693-4. His parents were members of the Society of Friends, and were engaged in business as mercers. At a very early age Peter developed a passion for natural history, and when quite a young man had secured the friendship of the leading naturalists of the day—Doctors Derham, Woodward, Dale, Lloyd, and Sir Hans Sloane. The Earl of Bute was another distinguished naturalist who encouraged Collinson; and it was at the suggestion of the latter that Admiral Sir Charles Wager systematised his search for illustrative examples of natural products during his voyages—a considerable portion of the collections thus formed passed into the possession of Sir Hans Sloane, now an integral part of the British Museum. Collinson naturally experienced no difficulty in becoming a Fellow of the Royal Society—in his time, as present, the most exclusive of the learned bodies in this country—and was elected December 12, 1728, at the unusually early age of thirty-four years. He was an exceedingly diligent and useful member, not only in supplying the Society with "curious observations" and materials for discussion, but in promoting and preserving a most extensive correspondence with learned men in various parts of the world. His diligence and economy of time are described as such that, "though he never appeared to be in a hurry, he maintained an extensive correspondence with great punctuality; acquainting the learned and ingenious in different parts of the globe with the discoveries and improvements in natural

history in this country, receiving the like information from the most eminent persons in almost every other."

The most noteworthy of Collinson's correspondents were Cadwallader Colden, of New York, and Benjamin Franklin, of Philadelphia. The latter communicated his first essays on electricity to Collinson, in a series of letters, which were afterwards published,* and which will be found in the collected editions of Franklin's works. In 1730 a subscription library was set on foot at Philadelphia, and Collinson not only encouraged the movement by making several very valuable presents to it, and by procuring others from his friends, but he voluntarily undertook the commission to purchase a quantity of books—a task which he performed to great satisfaction for over thirty years. At the same time he transmitted to the directors or committee of the library, accounts of every new European improvement in agriculture and the arts, and every philosophical discovery, among which, in 1745, he sent over an account of the new German experiments in electricity, together with a glass tube, and some directions for using it.

A few months ago a very important series of long and interesting letters from Colden to Collinson, and a few from Franklin also, came into the market at Sotheby's, and realised very high prices. A few extracts from these letters will be valuable for future reference, although botanical matters formed but one of the many subjects dealt with in these epistles.

Writing to Peter Collinson from New Haven, in Connecticut, on June 26, 1753, Benjamin Franklin, *inter alia*, condole with the former "on the death of good Mrs. Collinson." "I do not," he says, "offer to comfort you by arguments drawn from philosophy or religion, such will readily occur to a person of your understanding and piety. Natural affections must have their course. The best remedy of grief is time." A contemporary has noted on the fly-leaf of this letter the following somewhat unpleasantly candid opinion:—"There was no occasion of any philosophy on this ever-to-be-lamented occasion. P. C. had few feelings but for himself, the same principle that led him to deprive his son of his birthright, when that son lay in the agonies of death, and knew not what he put his hand to, supported P. C. in the loss of the best woman in a manner that did no honour to his feelings, his gratitude, or his humanity." How far the charge made in the anonymous annotation to this letter is true, it is now impossible to say; but unsupported evidence of this kind is not of serious value.

From 1749 to 1757 Peter Collinson sent to and received a large number of exceedingly interesting letters from Cadwallader Colden, Lieutenant Governor of New York, author of *A History of the Five Indian Nations*. In the earliest of these, dated from New York, July 18, 1749, Collinson was asked to view "a chamber fire-engine, with long leather pipes, such as I am told are likewise used to water gardens, and cost about £5, if from experience they are found to answer the end for which they are designed;" and also 200 lb. weight of red Clover seed." A letter dated again from New York, March 17, 1753, Colden refers at length to botanical matters, one of the sentences being:—"I sent by last packet to Dr. Fothergill a description of a new genus, with a drawing of the plant by her [his daughter Jenny], which we have called *Filmaurea*." In another letter, dated August 11, 1764, contains the following interesting paragraph:—"In some of

your former you informed that you had the true Scammony from Alyayso growing in your garden. I am confident it will agree well with this climate. I should be glad of some of the seed to be sent so as to sow it next spring, and some of the seed of the true Hellebore. Dr. Whytte in his last letter informs me that the *Colchicum autumnale*, or Meadow Saffron, is found to be an extraordinary *Ducrelia*, and effectual in Dropsies. I wish to have it, as I think it is not a native of this country."

Only two letters appear to have been preserved out of the many which must have passed between Peter Collinson and Richard Richardson, the equally enthusiastic naturalist; these have been printed by Dawson Turner in his *Extracts from the Literary and Scientific Correspondence of Richard Richardson*, 1835. Neither appears to be in Collinson's handwriting, and were probably dictated by him to a secretary. The earlier of these is dated August 12, 1742, and deals chiefly with the death of Lord Petre, but it contains several horticultural items, which will be

Petre appears to have thoroughly entered into the spirit of their culture. He describes the great stove house of Lord Petre as "the most extraordinary sight in the world." All the plants, he goes on to say, "are of such magnitude; and the novelty of the appearance strikes every one with pleasure. The trellices all round are covered with all species of Passion flowers, which run up near 30 feet high: the creeping, great flowering *Cereus* blows annually with such quantities of flowers that surpries every one with their beauty, and at the same time perfumes the house with their scent." He does not tell us of the size of the great stove, but the lesser one measured 60 feet long and 20 wide, and "is full of a vast variety of all species of tender exotics." *W. Roberts.*

(To be continued.)

PARASITES.

At a seasonable time towards the end of last year (*Gardeners' Chronicle*, December, 1894, pp. 745-6), I contributed a few notes to this journal on the biological peculiarities of certain species of *Viscum* and *Loranthus*, having, at a previous meeting of the Linnean Society, exhibited a number of specimens of various plants parasitical on the stems and branches of other woody plants, in illustration of these peculiarities. A prominent feature in that exhibition, though one merely alluded to in the article cited above, consisted of specimens of Australian *Loranthus* and some of the plants on which they prey, exhibited to demonstrate the striking resemblance in the foliage of the parasite and that of the host. In some instances the resemblance are so close that a superficial examination is insufficient to detect the presence of the parasite when not in flower. The biological significance of this phenomenon has been interpreted in the sense of advantage to the parasite, though apparently without any very good reason, for they are in need of no special protection to ensure their existence and reproduction. Indeed, as I have already pointed out, several of those species parasitic on plants having similar foliage, grow equally as well on plants having totally dissimilar foliage. Bearing on this subject, Mr. F. Turner, F.L.S., Botanist to the Department of Agriculture, Sydney, has a very interesting article in the *Proceedings of the Linnean Society of New South Wales* (vol. ix., pp. 557 to 560), on exotic trees and shrubs affected by Australian *Loranthus* and *Viscum*. He gives a list of twenty-seven foreign trees and shrubs that have become hosts for native parasites; yet only a small number of the latter have been observed to attach themselves to introduced plants—only three in fact, out of about twenty-five of the *Loranthaceæ*. They are, *Loranthus celastroides*, *L. pendulus*, and *Viscum articulatum*. The last is a leafless Mistletoe with broad, flattened, jointed branches, and one of the most widely dispersed species, occurring almost throughout India and Malaya, and extending to China, Japan, and Polynesia, growing on a great variety of plants; yet Mr. Turner states that he never saw it growing on any native Australian tree except *Doryphora Sassafras* (*Monimiaceæ*). He had also seen it growing on cultivated Peach trees, but on no other exotic. In the Kew Herbarium, however, there are Australian specimens recorded as parasitic on *Pilocarpus* (*Rutaceæ*), *Exocarpos* (*Santalaceæ*), and *Baloghia* (*Euphorbiaceæ*). In the Sandwich Islands it is common on *Acacia Koa*; in Japan and China, on *Eurya* and *Camellia*; and in India and Malaya, on a variety of trees and shrubs belonging to various other natural orders.

Curiously enough, the *Loranthus* that most closely mimics or resembles, if the reader would rather, the native host plants, is the one that most commonly preys upon exotic plants belonging to a variety of natural orders. This is *L. pendulus*, which is common on some species of *Eucalyptus*, *Santalum*, *Acacia*, &c. It, and *L. celastroides*, between them, have been observed growing on twenty-six exotic trees and shrubs belonging to thirteen natural orders. Among the trees and shrubs on which they prey I may name the Tulip, Orange, Apple, Pear, Locust, Plum, Whitethorn, Olive, Elm, Plane, Alder, Walnut, Oak, and Willow—a sufficiently diverse variety.



FIG. 1.—PETER COLLINSON.
(From Nichols' *Literary Anecdotes*.)

read now with interest. For example, he says, "the *Laurus indica*, Aldini, is nowhere to be sold; the seeds of it were sent to Mr. Brewer, fresh, but they have not come up." And again, "Mr. Gordon has also had flower *Obeliscotheca* (*Rudbeckia hirta*, L.) with a red flower; he is the only gardener now left that has a good stove; but now Lord Petre is gone, I am afraid all stove plants will go down. . . . I tell you of a curiosity that I saw at Captain Goff's, an East India director, the true Tea-tree in great health. It was brought two or three years ago, a present, from China, to his wife. It is an evergreen, and is housed with the Orange-trees, for it grows on the more northerly parts of China and Japan, about the latitude of forty degrees north." According to Miller, the Tea-tree was not imported into England before 1768, which is, therefore an error.

Four years later, April 4, 1746, Collinson again favoured Richardson with another of those long and gossiping letters which are now such valuable contributions to the history of gardening. His fears about the decline in stove plant culture, consequent on the death of Lord Petre, proved unfounded, for Lady

* These letters were published in three parts, under the title of *Experiments and Observations in Electricity*, in London, in 1751, 1753, 1754, Collinson undoubtedly acting as editor of the pamphlet.

In connection with the existence of parasites parasitic on other parasites, I mentioned in my article referred to above that there was an authenticated record in Bentham's *Handbook of the British Flora* of *Viscum album* growing on *Loranthus europæus*, for which I could find no other authority. I have since found a more definite record of the fact in Pollini's *Flora Veronensis* (iii., p. 176), where the author, after enumerating a number of trees on which *Viscum album* grows, continues:—"Atque etiam alius speciei parasiticæ, scilicet *Loranthi europæi*; nunquam vero super *Quercum* species." *W. Botting Hemsley.*

USE AND ABUSE OF POTASH IN FRUIT GROWING.

ATTENTION has been called by Prof. W. E. Britton in the *American Agriculturist* to the use of the fertiliser potash in orchards. The author says, an excess of nitrogen usually tends toward wood production and an increased growth, at the expense of the crop of fruit. Potash and phosphoric acid, on the other hand, are the elements specially suited to promote the general vigour of the tree, and increase the quantity and improve the quality of the fruit.

The experience of many large fruit growers favours the use of potash in manuring orchards. It is most commonly applied in the form of muriate of potash, from 200 to 300 lb. per acre being considered an economical dressing, if the orchard receives an application each year. Kainit may be used instead of muriate of potash, but double the quantity must be employed, as this salt contains a much smaller percentage of soluble potash, and it is only about one-third of the price to purchase.

Professor Britton is inclined to think that the practice of applying potash or phosphoric acid exclusively is sometimes carried a little too far, and thinks that if a complete fertiliser were used, it would in many cases give better results.

The result of experiments on the fertilising of Peach orchards at the New Jersey station shows the greatest yield of fruit per acre where muriate of potash and nitrate of soda combined were applied; but potash gave much better results than either nitrate of soda or phosphoric acid alone. Potash seemed to promote a certain vigour and thrift which were lacking in trees deprived of them.

A later report from the same station confirms this experience, and says, "potash has proved the most valuable of the single elements, the net gain being greater than where farmyard manure was used." The largest net gain, however, came from using a complete fertiliser.

Mr. S. D. Willard, a well-known western New York horticulturist, says:—"In order to have good hard wood, healthy leaves, and well-developed buds, we must rely upon potash and phosphoric acid."

Potash was once thought to be a remedy and preventive of Peach-yellow, but experiments show this to be without foundation. In a recent bulletin from the Cornell Station, Professor Bailey says: "I believe that the keynote to the proper fertilising of Peach orchards is potash and phosphoric acid, and not nitrogen; wood-ashes, muriate of potash, bone fertilisers—these are some of the money-makers for Peach trees. Potash is generally the most important element to be applied directly to orchards, particularly after the trees have reached bearing age."

One of the best sources of potash for orchards is wood-ashes, but this material is so often in America weakened by leaching that it cannot be confidently recommended when in that condition. Forty to fifty bushels to the acre is a good dressing if the ashes have been kept dry. Muriate of potash is perhaps the best and most reliable form in which to secure potash at the present time. Commercial samples generally contain from eighty to eighty-five per cent. of muriate of potash, or about 50 per cent. of actual soluble potash. An Apple orchard in full bearing and upon loose soil may receive as high as 1,000 lb. of potash per acre, but a normal and economical application is from 500 to 700 lb. (1881) *Am. Hort. Soc. Trans.*

Thus it is seen that in a majority of cases an application of potash benefits an orchard in bearing condition. This fact points towards one of two suppositions, (1) that the soil is generally deficient in potash; or (2) that potash is beneficial when present in excess of the requirements of the crop. At first thought, a deficiency of potash in the soil seems improbable, when chemical analysis shows that the total contents of the first 8 inches of a fertile soil gives nearly 20,000 lb. of potash per acre, 3,521 lb. of nitrogen, and 4,400 lb. of phosphoric acid. The soil then contains over four and a half times as much potash as it does of phosphoric acid, and more than five and a half times as much potash as it does of nitrogen.

Much of the potash present in the soil becomes available to plants so slowly, that it has to be assisted in rendering it more soluble by some other agent, or by an application of ready-formed potash.

The ashes of fruit trees contain a large percentage of potash, and it is also present in considerable quantities in the fruit. It may be mentioned that some prominent fruit-growers fail to note any benefit derived from potash alone when applied as a fertiliser to orchards, and some claim an injury from its effects. This fact supports the first supposition referred to above, but is fatal to the second.

Soils differ, and it is likely that we shall find potash very beneficial on some soils—perhaps, on most soils, while useless on others; before applying large doses we should use it in a small way and note its effect. It is also thought that potash applied as a fertiliser improves the quality and flavour of the fruit; it certainly tends to maturation and to the production of sugar. *J. J. Willis, Harpenden.*

THE ROSARY.

ROSA WILLIAM ALLAN RICHARDSON.

I READ somewhere within the last few days a severe condemnation of this Rose, stating that it was so fugacious as not to be worth growing. Surely the writer could have never seen this charming Rose in free bush form, or climbing up into a tree, ascending a church-tower, or clothing a house-gable in a half-wild and free state. The exquisite form and great variety of colour in the buds and expanded flowers, the beauty of the leaves, and the prodigality of the bloom, surely atone for its lack of substance and of staying powers. With the exception of *L'Idéal*, we have nothing in the same style among our Roses [*Janne Desprez, Ed.*] And William Allan Richardson seems to me worthy to rank with *Gloire de Dijon* and *Homère* for the production of striking and telling effect around the house or in the landscape. No Rose can produce similar colours or such fresh and fascinating results as William Allan Richardson.

THE EXTREME HARDINESS OF ROSA RUGOSA AND ITS VARIETIES.

Sussex seems to have been highly favoured in the matter of the safety of its Roses this year. From all I have seen and heard of the two counties, Suffolk has been hit much harder by the frosts of February than Sussex. The county has doubtless a warmer climate to start with, and has more and greater undulations of surface than Suffolk, and few things are more potential in affording changes and ameliorations of climate than are hills and valleys. Rosarians, in localities less favoured by nature, rejoice with "A. P." and others who have written in hopeful terms of the Rose harvest already begun in Sussex. And we can all find one pleasure in common, and that is the extreme beauty and perfect hardness of *Rosa rugosa* in all its varieties. The only change that I have noted in this striking Rose this year is in the colour of the foliage. I have noticed this change before, but not to the same extent. In some cases, almost entire plants have become almost golden. The change of colour in the leaves has not affected the bloom, which is plentiful as usual. *Rosa.*

A PARK FOR DROITWICH.

DROITWICH, though situated in an agricultural district, finds its chief support in the manufacture of salt. But this trade is becoming precarious in some respects, because the making of salt in the town is not so great as it once was. Many of the houses appear to be losing their support also, and are leaning in every direction. The churches are like the houses, mostly out of the perpendicular, and the High Street has lost grade.

The town is becoming better known on account of the brine baths that were provided by Mr. John Corbett, of Impney, who built up a gigantic salt industry in the town and at Stoke Prior, four miles nearer Bromsgrove. These baths are rightly becoming famous for their curative and alleviative properties in rheumatism, sciatica, gout, and kindred complaints. Numerous visitors realise the value and importance of a prolonged course of baths, and take up their residence for weeks and months, according to the necessity of their case. The town, though small (about 4000 inhabitants) is well provided with hotels and boarding-houses.

To meet the requirements of visitors, Mr. Corbett has provided a beautiful park in a central position, and within a short distance of the hotels. The site, covering nearly 12 acres, was formerly an orchard, the fruits being chiefly Apples, Pears, and Medlars. Many of the trees are 100 to 150 years old, and of immense size. The ground is slightly undulating, and has a slope to the west, north, and east. Mr. Davies, the head gardener at Impney, has availed himself of the natural advantages offered by the lay of the land, and has produced, after his own plans, a park which is at once beautiful, interesting, and unique.

A few of the fruit trees have been removed for artistic reasons, but most of them are retained, Roses, Wistarias, Clematis, Brambles, Honeysuckles, Virginian Creepers being planted near them, so as to grow up into the crowns, where they will in course of time form pictures of floral loveliness. Then imagine the glory of the Apple blossom, of the ripening golden fruit in autumn, and the feast of Roses in summer. A wide carriage-way encircles the park, and in one part is carried in a straight line through what is an avenue of Apple trees. Wide footpaths intersect, without marring the appearance of the central area, and skirt the boundary. In suitable positions are a large flower-garden planted with the usual kinds of bedding plants, a Rose garden, and an American garden with masses of Ghent Azaleas, *Andromedas*, *Rhododendrons*, *Ericas*, and other plants. Conifers and other evergreens are planted in masses about the sward, and are used for masking undesirable objects and the intersecting points of walks and roads. Seats and summer-houses are plentiful. *J. Udale.*

FLORISTS' FLOWERS.

RANUNCULUS ASIATICUS VARIETIES.

THOUGH the Pansy, Tulip, Auricula, &c., are now the subjects of reviving interest, Ranunculuses, the favourite flowers of my boyhood's days, seem to be more and more neglected. Yet no flower is more beautiful or perfect in form, they excel most other flowers in the symmetry of their shape, their brilliancy, and variety of colour; so that a bed of fine Ranunculus is a most attractive object. I have no doubt there are still some amateurs to be found who cultivate Ranunculuses from whom a choice collection could be obtained. The once famous collections of the Rev.—Tyso, Messrs. Lightbody and Waterson, are, I presume, now defunct. It is not a difficult flower to cultivate, although all kinds of soil and situations are not equally adapted to the requirements, and it has numerous insect enemies.

I do not now propose to go fully into its cultivation, but to say a few words on soils and the raising of seedlings. In selecting a situation for a bed choose a moist tolerably rich soil, not too fully exposed to the sun. Prepare the ground by deep

trenching, and add to the garden soil a portion of manure from an old Cucumber-frame, with one-fourth loam—mix these well together, and prepare the bed some length of time before planting, in order that it may settle firmly; plant the roots in the end of February in rows about 9 inches apart, and from 3 to 4 inches in the row. Use a marked dibber, so that the roots may be all planted at one uniform depth, and cover the roots from 1 to 1½ inches deep. Should the weather prove very wet or frosty before the plants come up, protect the beds with straw, mats, or some suitable material. When the plants commence to show bloom, give plenty of water between the rows, but never water over the plants, which is one cause of failure; when in flower protect them with an awning from sun and wet, and when the foliage is nearly withered about six weeks after flowering, select a fine day and take the roots up. Place them in a room where there is plenty of air to dry gradually. After they are once dry they must be kept so, as the least damp would mould them. The best time for sowing the seed is the middle of October or early in January, in boxes or pans, covering the seed very lightly. They should be kept in a cool frame during frosty weather, and at all times should have constant exposure to the light. In May, plunge the boxes or pans up to the rim in the open ground, where they have only the morning sun; water them almost daily until the grass withers, then let the boxes become quite dry. About the middle of July take them up, gradually dry them, and keep them in a box of dry sand. In February they should be planted and treated in the same way as the old roots. Edward Bennett, Lyne, Chertsey.

THE CARNATION AND PICOTEE.

I fear the time has come when I must be classed with the old florists; and yet during all the years it has been my pleasure to cultivate the Carnation, I never knew a season anything like the present. It has been most trying to the show varieties of Carnations and Picotees. The scarlet and crimson bizarres have suffered most, next the flakes, and then the choice florists' type of Picotees. The yellow-ground Picotees have also felt the effects of the wet, cold autumn, and of the severe frosts in January and February. All the self Carnations are doing well, and will flower very strongly.

In the first place the layers did not form roots well, and many of them did not produce any at all; this necessitated late planting out or potting up, and almost before the plants became established severe frosts set in, and the roots were thoroughly frozen, those in 60-sized pots in frames were as hard as iron, and although the plants were not killed outright they were very badly crippled. Indeed, plants were sent to me as late as May in a dying state, the cause of which I had every reason to believe was owing to the effects of frost upon them in February. One good effect of the frost is the destruction of the weakly growing varieties; it was certainly a testing time, plants which passed well through a winter like the last may be regarded as vigorous enough for anything. Nothing in Carnation culture is more remarkable than the different degrees of vigour and hardiness of varieties. Many persons have an idea that the selfs are hardy, free-growing varieties, and that the flakes, bizarres, &c., are delicate things, only fit for greenhouse culture. There is no doubt that plants of the scarlet bizarre section are more slender in growth than the others; but it does not follow that they are less hardy in constitution, or that they will not stand the frost so well in winter. Indeed, the bizarres and flakes do much better in the county of Durham out-of-doors than they do in Essex; sufficient proof that it is not altogether either frost or wet that injures them. The degree of vigour in a Carnation is to a certain extent determined by the colour of the flowers, as may be seen by the greater vigour of certain sports from the bizarres. The maroon colour in scarlet bizarres, or the purple in crimson, giving the strongest growth; and yet in selfs the white-flowered Carnations are as vigorous, and sometimes, indeed,

they have greater vigour than the scarlet or crimson-coloured varieties.

Plants of differing degrees of vigour require as different treatment. One season the young gardener who had charge of my plants, gave the entire collection a good dressing with a rich compost in May. This answered admirably for all the varieties that made short stumpy growths, causing them to grow much longer. Those of very vigorous constitution, and which produced long-jointed layers, spindled up for bloom to an alarming extent, causing considerable loss. In a dry season, such as this, a rich surface-dressing is a great aid to the plants. Watering has been much needed everywhere in the south; but watering is of little use unless the plants can have a mulching of decayed manure, and if a thorough soaking is given once in a week, that will be much better than giving a small quantity daily, but never sufficient to well saturate the ground. Anyone can observe the effect of watering on hard, thoroughly dried ground, by examining it after the water has been applied for a few hours; it will be quite dry about 2 inches below



Fig. 2.—HEDYSARUM MULTIJUGUM: TO SHOW HABIT.

the surface, unless the surface has been loosened. The treatment of pot-plants requires much thought on the part of the gardener, as some varieties make quite three times as many roots as others, and it is safe to say that plants require three times as much water, and if the cultivator is not careful to water each, with due regard to its requirements, the results cannot be altogether satisfactory. The time for layering is now at hand, and the soil ought to be prepared for it. This may consist of equal portions of loam, leaf-mould, and sand. A little of the surface-soil ought to be removed, and this prepared material put in its place, carefully trimming and cutting the layers with a layering-knife. Any blooms that have a tendency to burst will be greatly helped by the calyx being supported with an indiarubber ring. The thrips have been troublesome this year, but there is no better way to deal with them than by putting the plants in a greenhouse and fumigating them. It is astonishing how much mischief this little insect can do to the flowers, it quite spoils them if left undisturbed. Green-fly, which does as much harm to the layers as thrips do to the flowers, may be killed also by fumigating. The plants in one garden I visited this year had been attacked by a black aphid, and, unobserved, it had spread consider-

ably over the plants, attacking the blooms in preference to the layers, this was also destroyed by fumigating; if these pests appear before it is time to remove the plants into the Carnation-houses, the best way to keep them down is by syringing, and also dusting with tobacco-powder. J. Douglas.

TREES AND SHRUBS.

HEDYSARUM MULTIJUGUM.*

We are indebted to Mr. Lynch, of the Cambridge Botanic Garden, for the opportunity of figuring this attractive hardy shrub. It is a native of Southern Mongolia, and was described by the lamented Maximowicz. Our illustrations (figs. 2, 3) show a leaf and a portion of the inflorescence of the natural size, together with an outline showing the general character or habit of the plant. The herbaceous portions are covered with a thin covering of appressed setose hairs. The height is 2 to 5 feet; the branches are ascending, slender, rigid, angular, striate; the pinnate leaves are somewhat distant, 80 to 90 mill. long, the pinnae are alternate or opposite, sixteen to eighteen in number, ovate-acute, apiculate, 10 to 15 mill. long. Stipules deltoid, acuminate. Flowers numerous, in erect racemes, with very short pedicels. Calyx oblique, tubular, slit on the upper side, limb nearly entire. Standard violet, with yellow blotches on the middle of the inner surface, 2 cent. long. Wing obliquely oblong, with a long claw; keel of two oblique halberd-shaped stalked petals. Stamens curved, nine and one. Ripe fruit not seen.

The plant above described is a handsome hardy shrub, which has, we believe, been distributed from the Cambridge Botanic Garden. We have not compared Mr. Lynch's plant with authentic specimens in the herbarium, but we may point out that our present plant does not entirely correspond with Regel's figure in the *Gartenflora*, t. 1122, wherein the flowers are described and figured as rose-coloured.

COLONIAL NOTES.

A TOWN GARDEN IN NEW ZEALAND.

A PERCH of ground in the centre of a town, although a small one, is not a very encouraging place to operate on horticulturally, but a mixed collection all doing well may interest some of your readers in other parts of the world. In one corner is a bush of *Aloysia citrodora* from Chili, and deemed a fit associate for even a Queen of Spain. In another corner is a dead Willow, up which are racing in friendly rivalry a Clematis, a Devonian Rose, and the white Sweet Pea Mrs. Sankey, all of European origin. Alongside a fence are the following Tea Roses, also from Europe:—Marie Van Houtte, Madame Lambard, Madame de Watteville, The Bride, and close by, the Rev. T. C. Cole. Not far from these is a Cantua dependens, another South American subject, and if there is one plant more than another in this vegetable kingdom which deserves admiration, it is this. On the other side fence are Camellias from China, which do better planted outside in the shade in these regions, an indication that they are natives of a temperate climate, and flourish as undergrowth in woods. Here also are Japanese Chrysanthemums, including Etoile de Lyon; bulbs from the Cape of Good Hope and other countries above the equator, as Freesias, Ixias, Ranunculi, Scillas, Antholyzas, and Schizostylis, and the Trumpet Lily. Another plant which insists upon being seen is the Coral tree (*Erythrina Crista-galli*), from the cooler parts of Brazil. That grand ornamental Grass *Elymus condensatus* from British Columbia is here, but requires more room than I have for it; so is *Prunus ilicifolia* from California. Both these were sent me by Dr. Franceschi, and *Lavatera assurgentifolia*. About the middle of this plot of ground is a pendent Willow,

* *Hedysarum multijugum*, Maximowicz, in *Bull. Acad. Sci. St. Petersburg*, xviii. (1851), 464.

with a rustic seat underneath inviting your leisure. Not far from this Willow is a miniature rock-work, smooth stones being unsuitable, as they attract and retain the sun's heat-rays to a destructive degree, in the centre of which is an *Æthionema grandiflorum* from Asia Minor or the Levant, and nestling underneath this is the modest *Campanula fragilis*, and a native *Adiantum*, which, true to itself, refused to grow in pots; and also the Ivy-leaved Cyclamen, an autumnal-flowering variety; and that indispensable plant to all rockwork, *Cerastium tomentosum*, is amongst them, but the purity of its flowers attracts the snails. The climbing Gourd of Central America is very ornamental, but requires abundance of water. With the exception of a few minor subjects, all have been noted that are in this enclosure. . . . Our own native flora has a decided objection to being removed from its natural associations, as if afraid of contamination with the outside world, particularly that part above the equator—no inducements can reconcile them to any new conditions of life; ten times out of twelve they positively pine away and die. The prevailing colour is white, as in *Clematis indivisa*, *Convolvulus sepium*, *Ranunculus Lyalli*, *Ourlia macrophylla*, the Mountain Primrose, after the way of Japonica, but with whorls of pure white flowers; *Plagianthus Lyalli*, one of the dwarf ribbon-trees, with clusters of lovely white flowers springing from the sides of its branches, which at first sight resemble a Tydea. Then there are many species of *Veronica*, *Olearia*, *Pittosporum*, *Cordylina australis*, the latter a common feature everywhere, all with white flowers, and many others, discovered within the last twenty years, many genera of plants hitherto unknown, owing to the difficulty of getting into their native wilds. For the information of those of your readers who are unable to understand what being lost in a forest means, let them for a moment imagine themselves in an immense area of densely-wooded country, consisting of evergreen trees, shrubs and Ferns of all sizes and ages, many square miles in extent, and far away from any human habitation, the prostrate trunks of trees in all directions rotted with age, the stems and branches of climbing plants impeding progress at every step, Mosses and Lichens hanging 2 or 3 feet long in their silvery gurb, fitfully lighting up the gloom. Add to this the oppressive, dank atmosphere. You shout (or cooey) for help, but the sound seems mockingly re-echoed by the native birds; in attempting to extricate yourself you are found taking a circuitous route; it is then you feel what the words "impenetrable" and "despair" really mean, and what it is to be lost in a bush or forest. Yet there is an inexplicable fascination in the perilous position.

THE ARTICHOKE.

This plant is of Greek origin, and the ancient Greeks engaged in its cultivation; still more so the Romans. The Greeks called the Artichoke *Cynara*, as did also the Romans. Pliny, combining it with the Apullean word *sclarea* (Cardoon) called it *asclaria*, otherwise *Carduus*, and the Italians of the middle ages *Articocco*, from which our modern term *Carcinoffe* is derived, which points to the similarity existing between the form of the cones of *Pinus pinea* and the closed flower-head which afford so well-flavoured and wholesome a food. But as all the parts of the Artichoke are pleasant eating—roots, leaf-stalks, stems, and flower-heads, so the Neapolitan of to-day calls it still *Cardoni*, and the head especially *Carcinoffe*. The true Artichoke is without doubt not Italian, but of Greek and oriental origin; yet we find the later Greeks praising the Artichokes of Sicily for their special good quality, and this is true of them at the present time. That the bee-attracting, gigantic, handsome flowers which spring from the delicious bud attracted also the ancients, whose only trouble was the numerous prickles, which are sought for in vain in the best varieties of to-day.

There were in ancient times many different forms; and, as has been said, the Sicilian varieties were

celebrated. The Spanish Artichokes are dark purple—almost black; and the further north it is grown, in rainy, foggy climates, the violet colour disappears, and is replaced with green or grey-green. The Spanish Artichokes are, like the Cardoons, upright and tall, the buds hidden from view, and the ribs of the leaves of fleshy consistency, as in the Cardoon. Pliny extolled the Carthaginian Artichokes for their great size, and those of Mauritania for their excellent flavour.

In the present age, the Artichokes of Naples and the Campania, in size, tenderness, good flavour and fruitfulness, excel all others, even those of other parts of Italy, and it is believed that these fine forms of the plant originated in northern Africa. The ancients gave much attention to the cultivation of the plant, and we are told that large quantities of manure and diligent stirring of the soil were required to render the buds tender-eating, and increase the fruitfulness of the plants as well. It is a maritime plant, and loves proximity to the ocean; it should, therefore be chiefly grown on the coast; and with the ready means of transit found in most European countries, there would be no difficulty in sending the produce inland. The ancients increased the plant by means of the side-shoots or suckers, which the root freely produces.

In the spring, the surface of the Campania, covered by enormous Artichoke fields, astonishes the traveller, who sees it for the first time with the abundance and beauty of the plants. No other vegetable can compete with it in productiveness and value, rivalling Asparagus in flavour and wholesomeness, and in the simplicity of the methods of cultivation. The profits of the Artichoke-grower are enormous, exceeding anything obtained in France or Germany for vegetables, even such a good paying crop as Asparagus.

In Italy the plant rests during July and August, allowing the land to be inter-cropped with some quick-growing plant. When the heat of the summer is past, and the autumn rains begin to fall, the plant commences to grow anew; this is the best time to remove the side-shoots (suckers), and transplant them. These shoots soon push roots into the soil, and to grow fast, and may be depended upon to produce heads the coming year. In November, the plant being in full growth, is well dressed with manure. To do this, the leaves are bundled up together, and trenches are made at the side of the plant, and pig-dung-water is poured into them; over this is placed half-rotten stable-dung, and the earth is returned over all in the form of a ridge. In about four weeks another application of liquid manure is made, and it does no harm if this be followed by another in January. There are varieties in Italy which produce heads at Christmas-tide, and some that grow the whole year; but the usual harvest period is from the end of February to the middle and end of July; in Sicily earlier, and in northern Italy later. The heads are cut with a stalk and a neighbouring leaf before the purple flowers expand, and tied in bundles for the market. Some special varieties are of the size of a child's head, and some have a spiny calyx, these being the best flavoured. The plant is of use to man and animals from the root upwards, and the dried stems are used for fuel. *Extract from Wiener Illustrirte Garten-Zeitung.*

VEGETABLES.

PEA CANNELL'S ENGLISH WONDER.

Those who have not as yet grown this Pea should do so. As a dwarf-growing Pea it is one of the best in commerce, and in gardens of limited area, and where stakes are not obtainable, as is often the case with amateurs in town districts, a Pea like this is a boon. In height it is about 1 foot, and requires but 15 inches space from row to row. The quantity of pods produced is simply astounding. The advantage of this variety over American Wonder is the excellent way the pods fill. I have before me two pods, a fair sample of many; one measures barely 2½ inches long without the stalk, and contains seven extra large Peas. The second pod is just 2½ inches long, and has eight Peas closely packed inside. If this Pea contained all these points of advantage, and was of indifferent flavour, I should not appreciate it even then, regarding, as I do, flavour as being of the first order. Cannell's English Wonder has no fault as regards flavour, and it is an acquisition in every respect. Sown on February 23, it was ready for use June 7. E. M.



Fig. 3.—HEDYSARUM MULT JUGUM: FLOWERS BLUE. CAMBRIDGE BOTANIC GARDEN. (SEE PAGE 8.)

A LIST OF HYBRID CATTLEYAS.

THE following list has been compiled by Mr. CHAPMAN, gardener to R. I. MEASURES, Esq., in the same manner as was followed in the list of hybrid Cyripediums previously published. Of this latter list, copies can be had on application to the EDITOR, it being understood that the proceeds are given to the two Gardening Charities. This list of hybrid Cattleyas is made up to May 1, 1895.

HYBRID CATTLEYAS.

Table with columns: Offspring, Parents, Raiser, &c. Lists various hybrid Cattleya varieties such as Aclandii-Loddigesii, Alberti, Arthuriana, etc., along with their parentage and raisers.

NATURAL HYBRIDS—CATTLEYAS.

Table listing natural hybrids of Cattleyas, including Batallian, Brymeriana, Cupido, Hardyana, etc., with their parentage and raisers.

GARDEN HYBRID.

Table listing garden hybrids, specifically Epidendrum ciliare x Lælia anceps, raised by Sander.

HYBRID CATTLEYAS.

Table listing various hybrid Cattleya varieties with columns for Offspring, Parents, and Raiser, &c. Includes varieties like Bowringiana x Dowiana, etc.

HYBRID CATTLEYAS—(Continued).

Table listing continued hybrid Cattleya varieties, including Luddemanniana (speciosissima) x Dowiana, etc., with parentage and raisers.

HYBRID LÆLIO-CATTLEYAS.

Table listing hybrid Lælio-Cattleya varieties, including Amesiana, amœna, Arnoldiana, etc., with parentage and raisers.

NATURAL HYBRIDS LÆLIO-CATTLEYA.

Table listing natural hybrids of Lælio-Cattleya, including Albanensis, amanda, elegans, etc., with parentage and raisers.

HYBRID LÆLIO-CATTLEYA.

Table listing hybrid Lælio-Cattleya varieties, including C. Aclandii x L.-C. elegans, etc., with parentage and raisers.

A LIST OF HYBRID CATTLEYSAS—(Continued).

Table listing various Cattleya hybrids under the heading 'HYBRID LÆLIO-CATTLEYA—(Continued)'. It includes columns for Parents, Offspring, and Raiser, &c., with numerous entries such as C. Dowiana x L. crispata, C. Mendelii x L. xanthina, etc.

Table listing various Cattleya hybrids under the heading '[SOPHRO-CATTLEYSAS—(Continued)]'. It includes columns for Parents, Offspring, and Raiser, &c., with numerous entries such as Sophronitis grandiflora x Loddigesii, L. crispata x L.-C. x Dominiiana, etc.

NURSERY NOTES.

SWISS NURSERY, FARNHAM, SURREY.
Not in the ordinary acceptation of the term is this a nursery, because it seems to be more generally utilised for the production of seed crops, and in this direction very likely it presents some features of interest that ordinary nurseries lack.

article, by the way, has to be brought about 6 miles, from Aldershot, at a cost of 10s. per cartload. Even on this apparently dry elevated spot Violas do well, a long row of old plants of the pretty Countess of Kiotore presenting a charming sight.

are grown, but only as old pot-plants, dwarf bushes, just to furnish cuttings, as these, when rooted, are sold in great quantities. They root in shallow boxes, filled with the surface-sand from the heath, with remarkable ease.
The chief subjects of the houses, however, are Tomatoes, Melons, and Cucumbers; of these latter, huge crops of seed-fruits have already been taken off from January plantings, and other plants have taken their places, to give a second crop.

the plants being about 2 feet apart; they are, as are the Cucumbers, trained up beneath the roof on wires. Melons and Cucumbers sometimes are grown in the same house, getting almost identical treatment. There are just now, perhaps, thirty or more varieties of Melons being grown. All have good, even-sized, handsomely-netted fruits; none are big, or ungainly, or small. Every one is presentable, and they hang thickly. The largest crop of any one variety is Eclipse, a green-flesh, of great beauty and of high flavour.

Tomatoes of all the best sorts are grown, both as erect or upright plants, and trained to wires under the glass. A fine new 100-foot house, having plants put out in rows of four on each side, and 3 feet apart, seems to present as admirable a structure for the purpose as can well be conceived. The sorts are Conqueror, very early; Perfection, Mitchell's Hybrid, A 1, Ham Green Favourite, Best of All, Abundance, Frogmore Selected, &c. There are no unduly large fruits. A good smooth, medium-sized sample, firm, and richly coloured, is most esteemed. This house is very light, has ample ventilation, and the plants are in perfect health. About 12 cwt. have already been taken from it, and fully 8 cwt. more fruits are maturing now. Tomatoes are grown for market, and so far the return for good samples seems to have been most satisfactory. Mr. Mortimer's exhibits at the Drill Hall and elsewhere fully show that he is a first-class cultivator. *A. D.*

CULTURAL MEMORANDA.

PROPAGATION OF RESTIO SUBVERTICILLATUS.

The propagation of this rare Cape plant, I believe, has hitherto been effected by the division of the roots and rhizome, and by this method the trials have often been attended by failure. Lately, roots were noticed about the nodes of the stem, apparently springing from the base of the young growths, but only upon stems of not less than two or three years old. Several stems were taken off and cut up, leaving about a couple of inches of old stem with the node in the centre; these were put into thumb pots and placed in a handlight where they were shaded from the sun in an intermediate temperature. Here in about a month's time the plants in some cases began to root, and when root action is once set up the growth is vigorous. As the plant in a small state would be useful as a decorative plant on account of its long feathery plume-like stems, it should soon become more generally known in our gardens. Grown in a cool greenhouse, it soon forms a very large plant if encouraged, and for planting in large structures is always pretty and attractive. *R. L. Harrow.*

THE WEEK'S WORK.

THE KITCHEN GARDEN.

By JOHN LAMBERT, Gardener, Powis Castle, Welshpool.

HINTS ON WORK IN GENERAL.—Owing to the drought, gardeners in most parts of the country will be heavily handicapped in this department, and in some districts crops will have been left unthinned in the hope of rain coming so as to render the work possible. Where rain has fallen and the land is moistened, the thinning should be forthwith completed. Other crops, such as Salsify, Scorzonera, Turnips, Beetroot, late Onions, and Cauliflowers, will need heavy applications of water at the root and syringings of the foliage. Go over the plantations of Cauliflowers at short intervals of time, protecting the heads by breaking down a leaf or two over them. For show Cauliflowers I would not recommend this as general practice, and certainly not in the case of Autumn Giant, the heads of which variety are a long time in coming to perfection, and breaking down the leaves sometimes late in the light at the sides. It is a better method to gather up the leaves near the tops, and tie them loosely together, not crushing them. This allows of an examination of the head by removing the tie.

Another, but more costly way, is to use two thicknesses of calico which fit close, keep out damp, and the heads readily develop underneath them, and keep perfectly white. Sufficient care is, I think, not taken by some cultivators, or we should not see so many badly-coloured Cauliflowers in August on exhibition tables. The best way to keep full-grown heads is to stand them in an erect position in a cool, rather dark shed or cellar, with the roots in damp soil. Do not crowd them together. If the roots are plunged in water, as is sometimes advised, the curd soon opens. Do not be over-desirous of size in Cauliflowers, but cut or lift them when the curd is firm and white.

BROCCOLI.—Carefully prick out the best plants from the seed-beds when large enough to handle, the plants being more easily looked after in these small beds until we get rain than when planted in the quarters. I do not advise early planting, or on soil that is loose or very rich. It may not be amiss to describe my method of procedure with Broccoli in 1894-5, as it was generally a disastrous year for them. Our hardest frost was 35°, or 3° below zero. The seed was sown on May 24 and June 13. The majority of the plants put out were of the June sowing. These plants were planted direct from the seed-beds.

Of Knight's Protecting ...	135	were planted,	35	died.
Cattell's Eclipse ...	180	"	29	"
Sulphur or Portsmouth ...	180	"	60	"
Backhouse's Winter White	135	"	70	"
Perfection Late White ...	230	"	57	"
Veitch's Main Crop ...	408	"	63	"
Model ...	610	"	56	"
			1878	370

CELERY.—The main crop of Celery should now be planted, affording the plants one good watering to settle the soil. Damp them overhead after hot days.

THE SOWING OF SEEDS OF COLEWORTS.—A sowing may now be made of Colewort and early-heading Cabbages for autumn use, making other sowings of the same in the course of a fortnight.

HERBS.—The cutting of herbs for drying should take place as soon as any kind shows flower, if later than this the leaves drop. Parsley should be gathered in quantity for drying whenever it is plentiful. When dried and bottled there is a great saving of green Parsley for flavouring purposes effected.

PLANTS UNDER GLASS.

By W. H. SMITH, Gardener, West Dean Park, Chichester.

PLANTS IN FRAMES.—By this time of the year *Freesia* bulbs should be thoroughly ripened, and may be shaken out of the soil, the large-flowering ones being put on one side for potting. The smaller bulbs, so as to economise space, may, when the suitable time for starting them arrives, be planted in boxes. The *Bride* (*Gladiolus Colvillei*), and other varieties of *Gladiolus* cultivated in pots should be placed in the open air as soon as the flowers have faded or are removed. Afford weak manure-water occasionally to them till the growth begins to die down, when clear water only may be afforded, and then very sparingly.

NERINES should be examined, removing decayed leaves, and cleaning the plants generally. Those which are showing for flower should be separated from the rest, and the soil afforded a thorough watering. The stock of *Nerines* should be examined every few days, for no sooner is a flower-spike visible than the plant needs water at the root.

SALVIAS may be removed from the frames and potted on in their flowering pots. Good loam and leaf-soil with plenty of well-decayed manure will suit them. After re-potting, place them out-of-doors on a coal-ash floor, syringing the foliage daily, and affording plenty of water at the roots when the pots are permeated with the roots. Let the plants be provided with neat stakes before they become tall, or damage by wind or heavy rain may occur.

MIGNONETTE.—If large pots of Mignonette are required in the early winter months, seed should now be sown, three or four seeds being placed in as many 60-pots as may be considered sufficient for the demand. These should be filled with loam, leaf-soil, and finely-broken old mortar. Make the soil very firm before sowing, and cover the seeds to the depth of a quarter of an inch, and place the pots out-of-doors on the north side of a wall. Mignonette

succeeds if kept partially shaded during the summer, and the soil never allowed to become dry. A few of the best varieties for winter are golden Queen, Miles' Hybrid Spiral, Parson's White, Garraway's White, and Matchet, the latter being sown a little later and kept in smaller pots; the habit of the plant is very dwarf and bushy.

HERBACEOUS CALCEOLARIAS.—Sow the seed in shallow pans filled with sifted loam and leaf-soil, previously moistened thoroughly, scattering it thinly on the surface. Do not cover the seeds at all, but after pressing them into the soil place a bit of glass over the pane, and keep shaded till the seedlings appear, when more light and air should be gradually afforded.

VALLOTA PURPUREA.—This plant, as soon as the flower-spikes push up, requires abundance of water at the roots, and a slight top-dressing of Clay's or some other fertiliser. Sickly plants should be shaken out of the soil, the bulbs washed in water, and repotted in turfy loam, leaf-soil, and wood-ashes or charcoal in the proportion of one shovelful to one bushel of soil. Remove the flower-spikes from all weakly bulbs. The plants should be lightly shaded till they are firmly established.

THE HARDY FRUIT GARDEN.

By W. POPE, Gardener, Highclere Castle, Newbury.

FURNISHING BLANK SPACES ON TRAINED TREES.—It sometimes happens that unsightly blanks occur on Peach and other trained trees, owing to had attacks of blister or some other cause. The symmetry of the tree may be restored and fresh main branches secured if desired by inarching, and the operation should be performed now or during the next two months, when the young shoots attain the requisite length and firmness. Suitable growing shoots should be inarched on to the bare portions of the older branches. The method of operation is much the same as in ordinary budding, but in addition a transverse cut has to be made at each end of the longitudinal slit in the bark, which should be on a clean healthy branch, and about 1½ inch in length. Raise the bark carefully with the handle of a budding-knife, then take a thin slice of bark and wood from the young shoot on the side to be joined to the stock, and place the growth thus prepared under the bark, afterwards binding it closely, yet not too tightly, with soft matting, or budding cotton. When the union is effected, which, under favourable conditions, will be in the course of a month or two, the young branch should be half cut through below the junction, and after a further interval of a few weeks, it may be severed entirely.

REMOVING SNAGS FROM PEACH-TREES.—Look over and remove snags of dead wood from Peach, Nectarine, and Apricot trees, paring such off closely and neatly with a sharp knife, so that the wound will heal over before winter. Young newly-planted, and other trees that may have been cut back require special attention at this season in this matter, such snags, in addition to being unsightly, form harbours for insects later on, and are otherwise injurious.

RASPBERRIES are generally looking well this season, and there is every prospect of a good crop. See that all fruiting canes are properly secured to wires or other supports, and protect from birds by fixing nets well above the plants, which is best done by erecting a light framework of wood sufficiently high to allow room to walk under, then stretching nets over all. If surface suckers have been removed, and only sufficient for next year's requirements have been reserved, this will admit more light and air to the crop of fruit now maturing, and it will strengthen the growth of those reserved for future fruiting. If it be desired to form new beds from surplus suckers, these may be stopped at a foot in height, so as not to interfere with permanent canes.

PROTECTING RED AND WHITE CURRANTS.—Lose no time in protecting Red and White Currants by netting if birds are troublesome. First make sure that all are free from caterpillars or aphids. If caterpillars are present, the best remedy is hand-picking; whilst aphids may be destroyed to a great extent by first taking off and destroying all infested tops, afterwards thoroughly washing the trees with clean, soft-water, applied with force from the garden-engine.

THE FLOWER GARDEN.

By BAILEY WADDS, Gardener, Birdsall Gardens, York.

RAISING ROSES FROM SEED.—The cross-fertilisation of Roses is not much understood or practised in this country by amateurs; it is, however, a most interesting occupation. In our uncertain climate, the plants operated upon should either be grown under glass or in a sheltered part. The flowers selected as seed-bearers would require to have the stamens removed with a pair of finely-pointed scissors before the pollen has become mature. General Jacqueminot is a variety which should be fertilised, or the pollen used to fertilise others, in about four hours after expanding; and in determining the time, a good deal of attention is required, for if the pistils are not nearly matured, they will not be in a condition to be fertilised. The petals are then gently pulled off, the stamens cut away, and the pollen applied to the stigma of the seed-bearing flowers by the aid of a camel's-hair pencil, or by gently rubbing them with the bloom of the fertilising sort. Very double flowers do not make such good seed-bearers as the less double ones, and they possess less pollen. After the operation the fertilised flowers should be enclosed in fine netting to ward off flies, &c. The ripe seed-pods or hips when gathered should be buried in damp sand until the beginning of the year, and then sown in pots or boxes placed in gentle heat. The seedlings appear in a few weeks, and will require carefully potting and planting out when all danger of frost is over.

PLEASURE GROUNDS—Grass lawns that have become browned by the recent dry weather should not be mown very closely. Raise the knives in the machine well up, and remove the grass-box, so that the cut grass may remain as it is scattered about by the machine; it will then assist in keeping the lawn green. If the lawn has not been mown for some time owing to the drought, it will be well to mow it lightly over with a sharp scythe before the lawnmower is used on it again. Grass-edgings should be kept tidy by clipping with the edging-shears, and narrow verges of grass in dry situations require to be well watered during dry weather.

SHRUBBERY BORDERS AND BEDS should be frequently hoed and raked, to give them a tidy appearance. Gravel walks and drives which are made with materials that become very loose during dry weather should be watered and rolled. Keep them clean from weeds by hand-weeding, or by applications of a weed-killer, which is a much cheaper process in the end than using hoe and rake to them, especially where large gravel is used. The watering of trees and shrubs that were planted late in the season should be continued during dry weather.

ROSEMARY (ROSMARINUS OFFICINALIS).—Seedling plants of this useful sweet-scented under-herb that were raised in the spring should be planted out into sheltered situations against walls or other places where they are likely to stand well through the winter. They are unable to stand the winter in the north in exposed places, or on cold, wet soil. They may be propagated by cuttings struck in gentle heat, or by layering. The present time is a good one to make layers from the old plants into a light, rich, well-drained soil. There is a great demand in most gardens for this very valuable plant.

LAVENDER (LAVANDULA SPICA).—This popular sweet-scented plant requires a warm, light, loamy soil; it is easily increased by seeds sown in gentle heat in the spring, or by layers of it put down now, and planted out in August or September, when it has become well rooted. It should then be planted in rows about 3 feet apart, or it may be planted in shrubby borders in places where it can get the full sunlight. It requires well-drained soil, and in northern districts shelter from north and east winds also. The flower-spikes should be cut when the bottom part of the spike begins to turn brown. If they are long enough, they should be tied tightly just below the flowers, then turn up the stalks, and tie the ends to form a protection for the flowers, which will last much longer if tied in this way.

FRUITS UNDER GLASS.

By RICHARD PARKER, Gardener, Goodwood, Chichester.

PINES.—As the fruits are cut from the plants, the old foliage may be shortened back to allow the suckers to develop as much as possible. Keep the roots in a moist condition, and syringe overhead and

between the pots during bright weather, allowing a little manure-water to collect at the base of each sucker to encourage new roots. Only sufficient shading should be afforded to prevent the young foliage being damaged, plenty of light and a fair amount of ventilation being necessary to promote sturdy growth. In the meantime clean some 6 inch pots, and prepare a good heap of compost, ready for potting up the suckers as soon as these are large enough. The compost will be all the better if prepared some time before required. Turn it over well several times, so that the whole be thoroughly mixed, and let it consist of good turfy loam, spent Mushroom dung, crushed charcoal, and sharp sand, with a slight dusting of soot. Keep the soil covered with mats to prevent it becoming dry. The pots should have one large crock at the bottom, and a few finer ones placed over; or what is better, a sprinkling of broken oyster shells. The house or pit in which the young stock of plants is to be wintered should be thoroughly cleaned, and the plunging material renewed to ensure a steady bottom heat of about 85°. Smooth Cayennes should be induced to throw up a few fruit in succession from now onwards, so as to keep up a regular supply during the autumn and winter months. Commence to feed the plants as soon as there is the appearance of fruit, and encourage growth by giving plenty of heat and moisture. Fruit in different stages should be kept in an upright position, as the beauty of a good fruit is often destroyed by allowing the crown to grow on one side.

MELONS.—The hot weather has caused these to turn in quickly; and where successional crops are not following closely, shading should be afforded to those changing colour, to retard them as much as possible, and as the flavour of the fruit improves by being allowed to become thoroughly ripened on the plant, it is better to shade the roof-glass than to cut the fruit before it is ripe and store away in a cool place. Later crops in different stages of growth should be frequently dressed with fresh loam, and well supplied with moisture at the roots, and the foliage kept regularly syringed in hot weather. Seed may still be sown to raise plants to supply fruit during September and October, but the houses in which these are to be planted must be thoroughly cleaned and fresh soil afforded, or it is likely they will prove a failure from the attack of red-spider, and the poorness of the soil that has produced a previous crop.

WINTER TOMATOES.—These were recently potted into small 60's and placed on ashes in a cold pit. To ensure plenty of fruit during the winter, the plants must be grown well during the summer months. As soon as ready, these plants will be put into 6-inch pots, and again placed in the cold pit, until established, when they will be stood on ashes in a sunny position. By the end of the present month they will be ready for the fruiting-pots, which will be 10-inch ones. In the final potting a space of several inches should be allowed, so that the plants may receive several top-dressings as the fruit swells. The plants should be staked and placed in a sheltered place, but one open to the sun. All side-shoots must be kept pinched, and each plant grown on the cordon system. By the end of September the plants will be from 4 to 6 feet high, with clusters of fruit in different stages of growth, the whole length of the stem. Avoid too rich a soil when potting, as it is best to feed the plants after the fruit is set. Keep the roots well supplied with moisture, but should a period of wet weather set in, see that the drainage is free, and the pots should be stood on a couple of bricks.

CUCUMBERS.—A few plants may be raised now to supply fruit during autumn and early winter, and thus save to a great extent those plants intended to yield fruit from December onwards.

THE ORCHID HOUSES.

By W. H. WHITE, Orchid Grower, Burford, Dorset.

CATASETUMS, MORMODES, AND CYCNOCHES.—These singular and interesting Orchids now growing rapidly, enjoy strong heat and a clear light whilst growing; and a capital place for them is in the East Indian-house, where they may be suspended from the roof with their foliage about an inch or two from the glass. The flowers appear as the bulbs get matured, and until the growth is fully made up abundant watering is required by the plants. After flowering is past, the plants should be exposed to

full sunshine, and be plentifully supplied with water at the root till the new pseudo-bulbs are ripe and the leaves fallen. *Cyrtopodium Andersonii* and *C. punctatum* will require similar treatment, but these flower during the spring months, the spikes appearing in conjunction with the young breaks.

BROUGHTONIA, SANGUINEA, ETC.—A very striking Orchid now in bloom is this species, which is worth adding to any collection. The colour of its flowers is deep red, and these last for a long time in good condition. It succeeds when fastened on to a wooden raft or block, with a little sphagnum-moss about it, and suspended from the roof of the Mexican-house. The same kind of treatment as that afforded to the other inmates will suit its requirements. Another beautiful species which usually does well in the Mexican-house is *Odontoglossum citrosum*. Its flowering season is now over, and the young growths are on the move. Any plants that require fresh material or more space should be at once attended to. Baskets are preferable to pots for this plant, as when suspended the racemes of blossom are seen to better advantage. They should have a light position, and water carefully afforded till the new growths have made some progress, or decay may result if the roots are not in full activity. When established, abundance of moisture is necessary, the plants being placed in nearly full sunshine, and a good overhead syringing administered at closing-time every day. If the plants must be grown in the shade, less water at the root will be required, and syringing may be dispensed with. *Barkerias* require exactly the same kind of treatment, and now that these plants are in full growth, the young shoots should be frequently examined for mealy-bug, which if not kept in check will disfigure them.

EPIDENDRUM RADICANS, which has been in flower for several months, should have the flower-spikes removed, the plants having started into growth. It is a plant of a scandent habit, and the shoots should be tied around a few neat stakes, keeping the young growths well up towards the light. Throughout the growing season, it should be kept moist at the root, and frequently syringed overhead. *E. radicans* may be easily propagated by taking the offshoots which appear on the old growth and flower-stems, and inserting them thickly around the edge of a flower-pot, in well-drained sphagnum-moss.

EPIDENDRUM STAMFORDIANUM is now starting new growths from the base of the current year's spikes. It is a species that has baffled numerous cultivators, and from the information which I have received from Mr. C. Payne, who for a long time successfully cultivated the splendid specimen exhibited at the recent Temple show (see *Gardeners' Chronicle*, p. 687, with fig.), the principal cause of failure appears to have been through affording it too much heat and moisture. The plant, when it came under Mr. Payne's care about a dozen years ago, was a very little piece, with only a few pseudo-bulbs, and he put it into a small shallow pan, affording it plenty of drainage, elevating the plant well above the rim, and using as compost two parts of rough fibry peat to one of sphagnum-moss. It was placed in a light moist corner of an intermediate-house, where, with careful attention as to watering, &c., the plant soon began to grow luxuriantly, and it has continued to grow and bloom well up to the present time. During growth, and until the flower-spikes became well advanced, abundance of water was always afforded, but as the flowers commenced to open less water was afforded, and at no period was the plant allowed to become quite dry. The proper time to re-pot *E. Stamfordianum* is about the time that growth recommences. I may mention, that according to Mr. Payne's recommendation, I have placed several small plants which for years past have been gradually deteriorating, in such a position as above indicated, and they already appear to appreciate the change.

ROSES.—3656 Rose blooms were staged, as we learn from the secretary, in competition at the National Rose Society's Southern Show. The total above given does not include the Roses exhibited in the section for garden Roses, and in the decorative classes. With the exception of those at Birmingham in 1890, and Chester in 1892, this was the largest provincial exhibition that has yet been held by the Society.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

TUESDAY, JULY 9 { Royal Horticultural Society's Committee, at the Drill Hall, James Street, Westminster.

SHOWS.

SATURDAY, JULY 6 { National Rose Society, at the Crystal Palace.
London Pansy and Viola Society, at the Crystal Palace.

TUESDAY, JULY 9 { Wolverhampton Floral Fête (three days).
Ipswich Horticultural and Rose.

WEDNESDAY, JULY 10 { Rose Shows at Chelmsford, Farnham, and Hitchin.
Reigate Cottage and Horticultural, at Redhill.
Royal Botanic Society, Evening Fête.

THURSDAY, JULY 11 { Bath Rose and Begonia, Workshop Rose, Woodbridge Rose, Helensburgh Rose, Great Malvern (Hareford Rose).

SALES.

TUESDAY, JULY 9 { Established Orchids at Protheroe & Morris' Rooms.

FRIDAY, JULY 12 { Imported Orchids at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—63°.3.

Messrs. R. WALLACE & Co., of Colchester, send us a box of cut flowers of some of their varieties of this lovely genus. Their markings are so delicate and so intricate, their shades of colour so nicely graduated, that a verbal description is more than ever inadequate to convey an idea of their beauty and variety. There are still many who care little for the significance of all this variety and beauty; to them the flowers are beautiful, and that is enough. But the real plant-lover finds in them an added interest, and is able, in some degree, to invest the material with the spiritual. Taking the flowers before us, it is obvious that all this variety of colour and spotting is connected with the fertilisation of the flowers by insects, and we do not doubt but that adaptation to purpose directly or indirectly governs the whole arrangement. It is curious also to observe how the same end is accomplished by various means. Thus, in most of the flowers before us there are "eye-spots," and fringes of coloured hairs to attract and entangle the insect guest, perchance to bar the passage to undesirable visitors. In all such flowers, so far as we have seen, the stamens and the ovary are pale-coloured and relatively inconspicuous, but in one labelled *C. splendens atroviolaceus*, the flower is self-coloured, pale lavender, thinly besprinkled with whitish hairs, with no eye-spots or blotches, and no fringe or pad of densely-compacted hairs, such as are met with in the other forms. On the other hand, the stamens and the ovary are of a rich purple colour!

What the insects are which visit these flowers in their Californian homes, and what precise variations occur in the mechanism of fertilisation, we do not know; growers might, with advantage, record what takes place here, and who are the visitants. This matter is not merely one for the

physiologist or botanist, it is of direct practical importance also. A curious illustration of this fact is given us by Messrs. WALLACE, who find that one particular form, *C. venustus* var. *citrina* is injured by a leaf-cutter bee. The insect destroys nearly all the flowers of this variety, and, to a less extent, those of the similarly-coloured *C. luteus*. Why the insect should thus manifest a preference for yellow, and take no heed of flowers of other colour, is a mystery to be solved. Messrs. WALLACE ask for a remedy, but short of covering the flowers with a net, which would be very objectionable, we do not see how the enemy is to be circumvented.

Calochortus differs from Tulips or Lilies, though allied to both. On handling the bulbs for the first time, one marvels most of all at the prodigality of blossoms that keep following each other in rapid succession from the tiny bulbs or root-stock. By growing a fair collection of these plants in early, mid-season, and late varieties, these bulbs may be had in succession from April to the end of July. These bulbs are quite hardy under proper cultural conditions. Planted in cold, wet, or crowded herbaceous borders, where the struggle for life and growth is incessant, and the survival of the strongest only the bitter end of so many brilliant hopes, the *Calochortus* might not come to much. The best place for them is a thoroughly drained, dry border, facing and also sloping south, and raised 1 foot or so above the surrounding surface. The soil should be compounded of sea-sand, leaf-mould, and road-grit in about equal proportions. Sandy loam might compensate for the absence of sea-sand and road-grit, where neither is easily available; but the former is the compost for *Calochortus* at Colchester.

It is good practice to take up the bulbs in the month of August, and replant again towards the end of October or the beginning of November. The plants make little foliage, and produce almost a forest of flowers. They are greatly helped through the blooming season, and especially through such droughts as we have had this season, by good thorough waterings every alternate day. Many choice collections of these showy bulbs were exhibited at the Colchester Rose show, containing some of the choicest varieties.

Though most of the earliest had faded at the time of our visit on July 2, the following were among the best in the different sections. Earliest: *C. albus*, *C. amoenus*, *C. pulchellus*. The mid-season bloomers: *C. Benthami*, *C. cœruleus elegans*, *C. lilacinus*, *C. Tolmei*.

The latest section are the tallest and the most showy, the flower-stems rising to a height of 2 feet in some of the varieties, one flower-stem showing a dozen or more blooms, some, such as one of the largest *venustus oculatus* being 4 inches across the cup. The following, among others, were beautifully in bloom in Messrs. WALLACE'S nursery on July 2:—*C. luteus*, *C. l. concolor*, *C. splendens atroviolaceus*, *venustus oculatus*, *v. citrinus*, *v. purpurascens*, *v. roseus*, *v. vesta*.

Messrs. WALLACE sum up the cultural procedures best adapted for these plants as follows:—"Early planting [in September, October] to a depth of 3 inches in a light porous soil, sunny position, protection from heavy winter-rains, but no coddling, plenty of water whilst in full growth, and thorough ripening of the bulbs either by taking them up or by placing lights over them." We should be glad to hear the experience of those who have cultivated the plants in pots.

The following notes on the flowers submitted

to us may serve to convey some notion of the colouring of the varieties, though nothing but a well-executed coloured illustration can suffice to convey any adequate idea of their beauty:—

C. splendens atroviolaceus.—Flowers upwards of 3 inches across. Sepals linear-lanceolate acuminate; petals pale lavender, with a small purple blotch at the very base, elsewhere self-coloured, thinly beset with white hairs; filaments deep violet, ovary glaucous, pale violet.

C. citrinus.—Flowers upwards of 3½ inches across; sepals oblong-acuminate aristate, greenish externally, with a small eye-spot in the centre of the inner surface; petals canary-yellow, with a median purplish-brown squarish blotch; claw with numerous fine radiating linear spots, and a central crescentic band of orange hairs pointing downwards; stamens yellowish; ovary green.

C. luteus.—Flowers upwards of 2½ inches across. Sepals oblong, tapering acuminate, green, convex externally, yellowish internally, with a few purplish-brown streaks and lines; petals canary-yellow, with no blotch, but numerous small radiating purplish lines in the centre, and a broad crescentic tuft of orange hairs pointing downwards; filaments and ovary yellowish.

C. oculatus.—Flowers upwards of 4 inches across. Sepals broadly oblong acuminate, greenish internally, with a central purplish-brown spot edged with canary-yellow; petals creamy-yellow with a central blotch as in the sepals, but larger, claw with numerous minute radiating purplish lines or spots, and provided with a crescentic band of orange-brown hairs; stamens cream-coloured; ovary glaucous.

C. venustus pictus.—Flowers upwards of 4 inches across, sepals recurved acuminate, aristate, spotted and blotched on the inner surface. Petals creamy-white, blotch irregularly wedge-shaped, reddish-brown, surrounded by a thin band of pale yellow, claw with reddish-brown spots and hairs, and a central circular pit. Stamens pale pink. Ovary greenish.

C. Vesta.—Flowers upwards of 4 inches across, sepals broadly oblong, aristate-acuminate, recurved, greenish, finely spotted on the inner surface; petals pale lavender, with a central reddish-brown, square blotch, surrounded by a halo of yellow, claw marked with minute reddish spots, and with a ring of gold and brown hairs midway between the blotch and the bud. Filaments and anthers cream-coloured. Ovary glaucous, pinkish.

C. roseus.—Flowers upwards of 3½ inches across. Sepals green, oblong, acuminate, aristate, with a small purplish blotch within at the base; petals cream-coloured, with two oblong blotches, one above the other in the middle line, the upper pale, the lower rich chestnut-brown; claw with a central squarish pad of yellowish hairs, and numerous fine reddish-brown radiating streaks; anthers and ovary pale.

Professor HUXLEY.

THE death of Professor HUXLEY entails the loss of one of the most industrious, persevering, and clear-headed students of science and philosophy in our times. His work is remarkable, not only for quantity and diversity but also for excellence. These are qualifications which will be best appraised by his colleagues, but his lucidity of exposition, his disinterestedness, directness of purpose, and we are afraid we must say his pugnacity, gained him the ear of the public. It is as the great apostle of Darwinism or rather of "evolution," that he is best known. DARWIN himself was the most modest and retiring of men, shrinking from publicity, averse from controversy, and considerate to his opponents to a fault. Such a man was considered "fair game" for the wielders of ridicule, and an excellent target for the heavy artillery of those who, eminent in their own department, considered that they should have the monopoly of orthodoxy in matters of natural science also. Understanding nothing of the

subject, except at second-hand, fearful of assaults that would never have been made, they assailed the author of the *Origin of Species* and his book with a virulence and one-sidedness which seems unaccountable to the generation which has grown up since and takes the general principle of evolution as a "working hypothesis" as a matter of course. For the condition of things that existed at the time, HUXLEY was just the right man. Generally well read in science, literature, and philosophy, exceptionally familiar with the details of his subject, clear in logic, incisive

DENDROBIUM × ILLUSTRÉ (*chryso toxum* ♀, *Dalhousieanum* ♂).—Even so far as can be judged by its first inflorescence, secured after something like ten years careful tending, in this showy hybrid we have a remarkable instance of the good work of the hybridist in producing new garden plants. The species crossed are as dissimilar as they can well be, and have little in common, except that they both inhabit Burmese territory. *D. Dalhousieanum* was first introduced in 1837, and *D. chryso toxum* some ten years later. The former has tall terete stems, leafy when young, and the latter clavate pseudo-bulbs, bearing a few leaves at the top, and yet in Messrs. VEITCH'S hybrid the amalgama-

lip being purple. It is a remarkably interesting and beautiful plant now; when it was exhibited by Messrs. JAS. VEITCH & SON at the meeting of the Orchid Committee of the Royal Horticultural Society, June 25, it received a First-class Certificate.

ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Royal Horticultural Society will be held in the Drill Hall, James Street, Victoria Street, Westminster, on Tuesday, July 9, when a special show of Roses will be an attractive feature. At 3 o'clock, Mr. FRANCIS DARWIN will deliver a lecture on "The effects of Darkness on the forms of plants."



FIG. 4.—DENDROBIUM × ILLUSTRÉ: FLOWERS YELLOW; LIP PURPLE.

in speech, he rushed into the fray, and the railers and vituperators soon found they had an antagonist who could, when necessary, use their own weapons with overpowering efficiency. One may regret that each party did not keep to its own department, and we must deplore the unscientific temper that was manifested, but we must remember the provocation, and bear in mind that the means used were at the time the only ones that could be appreciated.

HUXLEY, though a naturalist in the broad sense of the term, contributed little to botanical, and nothing to horticultural literature. His paper on Gentians, in the *Journal of the Linnean Society*, is suggestive rather than practical.

tion of the two is distinctly traceable, the swollen stems and fleshier leaves indicating *D. chryso toxum*, while the way in which the leaves are borne, and the characteristic light line on the sheath covering the stems, point as conclusively to *D. Dalhousieanum*. The flowers also in form merge the two parents, and it will not be too much to say that as *D. Dalhousieanum* often has ten or twelve flowers on a spike, and *D. chryso toxum* often two dozen, a sufficiently fine inflorescence, so far as number of flowers go, may be expected from the hybrid on its gaining strength. A curious circumstance is the resemblance in some particulars which *D. x illustre* bears to *D. albo-sanguineum*, although its flowers are thicker in substance, and of a clear, shining straw-yellow, the markings on the downy

FLORAL DECORATIONS AT WINDSOR CASTLE.—

As befits the residence of royalty, on the occasion of a visit from a foreign potentate whom Her Majesty wishes to honour, the art of the gardener is nearly always called in to aid in imparting an appearance of gaiety to the rich appointments and furnishing of the State apartments at the Castle. And such was the case when, on Her Majesty's reception of the SHAHZADA on Tuesday last, we had the pleasure of inspecting the floral decorations. Mr. OWEN THOMAS, the royal gardener, has a good eye for effect, and whilst not striving in the least after eccentricity in arrangement, as is the habit of some, he attains very satisfactory results by the use of a few species of plants and flowers instead of a multiplicity, and by the avoidance of any undue crowding.

The general scheme of arrangement was one precisely adapted, as regarded some parts of it, to the summer season, namely, to fill up the fireplaces with plants, to flank all doorways with small groups, and make assemblages of plants in spaces that admit of its being done by their remoteness from the customary lines of traffic through the various saloons. The only departure from these ideas was that remarked in St. George's Hall, which will be noted further on. The grand staircase, with its white marble statue of GEORGE IV., and bronze figures of naiads, was beautified by a group of tall Palms, standing apart from, and a little lower than the statue, the foreground being filled in with Codiaums (Crotons), which have foliage with yellow colours predominating, such being considered more cheerful-looking in the half-light than the richer-coloured varieties. Other plants consisted of pink Hydrangeas, yellow-flowered Marguerites, Liliun longiflorum, and besides these a finishing of Adiantum, Panicum variegatum, and the like. Sprays of the variegated-leaved Lonicera and Ivies possessing small foliage hung down over the solid, low walls of the staircase; and on the top of them were disposed Hydrangeas, Cape Pelargoniums, more yellow-flowered Marguerites, and the seldom-used Hamea elegans, profusely-flowered sprays or plants of Rosa Félicité-Perpétue, clothing the small pillars, which gave a finish to the head of the stairs. The wall behind was slightly masked by slender Palms, as far as regarded the large bare spaces between the lancet-shaped windows. Small groups were disposed on either hand a little further on under the arch, beneath which is the approach to the ante-room. In this room the large *fanteuil* was topped with a cluster of gay-coloured Caladiums of moderate size, surmounted by a nice specimen of Pandanus Veitchii. A doorway was here masked by a fine piece of Alocasia metallica, some Palms, Codiaums, and Kalosanthes coccinea, with a bordering of Pilea muscosa, Ferns, Selaginella denticulata, Isolepis, and other dwarf plants. The vestibule leading from this to the next one—Nelson's room, so called from a white marble bust of the hero perched on a piece of a mast of the *Victory*, was flanked on each side of the two doors with Palms, and a few flowering plants of a kind to sufficiently light up the rather darkened place. An imposing group, consisting of Lilies, Kalosanthes, Marguerites, and Codiaume, filled the fireplace in the Nelson-room, and a smaller group was arranged on the opposite side. St. George's Hall is entered from this last apartment, and is lighted by eleven very high windows, all on one side. In each window was hung a basket of cut flowers of one variety, the baskets being literally covered in every part with them; and the flowers—long sprays and spikes—consisted of a white variety of Intermediate Stock (spring-sown, as Mr. THOMAS remarked); Cassia corymbosa, the only yellow flowers employed for this purpose; Sweet Pea Her Majesty, a deep pink, profuse-flowering variety, which filled five of the baskets, and the stocks also five. The window-seats were filled up with much the same kind of material as that previously noted, with the addition of Gloxinias, Hydrangea paniculata, the white blossoms and graceful habit of which render it an almost ideal plant for indoor use; Spiraea Aruncus and S. Bumalda, Dracenas with coloured leaves, Francoa ramosa, Gladiolus The Bride, with Ferns, Isolepis, &c., as a finish. A group of Palms, Codiaume, Dracenas, and miscellaneous subjects made an effective filling for the enormous fire-place, which finds a place on the side of the Hall opposite the windows. Some tall, slender Palms at a doorway, and flanking the throne, completed the design of the decorations. A capital method of showing off the flowering sprays of Bougainvillea was remarked, which being new to me, may be deserving of mention. A Kentia or some such species of Palm about 5 feet in height is selected, and into the axil of each leaf a long flowering shoot of Bougainvillea spectabilis is stuck, the whole forming a very pretty kind of floral fountain.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—The fifty-sixth anniversary festival dinner of the Gardeners' Royal Benevolent Institution took place on the evening of Friday, June 28, in the Whitehall Rooms of the Hôtel Métropole. The Duke of FIFE presided, and the numerous company included Sir TREVOR LAWRENCE, President of the Royal Horticultural Society; and Messrs. G. A. DICKSON, N. N. SHERWOOD, W. GIBBS, T. ELLIS, Ed. STERN, G. J. BRACKENRIDGE, DAVID SYME, G. MONRO, Jas. WEBBER, T. F. PEACOCK, F.S.A.; G. W. DAWES, W. J. JEFFRIES, E. W. CATHIE, G. BISHOP, &c. In proposing the toast of "Continued Success to the Institution," the Chairman said that in these days, in spite of universal depression, enormous sums were spent every year in charity, and last year in London alone there was disbursed by the different societies and agencies which existed for the purpose no less a sum than £5,200,000, to say nothing of the very considerable sum which could not be calculated that flowed along the hidden channels of private benevolence. But, unfortunately, these huge sums did not bring about the beneficial results which we all desired, because there was not sufficient concentration in charitable effort, and because there were too many societies doing the same or similar work. His remarks, however, did not apply to the Gardeners' Benevolent Institution, for it was, he believed, the only society of its kind in Great Britain. Its principal object was to assist the aged and infirm by means of pensions, and it inculcated the admirable principle of self-help by giving preference to those who had subscribed to its funds. Now-a-days it seemed as if all parties in the State had agreed to do that which was regarded as thoroughly unsound by the old Whig school in which he was brought up, namely, to establish a system of State-aided pensions. But the Gardeners' Benevolent Institution had been doing for many years for the gardeners what the State now proposed to do for everybody. The life of a gardener was not entirely a bed of Roses. Many had to toil unceasingly at all times of the year, and in all weathers, and the result of their toil was to provide us with some of Nature's choicest gifts. But misfortune sometimes overtook them, and it was to meet cases of this kind that that Institution was established nearly sixty years ago. Since then pensions and gratuities had been granted to the amount of £65,000, and at the present moment 156 persons were receiving the assistance of the Society, 77 of them being men, and 79 women, while there were many pressing cases on the list waiting for election. The toast, which was heartily received, was responded to by Mr. G. A. DICKSON of Chester. Mr. W. J. JEFFRIES of Cirencester gave the toast of "Horticulture," which was acknowledged by Sir TREVOR LAWRENCE. The Secretary, Mr. G. J. INGRAM, having announced subscriptions amounting to over £1900, including £30 from the Duke of FIFE, £105 from Messrs. ROTHSCHILD, 10 guineas from ALFRED DE ROTHSCHILD, Esq.; and £10 from the Hon. WALTER ROTHSCHILD, £21 from N. SHERWOOD, Esq., and £25 from Messrs. JAMES VEITCH & Sons; the proceedings closed with the toast of "The Chairman," proposed by Mr. N. SHERWOOD. The Duke of WESTMINSTER has increased his annual subscription to the Institution, of which he is President, to £15 15s.

UNIVERSITY COLLEGE, LONDON.—On the evening of the 27th ult., the President and staff of this Institution gave a largely attended and brilliant *conversazione*. The scientific and engineering departments of the College, and the Slade school of fine arts were all in gala array. The department of botany was well to the fore, and its exhibits included superb collections of plants from well-known growers. Messrs. JAMES VEITCH & SON sent an interesting collection of insectivorous plants, hybrid Orchids, and other plants. The hybrids, being grouped with their parent forms, made a particularly interesting exhibit. Messrs. WM. PAUL & SON had a fine display of Roses in the south cloister, the flesh-coloured Clito, Duke of York, Hon. Edith Gifford, and the yellow Medea being particularly admired. A large

collection of Cactaceæ and other succulents did full justice to Messrs. HENRY CANNELL & SONS; whilst Messrs. B. S. WILLIAMS & SON and Mr. T. S. WARE both sent attractive and well-selected exhibits. In the botanical laboratory was a group of portraits of former members of the botanical staff, including a large crayon portrait of the late Prof. JOHN LINDLEY (lent by his son Lord Justice LINDLEY), a head in oils of Professor D. OLIVER, and photographs of Professor F. O. BOWER, Dr. D. H. SCOTT, the Rev. GEORGE HENSLOW, Professor F. E. WEISS, and others. Here also was a selection of old flower-drawings by EHRET and Madame MÉRIAN, large photographs of forest vegetation (lent by Dr. D. MORRIS, Assistant Director, Royal Gardens, Kew), and photographs of plants at Kew, by Mr. F. A. BRIDGE. On the tables were exhibits of physiological interest, and a few slides of fossil plants from the collection of the late Professor W. C. WILLIAMSON. Of special note were the large models of dividing cell-nuclei exhibited by Professor J. B. FARMER; they are likely to be of great help to the student of minute cell histology. The laboratory had been very skilfully decorated by the lady students of the department, and the banks of flowers which they had arranged, and which were illuminated by the electric light, were singularly effective, as also was a tank of white and yellow Water-Lilies. A series of living Ssaweeds and other aquatic plants, shown as transparencies by this department were much admired, Ulva, Laminaris, Cladophora, and Uricularia, were perhaps the most beautiful. Other botanical exhibits included photographs and tables illustrating the fixation of free nitrogen (lent by Sir HENRY GILBERT, F.R.S.); plant skeletons, by Mrs. HODKINSON; and artificially-coloured flowers, by WM. BROCKHANK, Esq., F.L.S. In the Slade school we noted an effective combination of flowers, statuary, and Chinese lanterns; and in the physical lecture-room, Argon and Helium, the main output of the chemical department of the college during the session, were on view. The soirées was attended by several thousand guests, including many well known in literary and scientific circles.

ROYAL BOTANIC SOCIETY.—At a meeting of the council of this society, held on Saturday last, it was decided to open their gardens in Regent's Park to the public on every Monday in July, August, and September, at an admission fee of 1s.

AN OUTING OF THE NATIONAL AMATEUR GARDENERS' ASSOCIATION.—On Saturday, June 22, in response to an invitation from H. HUCKS GIBBS, Esq., upwards of 150 members of the National Amateur Gardeners' Association paid a visit to Aldenham House, Herts, for the purpose of inspecting the gardens. The headquarters of this Society are in London, and meetings are held the first Tuesday in every month at the Memorial Hall, Farringdon Street. In order to promote the objects the Society have at heart, visits are made during the spring and summer months to various gardens and nurseries. The parent Society numbers between 400 and 500 members, besides branches in different parts of the country. The visitors, among whom were a number of ladies, were met on their arrival by Mr. BECKETT, the head gardener at Aldenham, and some amateurs resident in the neighbourhood, and conducted by him round the lovely gardens.

HERBACEOUS PLANTS.—Now that these are in full season, we hasten to announce the publication of a *Hand List* of herbaceous plants cultivated in the Royal Gardens, Kew. We must defer further notice, but may mention that it may be obtained at the Royal Gardens, Kew, at the cost of one shilling.

THE NEWCASTLE-ON-TYNE HORTICULTURAL SOCIETY.—The summer show of this society will be held in the Recreation Ground, North Road, on Wednesday, Thursday, and Friday, 24th, 25th, and 26th inst. This year additional prizes are offered for groups, dinner-table, and fireplace decorations, and also for vegetables. The council are also prepared, as we are informed, to give increased facilities to attractive trade stands.

THE ROYAL GARDENERS' ORPHAN FUND.—The monthly meeting of the committee took place at the Horticultural Club on the 27th ult., W. MARSHALL, Esq., presiding. The following special donations were announced:—From the William Thomson Memorial Fund, £65 13s. 2d.; Mr. J. T. Anderson, £1 5s.; Messrs. J. Laing & Sons, Forest Hill, £1 1s.; R. I. Menares, Esq., proceeds of sale of third edition of "Cypripediums Hybrid Species," £7 10s.; and Mr. A. Stirton, Wrexham, 5s. A cheque was drawn for the children's quarterly allowances, which now amounts to £204 10s.; and the gardeners about the country who do not yet subscribe to the Fund or support it in any way should make a note of the fact that so large a sum is paid annually to assist in the maintenance of the orphan children of dead gardeners.

THE ORIGIN OF THE CINERARIA.—We have some further remarks to make on this subject, but defer them for the present. In the meantime, we observe that our colleague *The Gardeners' Magazine* "conclusively proves" [to his own satisfaction] that the evidence in favour of hybridity will not bear examination. An important statement of fact from Mr. KELWAY is published in the same journal, to the effect that he, Mr. KELWAY, raised the florist's Cineraria in 1837, by selection from seedlings of *C. cruenta*. If the records are to be relied on, this is ten years after DROMMOND'S experiments, but this, of course, does not invalidate Mr. KELWAY'S statement. We shall also have to refer later on to the alleged hybrids that have appeared in the Cambridge Botanic Garden, and in that of Mr. POË.

M. RODIGAS.—Some of the Belgian papers give full details concerning the compliments paid to M. EMILE RODIGAS, the Director of the School of Horticulture at Ghent, on the occasion of his completing thirty-five years as a professor. Many of us in this country are also familiar with the unceasing labours of M. RODIGAS, his accuracy of perception, his impartiality, his powers as an administrator, and some of us are fortunate enough to reckon him as a personal friend. MM. BUAVENICH, PYNABERT, RODIGAS, and VAN HOLLE, constitute the "four-leaved Trefoil," a body to whose joint efforts for more than thirty years no small part of the progress of Belgian horticulture is due. The stalk of this four-leaved unity is Count DE KERCHOVE DE DENTERGHEM. *Floreat semper diuque floreat.*

NATIONAL HORTICULTURAL SOCIETY OF FRANCE.—At the last meeting of the Orchid Committee of the National Horticultural Society of France, Mr. JACOB, Orchid Foreman to the Baron ED. DE ROTHSCHILD, Armainvilliers, showed a magnificent group of new hybrid Cattleyas. I noticed amongst them a particularly interesting plant, Cattleya Armainvillea alba (*C. Mendeli* × *C. gignea*), petals and sepals large, pure white; lip broadly open, crimson; pure gold yellow at the base. Another plant of the same cross had the divisions slightly flushed with clear rose. A splendid thing is *Laelio-Cattleya Jacobiana* (*Laelia purpurata* × *Cattleya Mendeli*), the division of the flower white, tinged with rosy-mauve colour; the front lobe of the lip dark crimson-purple, and the base nearly white. A fine *Laelio-Cattleya Canhamiana*, raised from *L. purpurata* × *C. Mossiae*, was shown; the parentage is certain, and the plant is exactly the same as the one obtained at Messrs. VEITCH & SONS. Mr. PAGE, gardener to Mr. LEBAUDY, Bougival, exhibited a very handsome new hybrid Cypripedium; the parents are *C. laevigatum* and *C. Haynaldianum*, and the plant which resembles *C. Parisii*, received the name of *C. Lebaudyannum*: scape with six flowers, each having its dorsal sepal emerald-green at the base, vertically streaked with brown; petals twisting, pale green at the base, and vinous-purple at their extremity; the whitish inferior sepal is very large and arched. This plant received a first-class certificate. *Georges Truffaut.*

THE LATE M. J. E. BOMMER.—We have received a biographical notice by Prof. LEO ERREBA of the

late J. E. BOMMER, whose name is so well known in connection with his monographs on Ferns. M. BOMMER, it will be remembered, was a native of Brussels, and his death took place last February.

HOME CORRESPONDENCE.

THE STRAWBERRY, SENSATION.—This Strawberry has turned out well with us this season. Planted on a border by the side of Noble, it has ripened its fruit as early as that variety, and the fruit is very much finer in appearance, and of better flavour than that variety. What its merits may be for pot-work I cannot say, but I intend to give it a trial next season. If we could only get some of the British Queen flavour in the large early Strawberries, what an acquisition it would be! *W. S. Hurlstone, Parkfield, Hallow.*

BAMBOOS AND THE PAST WINTER.—Mr. Bean's instructive paper on the subject of Bamboos and the past winter, is most interesting. His conclusions are fully borne out by our experience here. As regards Canon Ellacombe's suggestion, that the severe winter has actually been of service to his Bamboos, I should rather be of opinion that the great shoots to which he alludes are due to the wet summer of 1894, which greatly encouraged root-action, and, consequently, the stem-buds which are formed on the rhizomes. Tsan-chikee, which he mentions as being killed, is not hardy, and would die in any ordinary English winter. It is supposed not to be a native Japanese plant, but a degenerate form of one of the giant tropical Bamboos, partially acclimatised in Japan, but doomed to certain death here. Its position in Japan would be analogous to that of the Japanese and Chinese Bamboos in this country. We can grow them, but in a dwarfed form; and if they were to be carried to a still more unfavourable climate, they would perish altogether. *A. T. Fraun Mitford, Batsford Park, Moreton-in-Marsh.*

THE CINERARIA.—As authentic records are wanting upon the early history of the subject, a few experiments ought to be made with the view of ascertaining the value of the two conjectures. If it originated by the crossing of *cruenta* and *lanata*, it was evidently not designed, and it may be said that our greenhouse Cinerarias came by chance. A few plants of *Cineraria cruenta* when in flower should be isolated, so as to make sure against their becoming pollinated with other Cinerarias; seeds should be saved from such a stock, the seeds sown, and the plants when in flower carefully examined for variations. Then a few plants of *Cineraria cruenta* might be pollinated with the pollen of *Cineraria lanata*, and *vice versa*, saving the seeds, and raising plants from them, and watching the results. As far as my experience goes, the seeds of *Cineraria cruenta* are not abortive, as is stated in the *Botanical Magazine*, for a plant which was in flower in these gardens a short time ago has produced several seedlings, many having sprung up from the surface of the soil of the pot in which it was grown, also from the seeds gathered from the plant. And I can endorse Mr. Drommond's remark, that "the flowers retain their beauty until the very day the seeds are scattered." It may be that our plant had become pollinated by the florists' Cinerarias, which were in bloom at the same time as *C. cruenta*. These seedlings from *C. cruenta* which we have will be watched with interest, to note whether any variation takes place from the parent plant, and I will send you a note upon the subject in due season. Mr. Douglas has expressed a wish for a plant of *C. cruenta* and *C. lanata*. I shall be pleased to send him a plant of the latter and two or three seedlings of the former for experimenting upon, if he is not already supplied. *Wm. Harrow, Botanical and Horticultural Society's Garden, Sheffield.*

CEDAR OF LEBANON AT TAPLEY.—The height of this tree is about 50 feet. Its top is large and flat. It was planted in 1825. *W. T. T.*

RED WATER.—I have in my garden a small pond of about 500 square yards area, with an average depth of about 2½ feet. It is contained in a cemented basin, and is supplied by means of a hydraulic ram from a deep spring a quarter of a mile distant, the water of which is especially pure and bright. In each spring time for some years past the water of this pond has turned a deep blood-red colour, in

which state it remains for some months, and then becomes clear again. Upon microscopic examination it appears that the colour is due to numberless red-coloured organisms, which, according to Prantl and Vines, are referable to *Hæmatococcus*. I do not know whether this red water is often seen and well known, but as it is very unsightly, I should be extremely obliged to anyone who would tell me if there be any means of destroying the growth, or of preventing its recurrence. *S. Courtauld, Booking Place, June 26.*

SQUIRRELS.—The note of Dr. Morris regarding the injury to scarlet Chestnuts by these sprightly little thieves is very interesting. I have known them injure the shoots of the Scotch Fir in the same way; here they eat the green cones of that tree by hundreds, but fortunately they do not injure the trees. Their power of adapting themselves to altered circumstances is most extraordinary. I believe they disposed of at least a bushel or two of my Parsnips during the last winter, and now they eat my Strawberries by wholesale and bite the nets to pieces. Last season Apples and Plums were annexed in large quantities. During the winter one little fellow came regularly every morning on to the sill of my breakfast-room window. It gave us great pleasure to see him sit and munch up pieces of bread which were provided for him. The most extraordinary freak I have ever heard of squirrels is the following: I have a bell to summon my workmen, which is hung in a little cage about 15 or 20 feet high. The other day, when the time came for ringing the bell, a squirrel was found sitting by the bell, his mouth full of frayed hemp, and the rope bitten in two. We presume he found the soft hemp suitable for lining his nest, and my bellman had to climb up to fix another rope. Query: Did the squirrel find the rope frayed, or did he manufacture a soft wadding from the rope? *Charles Noble.*

HEAVY THUNDERSTORM.—A short note of what happened at Edge last week may interest some of your readers. At 4 p.m. on June 26 a thunderstorm suddenly collected in the sky after a brilliant and scorching day. About a thousand flashes of lightning, all within five or six miles, occurred in an hour, during which I estimated that nearly 2 inches of rain fell. At one time I counted over thirty flashes in a minute. Thirteen large trees—there may be more yet to be discovered—were struck within about half a mile of my house, twelve Oaks and one Ash, six of these were within 300 yards of the house. At five o'clock the storm had all passed over. The next day, June 27, at half-past twelve, we had another sharp thunderstorm, lasting an hour, a fall of large hail, lasting twenty minutes, completely demolished every open flower in the garden, and many of the plants. The Rhubarb leaves are a curious sight, looking as if they had been used for ride targets. A few cattle were killed in the neighbourhood, but, as far as I have heard, no human beings. *C. Wolley Dod, Edge Hall, Malpas, June 29.*

STORM IN YORKSHIRE.—The storm of June 26 was the worst the oldest man in Mirfield could remember. The hail was as big as marbles, and in my garden of nearly 2 acres in extent, Peas, Beans, Strawberries, Raspberries, and all vegetables, flowers, and everything else, were completely destroyed, and nearly every pane of glass in the house was broken. I am by no means the only one who has suffered, but when a man is depending on his garden, it is a serious thing. *D. Brown, Nab Nurseries, Battyeford, Mirfield.*

VICOMTESSE HÉRICART DE THURY STRAWBERRY.—The engraving, p. 775, well represents this fine variety at its best. This variety was a favourite with Mr. Wildsmith, of Heckfield Place, for early forcing, and none could be obtained that was better for ripening in the middle of February—in fact, he regarded it as being the best Strawberry for forcing or out of doors. Its flavour is excellent, and in this respect it is only second to British Queen. It is a splendid cropper, but unfitted for market, the berries being smallish, and its flavour does not make up for its want of size. About Liverpool the Vicomtesse was always a favourite variety, it going there under the name of Garibaldi. So little is it known out of private gardens that in this district, where at least 1000 acres are devoted to Strawberry culture, I do not know a single instance of its being grown for market. It is a very free grower, and a very hardy plant, with ample foliage, which is short-stalked, if the bulk of the old leaves are removed when fruiting is over. *E. M.*

OLD AND NEW VARIETIES OF STRAWBERRIES.—

There is nothing new to be said as to old sorts, and I intend to confine my remarks to new introductions, to their value as forcers, and to the best methods of imparting flavour to the fruits. Of new varieties mention should first be made of the variety Stevens' Wonder, figured in *Gardeners' Chronicle*, p. 271, and certificated by the Royal Horticultural Society on March 12 this year. I have not grown it, and am therefore unable to speak of its merits as a forcer, but I was certainly impressed, as were others, by its size and fruitfulness, and by the quantities Mr. Stevens had sent to market. The fruits are of large size, in colour a pale red, with a solid pulp, and of nice shape. It was noted that most of the fruit on the plants shown on that occasion were of one size, small ones being few. This point is a great gain, as some well-known varieties furnish two or three fine fruits, and a number of small ones, and in these days when everything must be large, such small fruit is not profitable. It is distinct in growth, and remarkable for the small size of its leaves and short leaf-stalk, which is another gain in a forcing variety, as the plants may be placed closer together. Another novelty that I am pleased with, and which promises to become a standard forcer, is Royal Sovereign, which has been a sufficient length of time in cultivation to have its qualities tested. It is a good forcer, and its rich, brisk, pure flavour is a strong point in its favour. This is a variety that has a future, and one that will be largely employed as a forcer. I am glad to note the old practice, once very general, of standing the plants in saucers, or on decayed manure, is little practised. It was the cause of much poor insipid flavour, as might be assumed, free drainage being as essential as a free circulation of air in obtaining the perfection of flavour. High shelves in forcing-houses are not good places in which to stand the plants. After April is out the soil soon gets dry, giving acidity to the fruits, and the surrounding aridity favours red-spider. Doubtless, it was with the idea of abating these two evils that the saucer and layer of manure were thought of. The late-forced plants are much better accommodated on a cool hard coal-ash bottom, in pits or frames, giving much less trouble in regard to red-spider and in the matter of watering. The only trouble incurred is in raising the bunches of fruit by means of crutches made out of forked twigs, so as to bring them up to the light, and to a part where there is free current of air. Returning to new varieties, I may say here that I intend to grow Royal Sovereign largely, for besides being a good eating fruit it packs grandly; the seeds covering the fruits so completely that at the end of a long journey by railway the fruits appear quite perfect. The variety was recently praised by the Fruit Committee of the Royal Horticultural Society as a forcer, and for its brisk flavour and fruitfulness. Another novelty is Ganton Park, which I like very much; it is the best forcer of the trio which Mr. Allen recently gave us. It may not in flavour equal Express of India, which is the best-flavoured of the three; still, it is excellent, without insipidity, with pulp that is very firm in texture, and is a handsome dark-coloured fruit, in shape between conical and cockscomb, and a prolific bearer. It may be forced so as to fruit in March, following Vicomtesse H. de Thyry or La Grosse Sacée. It will certainly please the grower. A novelty that I have grown this season is May Queen; it was raised near Chiswick, and forces splendidly; and although bearing a resemblance to Sir J. Paxton in shape, is much earlier, of better flavour, and larger. It is a free bearer, and of good flavour. A new variety, sent out by Laxton Bros., named Leader, is a fine fruit, somewhat resembling Royal Sovereign in shape and colour. It is said to be a cross between Noble, which has nothing but size to recommend it, and Latest of All. To get the best results in Strawberry forcing, strong runners should be obtained as early as possible from plants that have been deprived of their flower-trusses. *G. Wythes*.

INULA HOOKERI.—Flowers bearing this name were certificated lately by the Royal Horticultural Society. They were exhibited by Mr. George Paul, and I believe the plants came originally from my garden; anyhow, I have distributed during the last ten years, through Mr. W. Thompson of Ipswich, enough seed, called *Inula grandiflora*, to stock every garden in England. A question has been raised whether the certificated flowers belonged to *I. grandiflora*, *I. Hookeri*, or *I. glandulosa*, and I will therefore tell what I know about them. *I. grandiflora* (Willdenow) and *I. glandulosa* (Willdenow) are described as Caucasian plants in *Boissier's*

Flora Orientalis vol. iii., p. 188; and *I. grandiflora* (Will. and Boiss.), and *I. Hookeri* (Clarke) are described as Himalayan plants in *Hooker's Flora of India*, vol. iii., p. 294. I have grown *I. glandulosa* for twenty years. I first had it from the garden of the lead-works, Chester, and at that time it was little known in nurseries. *I. Hookeri* was given to me about ten years ago, I think from Kew. It is taller, growing 5 feet high; the rays of the flowers are shorter, but the disc as large, and the stems and crowns more robust, the leaves broader, and less tapering at the base. I had never observed fertile seed on *I. glandulosa*, but *I. Hookeri* at once began to make seed, which I sowed, and reared hundreds of plants, which corresponded exactly to neither parent. I sent some of the flowers to a distinguished botanical establishment, sorting them as No. 1, 2, 3. They were returned as No. 1, *I. grandiflora*; No. 2, *I. glandulosa*; No. 3 *I. Hookeri*. Now, the last two names were certainly the only species of the kind I had ever introduced into my garden, and I was glad to have created *I. grandiflora* for myself, and I adopted the name; as, on careful comparison with the characters of *Boissier* and *Hooker*, they fitted well enough. The moral I draw is that, though I will not dispute that these three species may exist in their own home as wild plants, their progeny in gardens becomes quite undistinguishable, and that a series may be picked out from the seedlings, representing the characters of all the three species. The same story applies to kindred species in other genera—such as *Papaver orientale*, Linnæus, and *P. bracteatum*, Lindley, and several others. *C. Wolley Dod*, *Edge Hall, Malpas*.

PHILADELPHUS, BOULE D'ARGENT.

THIS, the "silver ball" *Philadelphus*, was raised from *P. Lemoinei* X by M. Lemoine. *P. Lemoinei* X itself is a hybrid between *P. coronarius* and *P. microphyllus* (fig. 5, p. 19). The flowers of the hybrid were impregnated with pollen of a double-flowered form of *coronarius*, and the result is, this double-flowered form with large white flowers having the perfume of *P. microphyllus*. It was much admired at the last meeting of the Royal Horticultural Society, where it was shown by Messrs. T. Cripps & Sons, Tunbridge Wells.

SOCIETIES.

ROYAL HORTICULTURAL Scientific Committee.

JUNE 25.—Present: Mr. McLachlan (in the chair), Dr. Bonavia, Prof. Müller, Prof. Church, Mr. Wilson, Mr. Lynch, and Rev. G. Henslow, Hon. Sec.

***Primula scotica*.**—Mr. Wilson exhibited a pot containing some seedling plants, in blossom, of this North British species, which is found in pastures of Orkney, Caithness, and Sutherland. The flowers are homomorphic, not having the stamens and pistils of different lengths as in most other *Primulas*.

***Round-leaved Beech*.**—Mr. Jackman exhibited small trees of *Fagus sylvatica*, with the leaves small, entire, and round. As the trees exhibited an erect form, with short branches, it would seem to be the result of some check to growth, the form of the leaf representing a less developed state than that of the ordinary type of tree.

***Prehistoric Hazel*.**—Mr. Colinette of Guernsey forwarded some Hazel wood found in peat near the coast of Guernsey, containing also flint implements, stone rings, and pottery, presumably neolithic. No Hazel is now known to be indigenous to Guernsey.

***Flies attacked by Fungi*.**—Mr. McLachlan exhibited specimens of *Melanostoma scalare* attached to flowering stems of a grass, *Glyceria fluitans*. They were received from Mr. Ralph C. Bradley of Sutton Coldfield, who writes as follows:—"Whilst collecting in Blackrook Bog, Sutton, on June 16, I came across an extraordinary phenomenon. For a space of about a dozen square yards, the flowering stems of *Glyceria fluitans* were covered with a large number of dead *Melanostoma scalare*, whose bodies were very much distended by a fungoid growth similar to that seen on the house-fly in the autumn. Some stems bore thirty to forty specimens, and fresh victims were constantly being added. I also found two flowering stems of Dock covered with the dead bodies in a similar manner. The flies were to be found only on the flowering part of the stems, and not on any leaves or herbage. Why *M. scalare* should be the only species attracted to the stems and attacked in this manner is very curious, as swarms of other insects were flying about, but did not seem to be tempted to join them in the least." They were forwarded to Kew for investigation.

RICHMOND HORTICULTURAL.

JUNE 26.—Under brilliant skies and in oppressive heat the twenty-first of the grand summer exhibitions of this popular suburban society was held in its accustomed place, the Old Deer Park on the above date. During the afternoon the show was, as usual, visited by the President, the Duke of Teck, and by the Duchess, and there was a large and very dressy attendance. The secretary, Mr. Capel Smith, and his active assistant, Mr. Bagnall, merits all praise for the successful attendant on the exhibition.

The exhibits were, as usual, in four marquees, and all were filled, in some respects to too great an extent, so great was the anxiety to have a place. Generally, plants were greatly in excess of last year, and those, because there was no competing show, and flowers are early, were not only in splendid form, but were in great abundance.

Plants.—We have never seen so many trade groups here before as this year. Mr. H. J. JONES, Lewisham, had a truly grand group of Begonias, set in Asparagus and Ferns. Messrs. J. FRED & SONS, Norwood, had a pretty group of foliage and flowering plants. Messrs. W. CUTBUSH & SONS, Highgate, a wonderfully fine group of Malmaison Carnations. Messrs. J. VEITCH & SONS, Chelsea, a superb collection of dwarf pot Roses, with cut blooms, very fresh indeed. Messrs. C. LEE & SONS, Hammersmith, a charming lot of variegated trees and shrubs. Messrs. FROMOW & SONS, Turnham Green, pretty Acers, &c. Mr. W. THOMPSON, Sheen Nursery, Richmond, a nice group of Palms, Acers, and other decorative plants. Messrs. J. LAING & SONS, Forest Hill, Begonias, Caladiums, Gloxinias, &c. Mr. G. MAY, Upper Teddington, Carnation Uriah Pike, set in Lillium Harrisii. Mr. PIKE, Acton, had this Carnation also. Messrs. JAS. CARTER & Co., High Holborn, arranged in Fern a brilliant and beautiful group of Gloxinias of superb form and colours. Mr. W. ICETON had, in the centre of the tent, a group of Palms and other foliage plants. Messrs. FROMOW, a group of tender foliage plants; and Messrs. CANWELL & SONS sent a fine collection of Cactaceans plants. Finally, of honorary groups in the plant tent, Mr. WYTHE, gr. to Earl Percy, Syon House, Brentford, sent a good group of foliage and flowering plants.

Decorative Groups were few; the best, a very beautiful one, from Mr. H. E. FORDHAM, easily took 1st place in the larger class; and Mr. J. F. MCLEOD, Isleworth, and Mr. W. FARR, gr. to ANDREW PEARS, Esq., Roshampton, were 2nd and 3rd. Mr. Fordham employed, amongst other things, Gypsophila, with good effect. In the small groups, Mr. PORTHURY, gr. to W. N. TROY, Esq., Roshampton, was 1st; and a far more effective one from Mr. WANT, gr. to Sir F. WIGAN, Sheen was 2nd.

Specimen plants were few, so far as flowering stuff was concerned, the only six in bloom coming from Mr. A. Offer, gr. to J. WARREN, Esq., Crawley, well-bloomed, medium-sized, the best a *Bougainvillea glabra*. Mr. Offer also had the best six foliage plants in large Crotons Williamsi and Queen Victoria, *Athurium magnificum*, *Dieffenbachia Bowmani*, *Cycas revoluta*, and *Kentia Belmoreana*. Mr. W. FARR, having a large *Asparagus plumosus*, was 2nd. The best six Caladiums, well-coloured plants, but not large, came from Mr. SIMMONDS, gr. to W. CUNARD, Esq., Twickenham. Mr. MCLEOD having also medium-sized, richly-coloured plants with noble leafage, was 3rd; tall greenish plants from Mr. WANT, coming 2nd.

Mr. J. SMITH, Isleworth, had the best six *Coleus*, smallish pyramids. Mr. C. TURNER, Slough, had the only group of large-flowered *Pelargoniums* in small pots, very bright and effective; as also the only specimens, good plants for the season, wonderfully kept. Of these Gold Mine, Prince Leopold, and Comtesse de Choiseul, were fine. He also had the only six fancies, The Shah, Princess Teck, Ambassador, &c., being good. Mr. WATTS, gr. to H. LITTLE, Esq., Twickenham, was the chief exhibitor of zonals, having six superbly-flowered plants; also, six capitally-flowered Ivy-leaf varieties. The same exhibitor had the best six *Orchids*, very good pieces of *Vanda teres*, *Cattleya Mendeli*, *Lælia purpurata*, *Cypripedium Veitchii*, &c.; Mr. W. H. YOUNG, Orchid grower to Sir F. WIGAN, being 2nd, his lot including good *Cattleya Mendeli*, *Dendrobium Dearii*, &c. Mr. WATTS also had a fine group of *Orchids* of good variety, *Cattleyas*, *Lælias*, *Miltonias*, &c. Mr. PORTHURY showed the best nine *Begonias*; Mr. MEATON, gr. to J. B. HILDITCH, Esq., Richmond, the finest nine *Gloxinias* in one class; and Mr. H. FORDHAM the best nine in another class.

Roses.—These were in wonderful force. There were six entries in the class for forty-eight trebles, the honours falling to Messrs. PRIOR & SONS, Colchester, who had their fellow tradesmen Messrs. F. CANT and B. CANT, 2nd and 3rd. In the class for twenty-four trebles, Messrs. G. A. H. BIRCH, Peterborough, were 1st with beautifully fresh, though rather small flowers; Messrs. PRIOR coming 2nd, and F. CANT, 3rd. Of good flowers were A. H. Williams, Duchesse de Orleans, Fisher Holmes, Dr. Andry, Gustave Pignanneau, Marie Baumann, Comte Raimbaud, Horace Vernet, Prince C. De Bohan, Victor Hugo, Xavier Olibo, Alfred Colomb. Mrs. J. Laing, Susanne de Rodocanachi, Pride of Waltham, Madame E. Verdier, La France, François Michelon, Heinrich Schultheis, Madame G. Luizet, The Bride, Merveille de Lyon, Souvenir de S. A. Prince, Catherine Marmet, Marie Van Houtte, and Lady M. Fitzwilliam. Messrs. BIRCH had the best twelve trebles; Mr. F. CANT coming 2nd; and Messrs. PRIOR, 3rd.

With twelve H.P.'s, one variety, J. G. FOWLER, Esq., South Woodford, was 1st with fine Mrs. J. Laing; Mr. B. R. CANT coming 2nd with Madame G. Luizet; and Mr. G. MOUNT, Canterbury, 3rd, with Marie Baumann.

The best twelve Teas, one variety, came from Messrs. PRIOR,

the variety *Caroline Kuster*; Mr. F. CANT being 2nd with *Marie Van Houtte*.

In the open amateur's classes, Mr. J. G. FOWLER was 1st with twenty-four blooms, Mr. R. E. WEST, Reigate, being 2nd; and with twelve blooms, E. RUTTER, Esq., Halliford, was best, flowers very bright and good, Mr. WEST again coming 2nd.

Hardy Flowers were in immense abundance, beyond all previous experience—far too many, and far too crowded. The following trade firms had large collections: Messrs. JAS. VEITCH & SONS, J. PEED & SONS, C. JACKMAN & SONS, T. BARR & SONS, R. BOX, Croydon, DOBBIE & SONS, Rothessy, chiefly *Violas* and *Sweet Peas*; JAS. CARTER & CO., J. CHEAL & SONS, Crawley; T. S. WARE, Tottenham; R. WALLACE & CO., Colchester, &c. In the competition for twenty-four bunches, Mr. W. PRICHARD, Chritchurch, was 1st, and Mr. G. H. SAGE, gr. to Earl DYSART, Ham House, was 2nd, Messrs. PAUL & SONS being 3rd. With twelve bunches Mr. SAGE was an easy 1st. How effective were these bunches thus set up as compared with the dense masses crowded into the trade collections! Some limit should be put on these.

Waite, gr. to the Hon. Col. TALBOT, Esher, was 1st in the Society's collection for twelve kinds, also taking the Veitch Memorial Medal. He was also 1st in Messrs. Sutton & Son's class for six dishes; whilst Mr. Wilkins, gr. to Lady THEORA GUEST, was 1st with nine dishes for Messrs. Jas. Carter & Co.'s prizes; Mr. Jas. Gibson, gr. to E. H. WATTS, Esq., Devonhurst, Chiswick, came 3rd in each case. We cannot here particularise the varieties shown, but both in these classes and in the cottagers' section they were first rate.

NATIONAL ROSE EXHIBITION AT GLOUCESTER.

JUNE 27.—This was a most successful meeting. In almost all classes the competition was numerous, and in many it was exceptionally close. The Mayor, accompanied by the sheriff and several of the council, also the Mayor of Cheltenham, opened the show. Good as Windsor was last season, the present

among these after the most perfect specimen, *Comtesse de Ludre*, was removed. Mr. B. R. CANT, Colchester, was a capital and close 2nd, and had the following very good:—Earl of Dufferin, *Comtesse de Nadaillac*, S.-M. Rodocanachi, A. K. Williams, Her Majesty, *Caroline Testout*, La France, Dupuy Jamin, and Lady Mary Fitzwilliam.

Seven competed in a class for twenty-four singles, Messrs. TOWNSEND & SON, Worcester, winning with a good stand, among their best flowers being *Rubens*, *Marie Rady*, *Charles Lefebvre*, and *Gustave Piganneau*; the 2nd prize stand, from Messrs. COOLING & SONS, Bath, was larger, but not so well formed.

The strongest class was that for twenty-four varieties, three trusses of each, ten competing with remarkably close stands. Messrs. R. HARKNESS & SONS were 1st, showing in superb form; Mr. B. R. CANT, Colchester, was placed 2nd, his lot being particularly bright and clean, but smaller.

Mr. B. R. CANT, Colchester, was well in front for twelve singles of any H.-P. Rose, and staged a dozen beautiful Lady Mary Fitzwilliam; Messrs. TOWNSEND & SONS, Worcester 2nd, with Mrs. J. Laing.

AMATEURS.

There was a very strong and close competition in an extra class for twelve single trusses, open to all amateurs irrespective of the number of plants grown. The Rev. J. H. PEMBERTON, Havering-atte-Bower, was 1st with a good stand Ulrich Brunner, Gabrielle Luizet, Horace Vernet (a grand bloom), Marie Beaumann, Earl of Dufferin, Gustave Piganneau, &c. Mr. E. B. LINDSELL, Hitchin, a close 2nd, had younger flowers, and in all probability a couple of hours later in judging would have seen these two redoubtable growers in reverse positions. Some sixteen or seventeen lots were staged.

A class for twenty-four distinct, singles, was also very strong, Mr. W. DREW, Ledbury, being successful. This stand contained a bloom marked "seedling," but which was far too nearly like *Marie Rady* in every respect. It was a good bloom. Others that deserve mention were *Innocents Pirola*, *Marie Verdier*, S.-M. Rodocanachi, and Her Majesty. Mr. E. B. LINDSELL, Hitchin, was 2nd with a remarkably good example of *Comte Raimbaud*, while Her Majesty, Duke of Wellington, Marie Beaumann, and Horace Vernet were also grand.

A class of eighteen single trusses, distinct, open only to growers of less than 2000 plants of recognised exhibition varieties, found Mr. J. PARKER, Hitchin, a good 1st. His best blooms were La France, Gabrielle Luizet, *Innocents Pirola*, and *Duchesse de Vallombrosa*. Mr. E. MAWLEY, Berkhamsted, was 2nd, and had Horace Vernet in splendid condition.

In a class of six distinct, three blooms of each, eleven competitors turned up. Mr. E. B. LINDSELL, Hitchin, was 1st, having very bright and clean flowers. Mr. WALTER DREW, Ledbury, made a good 2nd.

Twelve single trusses, distinct, for growers of less than 1000 Exhibition Roses, 1st, Mr. CONWAY JONES, Hucclecote; 2nd, Mr. O. G. ORPEN, Colchester; 3rd, Mr. JAMES PARKER, Headington. The best bloom in this class was a splendid *Comtesse de Nadaillac* in Mr. Parker's stand, the *Innocents Pirola* in Mr. LANGTON'S, and the beautiful *Souvenir d'Elise Vardon* in that of Mr. Conway Jones, also being remarkable.

A class for amateurs growing less than 500 plants, six singles, distinct, went to Mr. G. MOULES, Hitchin; Mr. H. P. LONDON, Brentwood, was 2nd.

An extra class, open only to those entitled to compete in the two preceding, produced eight competitors. Four varieties, three blooms of each, were shown here. Mr. O. G. ORPEN, Colchester, was 1st; Mr. CONWAY JONES, Hucclecote, was 2nd.

For six blooms of any Rose but a Tea or Noisette, and open to all amateurs, a very even and good half-a-dozen of Horace Vernet won for Mr. E. B. LINDSELL; Her Majesty taking 2nd for Mr. W. DREW.

In a class of twelve bunches, distinct, Mr. H. V. MACHIN, Gateford Hall, Workshop, was 1st with very pretty bunches.

TEA AND NOISETTE SECTION.

Very seldom have we seen better Teas. Messrs. D. PRIOR & SONS and Mr. F. CANT'S lots were indeed grand.

The premier class of twenty-four single trusses, distinct, Messrs. D. PRIOR & SON, Colchester, were 1st, their back row consisting of *La Boule d'Or*, *Niphotos*, *Rubens*, *Ethel Brownlow*, *Catherine Mermet*, *Madame Margottin*, *Ernest Metz*, and *Comtesse de Nadaillac*; middle row: *Souvenir d'Elise Vardon*, *Maréchal Niel*, *Alba rosea*, *Madame Hoste*, *Souvenir d'un Ami*, *Souvenir de S. A. Prince*, *Madame Cusin*, and *Innocents Pirola*; the front row being *Edith Gifford*, *Francisca Kruger*, *Madame de Watteville*, *Caroline Kuster*, *The Bride*, *Amazone*, *Marie Guillat*, and *Marie Van Houtte*. The 2nd prize lot of Mr. FRANK CANT contained the Silver Medal Tea in *Edith Brownlow*, and also extra good examples of *Madame Cusin*, *Edith Gifford*, *Caroline Kuster*, and *Corinna*.

Twelve distinct singles were well shown, Mr. L. TRESSIEDER, Cardiff, being 1st with *Catherine Mermet*, *The Bride*, and *La Boule d'Or*, at their best; Messrs. TOWNSEND & SONS, Worcester, 2nd.

AMATEURS.

Open class, irrespective of number of plants, for eighteen distinct, single trusses, seven very excellent stands were put up. Mr. O. G. ORPEN, Colchester, winning with grand flowers of *Cleopatra*, *Madame H. Jamin*, *Fran cisca Kruger*, *Madame Cusin*, *Maréchal Niel*, *Souvenir d'un Ami*, and *Madame de Watteville*. The 2nd prize stand, from the Rev. A. FOSTER-MELLIAR, Sproughton Rectory, Ipswich, was but little behind, and contained a superb bloom of *La Boule d'Or*, to which the Silver Medal was awarded.

Nine single blooms, for growers of fewer than 500 plants, brought out eight lots, Mr. R. H. LANGDON, Hendon, winning with *Ernest Metz* and *Innocents Pirola*, extra good; Mr. W. BOYES, Derby, was 2nd.



FIG. 5.—PHILADELPHUS BOULE D'ARGENT: FLOWERS WHITE, FRAGRANT. (SEE P. 18)

FRUIT AND VEGETABLES.

The best six dishes came from Mr. W. FORD, gr. to W. H. ELLIS, Esq., Hounslow, who had good *Black Hamburg* and *Foster's Seedling Grapes*, *Hale's Early Peaches*, *Brown Turkey Figs*, &c.; Mr. SAGE was 2nd, having very good *Grapes*, *Lord Napier Nectarines*, *Figs*, &c.; Mr. OSMAN, Otter-shaw Park Gardens, coming 3rd. In the open class for *Black Grapes*, Mr. FORD was again 1st, but was so close run by Mr. OSMAN, that some thought the latter's bunches the best. Mr. W. Tidy, gr. to W. K. DAVEY, Esq., Stanmore, had the best *White Grapes*, in smallish bunches, with good berries, of *Duke of Buccleuch*; Mr. OSMAN being 2nd, with *Buckland Sweetwater*. In the local class, Mr. BURTON, gr. to Sir J. D. PAUL, Twickenham, was 1st with *Hamburgs*, and Mr. MEATON had the best whites in rather rough *Muscad of Alexandria*, Messrs. W. & E. WELLS, gr. Mr. Thompson, showed good *Black Hamburg* and *Madrasfield Court Grapes*, with *Peaches*, &c., not for competition. Mr. McLEOD had the best *Melon* in the Countess, also the best *Peaches* in pale-coloured *Alexandre Noblesse*; Mr. FARNS being 2nd. Mr. SIMMONDS had good *Lord Napier Nectarines*, and Mr. SAGE good *Angusta Nicaise* and *Gunton Park Strawberries*. Mr. McLEOD'S *Early Lyons Cherries* were very fine. *Sutton's Perfection Tomatos* from Mr. FORD and Mr. SAGE were first rate.

Vegetables were, for the season, exceptionally good. Mr.

southern show was considerably in advance of it. Great courtesy and hospitality was shown to the National Rose Society from all sides. The quality of the Roses was first-class, not an indifferent stand being staged.

NURSERYMEN'S CLASSES.

In the premier class for forty-eight distinct single trusses there were eight competitors, the 1st prize going to Messrs. R. HARKNESS & SONS, Bedale, Yorkshire, for a most beautiful and even collection. In the back row were *Charles Darwin*, *Suzanne-Marie Rodocanachi*, *Caroline Testout*, *Gustave Piganneau*, *Captain Christy*, *Comte de Raimbaud*, *François Michelon*, *Ulrich Brunner*, *Maurice Bernardin*, *Marie Verdier*, *Captain Hayward*, *Lady Mary Fitzwilliam*, *Alfred Colomb*, *Mrs. John Laing*, *Marie Beaumann*, and *Her Majesty*. Second row, *Duke of Fife*, *La Boule d'Or*, A. K. Williams, *Comtesse de Nadaillac*, *Charles Lefebvre*, *La France*, *Dupuy Jamin*, *Pride of Waltham*, *Sir Rowland Hill*, *Madame Hoste*, *Comtesse de Ludre* (*Medal H.P.*), *Souvenir d'Elise*, *Horace Vernet*, *Jean Ducher*, and *Madame V. Verdier*. Front row, *Madame E. Verdier*, *Fisher Holmes*, *Etoile de Lyon*, *Countess of Rosebery*, *Madame G. Luizet*, *Duchesse de Morny*, *Catherine Mermet*, *Senateur Vaissa*, *Marie Rady*, *Francisca Kruger*, *Dr. Andry*, *Earl of Dufferin*, *General Jacqueminot*, *Nerveille de Lyon*, *Duchess of Bedford*, and *Queen of Queens*. It would be difficult to choose

In a class of six singles, for growers of less than 500 plants, Mr. G. MOULES, Hitchin, was a capital 1st; Mr. R. F. HOBBS, Worcester, 2nd.

An extra class of six trebles, open to all amateurs, was won by the Rev. A. FOSTER-MELLIAR, Ipswich; Mr. CONWAY JONES, Hucclestone, was 2nd. Six trusses of any Tea or Noisette, Souvenir d'Elise Vardon was here for the Rev. FOSTER-MELLIAR; while 2nd was taken by Edith Gifford, for the Rev. F. R. BURNSIDE.

OPEN CLASSES.

For twelve varieties, three of each, some of the grandest Teas we have seen were put up. Mr. B. R. CANT, Colchester, being 1st, with La Boule d'Or, Madame Cusin, Innocente Pirola, Madame de Watteville, Edith Gifford, and Ernest Metz in particularly good form.

Twelve trusses of any Tea or Noisette brought a dozen of Marie Van Houtte in its prettiest form, Messrs. D. PRIOR & SON, Colchester, taking 1st.

GARDEN ROSES.

These were not quite so extensively shown as usual. In a class for nurserymen, of thirty-six bunches, distinct, with not fewer than three, nor more than six trusses to a bunch, Mr. C. TURNER, Slough, was 1st, with very pretty trusses of rugosas, Crimson Rambler, Persian Yellow, Mosses, macrantha, Polyantha, Hébé's Lip, and Moschata alba among many others.

The amateur's classes of these were good. For eighteen bunches, Mr. A. TATE, Leatherhead, was 1st; Marquis of Salisbury, Hébé's Lip, Crested Moss, Gloire de Rossmanes, Rosa Mundi, and macrantha were his best.

For six bunches, not open to the exhibitors in the preceding classes, the Rev. J. H. PEMBERTON was a capital 1st, having a peculiarly semi-double form of Polyantha, the old Red Provins or Provence, multiflora simplex, Rosa Mundi, &c. Mr. J. OUGH, Hereford, was 2nd.

OPEN CLASSES.

A display of Roses, not to exceed 6 feet by 3 feet, in which any Rose may be shown and arranged to individual taste, was very pretty, but not so striking as several lots we have seen. Mr. H. WHITEHEAD, Heathville Nursery, Gloucester, was 1st, with an arrangement of Roses forming the letters N. R. S., the society's initials. Edith Gifford, Marie Van Houtte, and Lamarque, formed these letters in like order, while the whole was surrounded with various other Roses, but too formally arranged. We hope this silly practice will not find favour. A good box of Turner's Crimson Rambler was included here.

Three trusses of any new seedling or distinct sport did not provide a startling novelty, Pride of the Valley was the only one shown, no award being made. It looked far too much like a pale indifferent Mrs. Jno. Laing.

LOCAL CLASSES.

These were good, but the excellent quality and enormous number from other districts, not to mention the fact that the strongest growers also went into higher classes, considerably detracted from their beauty.

Mr. CONWAY JONES, Hucclestone, won the Silver Cup for eighteen distinct single trusses; and Mr. T. A. WASHBOURN, Hucclestone, was placed 2nd.

Mr. J. F. FULFORD won the Silver Medal for twelve varieties; Mr. GAMBIER PARRY was 2nd.

A Challenge Plate, presented by the Rev. F. R. BURNSIDE, for twelve Teas or Noisettes, went to Mr. T. A. WASHBOURN; Mr. E. C. HOPTON being 2nd.

Mr. CONWAY JONES also won the Silver Medal for six Teas or Noisettes, Mr. T. THORPE, Hilldrop, near Gloucester, taking a similar honour for twelve trusses; while the lot for six singles was won by Mr. G. PRATT, 39, Park End Road.

The Corporation of Gloucester presented a silver salver for twelve distinct singles, which was won by Mr. CONWAY JONES; the 2nd went to Mr. C. BROWN, Saint's Bridge House.

A silver medal for twelve singles, grown by cottagers, was presented by T. THORPE, Esq., and won by Mr. E. C. HOPTON, Hucclestone. For six singles, Mr. J. MIDDECOTE, Malson; Mr. F. BIRCHER, Hucclestone; and Mr. A. MICHELL, Coney Hill, won in like order.

A bronze medal and money was won by Mr. E. POOLE, Upton, St. Leonards.

Among the cottagers, Mr. F. W. BOLTON had the best single truss in Mrs. Jno. Laing.

SILVER-MEDAL ROSES.

The Silver Medal for the best hybrid perpetual in the nurserymen classes, was awarded to Messrs. HARKNESS & SONS, for Comtesse de Ludre; that for Teas or Noisettes going to Mr. F. CANT, for Ethel Brownlow.

In the amateurs' classes, Horace Vernet won, for the Rev. J. H. PEMBERTON; and La Boule d'Or for the Rev. FOSTER-MELLIAR.

A good lot of hybrid Sweet Briars came from Messrs. KENNES, WILLIAMS & CO., Salisbury, who staged all the older kinds except Meg Merrilies. They now had some that are not yet in commerce, the best of which is undoubtedly Jeannie Deans, a bright and semi-double variety.

DEVON AND EXETER HORTICULTURAL.

JUNE 28.—The 181st exhibition of this Society was held on the above date, the day being wet and unfavourable. The summer exhibition is usually held in August, and it is fifteen years since the last Rose show took place. The entries promised great

things, many of the well-known exhibitors having entered, but only a small number put in an appearance. This not only caused great disappointment, but also much inconvenience. The quality was generally fine, Tea Roses being excellent.

ROSES.

In the nurserymen's class, for forty-eight distinct, Messrs. CURTIS, SANFORD & CO., Torquay, were 1st; and Messrs. D. PRIOR & SON, Colchester, a good 2nd. In the winning exhibit were Ernest Metz, Jean Ducher, Victor Hugo, Maman Cochet, Captain Christy, Xavier Olibo, Madame Cusin, Star of Waltham, Black Prince, Alfred Colomb, Marie Baumann, and Suzanne-M. Rodocanachi, the blooms being distinguished for fine form and colour.

In the twenty-four distinct, Mr. JOHN MATTOCK, New Headington, Oxford, was 1st; Messrs. ROBERT VEITCH & SON, Exeter, 2nd; and Messrs. JARMAN & CO., Chard, 3rd. In the twenty-four distinct (three trusses of each), Messrs. D. PRIOR & SON were 1st; Messrs. CURTIS, SANFORD & CO., 2nd. In the winning collection were Souvenir de S. A. Prince, Her Majesty, A. K. Williams, Marie van Houtte, Horace Vernet, and Madame Gabrielle Luizet. In the 2nd lot were Margaret Dickson, The Bride, Jean Ducher, and Innocente Pirola, all very good indeed.

For the eighteen Teas or Noisettes, Messrs. D. PRIOR & SON were 1st; Messrs. CURTIS, SANFORD & CO., 2nd; and Mr. JOHN MATTOCK, 3rd. Messrs. PRIOR & SON had good examples of Comtesse de Nadaillac, Madame Hoste, Hon. Edith Gifford, Caroline Kuster, Souvenir d'Elise Vardon, Cleopatra, and Marie Van Houtte. Messrs. CURTIS, SANFORD & CO. showed a very fine bloom of Souvenir d'un Ami.

In the open classes, Messrs. PRIOR & SON were again 1st for twenty-four Teas or Noisettes, Mr. J. MATTOCK 2nd, and A. HILL GRAY, Esq., of Bath, 3rd. The prize exhibit had excellent blooms of Madame Lambert, Madame Bravy, The Bridesmaid, Innocente Pirola, Catherine Mermet, and Marie Van Houtte. The latter was superb in this and several other classes.

For twelve blooms of any light H.-P.'s, Messrs. PRIOR & SON were 1st with Her Majesty, as nearly perfect as it is possible to show them. Mr. WALTER DREW, Ledbury, came 2nd with the same variety, a magnificent lot.

For twelve blooms of any dark H.-P.'s, Messrs. CURTIS, SANFORD & CO. were well 1st with a grand box of Marie Baumann. R. N. G. BAKER, Esq., of Heavitree, Exeter, 2nd, with a very fine lot of Ulrich Brunner.

A. HILL GRAY was 1st for twelve Maréchal Niel of magnificent colour; and PRIOR & SON took premier place for twelve of any other Tea or Noisette, with a good box of Caroline Kuster. For six bunches of garden Roses Messrs. PRIOR & SON were 1st, and JAMES JERMAN, Esq., The Bungalow, Exeter, 2nd.

In the amateur classes, Mr. WALTER DREW took premier honours with thirty-six fine blooms, among which were Dingée Conard, Marchioness of Londonderry, Marie Finger, C. Testout, Ulrich Brunner, Caroline Kuster, Thomas Mills, Her Majesty, and Etoile de Lyon. In this collection, the bloom of Marchioness of Londonderry was awarded the Medal for the best H.P. in the show. R. N. G. BAKER was a good 2nd.

For the twenty-four blooms, R. E. WEST, Esq., of Reigate, was 1st, with a fine lot; and A. HILL GRAY, 2nd.

For twelve sorts, three trusses of each, Mr. WALTER DREW was 1st.

For twelve Teas or Noisettes, A. HILL GRAY had in his winning lot Reine du Portugal, Souvenir de S. A. Prince, Ernest Metz, and Souv. d'Elise Vardon.

Mr. R. N. G. BAKER took premier place for six of any one sort of Tea or Noisette, with a fine stand of Princess of Wales. The class for twelve Teas or Noisettes, distinct, three trusses of each, was won by Mr. A. HILL GRAY, with a fine lot.

Mr. N. G. BAKER took honours for the best Tea or Noisette in the show, with Comtesse de Nadaillac.

MISCELLANEOUS PLANTS AND FLOWERS.

In hardy herbaceous flowers, some excellent bunches were shown, particularly fine being a bunch of Thalictrum aquilegifolium. Pelargoniums in trusses were good, but Pansies very poor, and the 1st prize was withheld. Fuchsias and Pelargoniums in pots were fair, especially the latter.

The groups were not at all up to the usual form at the Exeter August shows, they sadly wanted colour and variety. The 1st prize group, W. BROCK, Esq., Parker's Well, Exeter (gr., Mr. W. Rowland), was an easy 1st. The twelve Gloxinias, 1st prize for which was awarded to Mrs. A. D. SIM, Knowle, Exeter (gr., Mr. A. Williams), were very good indeed.

FRUIT.

Fruit was indifferently shown in most classes, Grapes were fair, Melons uneven, but Strawberries were splendid. For Black Grapes other than Hamburgs, Trentham Black was the winning sort, and in White Grapes, Backland Sweetwater. The 1st in Gooseberries was Golden Drop, but the competition in these classes was not keen. The class for four dishes of Strawberries was won by H. HAMMOND SPENCER, Esq., Teignmouth (gr., Mr. Foster), with Sensation, Waterloo, Commander, and James Veiton, all first-rate. The two dishes were won with Sir Joseph Paxton and President, and the one dish class by Miss DBEW, Kenton, with a grand exhibit of Sir Joseph Paxton. Mrs. A. D. SIM showed a fine dish of Ruby Castle Currants.

VEGETABLES.

In vegetables, premier place was again taken by Sir JOHN SHELLEY, Bart., High Sheriff of Devon (gr., Mr. R. Mavis), with a grand collection of eight varieties, consisting of Veitch's Model Carrot, Duke of York Potato, Gradus Pea,

Veitch's Midsummer Day Cauliflower, Veitch's Red Garden Globe Turnip, Perfection Tomato, Veitch's Exhibition Broad Beans, and Canadian Wonder Dwarf Beans. The 2nd prize collection was also good. Veitch's Perfection, Veitch's Gem, and Blendworth Perfection Cucumbers were well shown. Perfection Tomato, Model Carrot, Mammoth Co's Lettuce, Red Garden Globe Turnip, Early Puritan Potato, and Mein's No. 1 Cabbage, were prominent among the winning dishes.

TRADE EXHIBITS.

In the Nurserymen's exhibits were some very good things. By far the largest exhibit was that of Messrs. ROBERT VEITCH & SON, who, in addition to a good general collection, showed some new hybrid Water Lilies, a grand box of Carnations, and a rich collection of alpine and rock plants.

Messrs. RANDALL & SON had a good miscellaneous collection, as also had Mr. W. B. SMALE, Torquay, this exhibitor showing good Petunias, and Double Shirley Poppies, with three Chrysanthemums, Charles Davis flowering out of season. Mr. W. J. GODFREY, Exmouth, had good Carnations, amongst them being Goldmide, Sunrise, and Primrose League. Four new and well-coloured Coleuses were also in this stand, and a good assortment of cut flowers. Mr. J. WALKER, Mount Radford; Messrs. JARMAN & CO, Chard; Messrs. BEACHY & CO., King's Kerswell, also exhibited; as did the Jadoo Company, who had a large stand of well-grown specimens, grown in Jadoo, from the conservatories of Colonel Halford Thompson.

WINDSOR, ETON, AND DISTRICT ROSE AND HORTICULTURAL.

JUNE 29.—The annual exhibition of this society was held on Saturday last in the private grounds of Windsor Castle. Roses were by far the strongest classes, and in the most important of these the quality of the blooms was excellent. There was not much competition in the plant classes, and the three tents that had been provided were not more than furnished. We would suggest to the committee that on another occasion the names of the exhibitors should be more plainly written. Considerable trouble and error might thus be saved the spectators, while it would also be convenient if the addresses of exhibitors were included on the cards.

ROSES.

We have already said that the quality of the Roses was good, and this was particularly the case in the three first open classes. Mr. BENJ. R. CANT, Colchester, was 1st for thirty-six distinct single trusses, and the most noticeable in his stand were Ulrich Brunner, Gustave Piganneau, Madame G. Luizet, Marchioness of Downshire, White Lady, Lady Mary Fitzwilliam, Marchioness of Dufferin, and A. K. Williams. Messrs. HARKNESS & SONS, Badale, Yorks, were 2nd. Their blooms were smaller, but they were of capital colour and nice in form; Messrs. PRIOR & SONS, Colchester, were 3rd in this class, but won in that for eighteen Teas or Noisettes, which included very fine blooms of Catherine Mermet and Souvenir d'un Ami.

The third open class—three trusses each of twelve distinct varieties—fell to an amateur, and to win he had to beat splendid blooms from the trade. The Rev. J. H. PEMBERTON, Havering-atte-Bower, Romford, Essex, had large full blooms, and of excellent colour; Messrs. HARKNESS & SONS were 2nd, and Mr. B. R. CANT 3rd. The National Society's Silver Medal for best Rose in the show was awarded to a capital bloom of Marchioness of Dufferin, exhibited by Mr. FRANK CANT.

Amateurs.—The Rev. J. H. PEMBERTON was 1st for eighteen distinct Roses, and a splendid bloom of Marie Baumann gained the National Society's Silver Medal for best Rose exhibited by an amateur. Others in the stand were also very good. The Rev. J. H. PEMBERTON, won, for six single trusses of one kind, with Caroline Testout; and H. V. MACHIN, Esq., Worksop, for twelve Teas or Noisette, in not fewer than eight varieties; R. E. WEST, Esq., Reigate, was 2nd. The quality in this class was not remarkable.

Local Classes.—There were six classes open only to exhibitors within ten miles of Windsor, and the 1st of these—for eighteen single trusses—was won by N. L. COHEN, Esq., Englefield Green (gr., Mr. A. Sturt); also the class for twelve single trusses. In the 1st class, A. GILLEAT, Esq., Slough, was 2nd; and Miss BAILEY DENTON, Wingfield, took a similar position in the other. Six single trusses were best from Mr. JOHN-SON, Manor College Gardens; and Sir ROBERT HARVEY, Bt., was 1st for six single trusses of any H. P. or H. Tea. N. L. COHEN, Esq., with Innocente Pirola, was 1st for the same number of any Tea or Noisette; and the Dowager Duchess of Sutherland for six Teas or Noisettes in distinct varieties. Mrs. F. HENEAGE and Mrs. IRVING were 1st respectively for a basket of Roses, and for six bunches of garden Roses, distinct, open to local ladies only.

OPEN TO MEMBERS ONLY.

Pot Plants.—The winner of the 1st prize for an effective group of miscellaneous plants, arranged in a circle 12 feet by 6 feet, was Sir ROBERT HARVEY, Bart. (gr., Mr. Gillies), whose group, composed wholly of dot plants with a groundwork of Ferns and Gloxinias, contained some rather uncommon flowers. The 2nd prize went to HENRY GOLD, Esq. (gr., Mr. D. Phillips), who had also a tasteful exhibit.

Sir R. HARVEY (gr., Mr. A. Gillies), was 1st for six specimen plants and for six plants for table decoration, having fairly good plants in each case. The Hon. C. S. IRBY, with four specimen Fuchsias, and Mrs. J. HENEAGE (gr., Mr. Guttridge), with six usual Pelargoniums, were 1st in these classes.

grown from seeds supplied by them; and Mr. HOLLAND, Vine Nurseries, Lee, exhibited groups of miscellaneous plants.

Cottagers' Exhibits.—The produce from cottagers, arranged in one of the tents, was very satisfactory.

KEW NOTES.

PHILADELPHUS LEMOINEI X.—Of the Mock Oranges now in bloom, there is not one possessing more attractive qualities than this. It is a hybrid, having been raised by Mons. Lemoine of Nancy, by crossing *P. coronarius* with *P. microphyllus*. In leaf characters, stature, and size of flower, it is intermediate between its parents, but besides being quite distinct, it is superior as a garden plant to either of its parents. Whilst it is larger and more showy than *P. microphyllus*, it has purer white flowers than *P. coronarius*, and their delicate, almost pine-apple like fragrance is much to be preferred to the heavy perfume of that species. A circular bed about 14 feet across in the Arboretum at Kew filled with this plant is now in perfect condition, and makes one of the most charming masses of flower to be seen in the garden. The shoots made last year are 2 to 2½ feet high, each one an erect columnar mass of pure white, fragrant blossom. Mons. Lemoine sent out this hybrid some seven or eight years ago, but its exquisite beauty is far from being as generally known as it deserves to be.

ROSA MULTIFLORA (SYN. R. POLYANTHA).

For the past few weeks this Asiatic Rose has been the most effective of all the species in flower. The blossoms individually are small (scarcely 1 inch across), but they are produced in such profusion that their want of size is no defect, but adds rather to the distinctive character of the species. A large mass of it is grown in the Rose collection at Kew, and it occurs in various other parts of the grounds. Most strikingly, perhaps, is its beauty seen in the Bamboo garden, where it is planted on a bank and allowed to clamber over old tree-roots, forming huge mounds of white flowers. Its small flowers, whose fragrance may be detected many yards away, its cone-shaped, numerous-flowered trusses, and the fimbriated stipules at the base of the leaf, render the species an easily recognised one. The long, arching shoots grow to a length of 8 or 10 feet in one season. It is a native of China, Japan, and Corea, but although the double-flowered variety has been known in England since the early years of this century, the true single-flowered type was introduced as lately as 1875. A fine specimen is figured in the *Gardeners' Chronicle* for November 26, 1887, under the name of *Rosa polyantha*.

SPIRÆA BRACTEATA.

If not one of the very latest additions to the genus, this is at least one of the most uncommon of *Spiræas* in English gardens. It is a very pretty species, of compact habit, growing to a height of 2 or 3 feet (perhaps more eventually), with abundant obovate or almost orbicular leaves, which frequently have a few shallow teeth near the apex, and are of a peculiarly rich, lustrous green. The flowers are pure white, and fragrant, and are borne on short, cone-shaped corymbs. The name *bracteata* refers to a bract midway on the stalk of the flower; on the lower ones it is large and leaf-like, becoming smaller and smaller towards the terminal flowers of the corymb. According to Professor Sargent, this species is a native of the mountainous regions of the main Island of Japan, and among other places is found on the slopes of *Fuji-san*. It appears to have been first introduced to Europe by Von Siebold. A flowering shoot is figured in the *Gardeners' Chronicle* for February 28 1885, as *S. media* var. *rotundifolia* alba. It may be increased by means of cuttings taken as soon as the wood has become fairly firm. [See also Hemsley in *Gardeners' Chronicle*, June 16, 1894, p. 746. Ed.]

GENISTA VIRGATA.

Although a native of Madeira, this beautiful *Genista* passed through the frosts of last February with scarcely any injury—a marked contrast to the

behaviour of several other leguminiferous plants, amongst which are natives even of our own country. A good many years ago some scores of plants were put out in the wild semi-wooded part of Kew Gardens nearest Richmond. Although the soil here is the poorest sand, these plants have succeeded well, some having grown into large spreading bushes 8 to 10 feet high, and even more across. It is, in fact, the largest of all the hardy *Genistas*. Every July these bushes are crowded with racemes of bright golden yellow flowers, and amidst the surrounding greenery these masses of glowing colour are particularly effective. The leaves are small, lanceolate, and not divided. It was introduced as long ago as 1777, and was figured by Lindley in his *Botanical Register* in 1844, but still remains quite an uncommon plant. During the last few years it has, however, been planted more extensively. W. J. B.

COLCHESTER ROSES, 1895.

It was with many misgivings that I turned my head towards Colchester on the early morning of June 20. I had seen many Roses cut hard by the frost of February, and had many sorry tidings about others. And now the opportunity had come to test the condition of the Roses in their great and ever enlarging home in East Anglia. To this end I was to assist as judge at the Colchester Rose, Flower, and Fruit Show. Lunch among the Roses, and with rosarians at Mr. Frank Cant's, and walk through as many Rose gardens as possible. A glimpse at the Roses in this show was most encouraging.

The Colchester Rose and Horticultural Society was specially favoured this year by the weather, though a soaking shower passed over the tents about 12 o'clock. It also enjoyed the warm patronage of the ex-Mayor, Henry Goody, Esq., and of the present Mayor, E. Egerton Green, Esq., the President of the Horticultural Society, who has been indefatigable in his efforts to make the Rose show one of the chief features of the year. In this, assisted by the Mayoress, who presented four Medals for the four best Roses, he has admirably succeeded, and he crowned the edifice, as it were, of his other gifts by devoting his personal service on the day of the show, and granting the Society the use of his beautiful grounds at East Hill House, near the Castle.

So far as the trade were concerned, the Colchester growers won and held the field for prizes among them, courteously changing places among themselves, but resisting the ingress of outsiders. Mr. Benjamin Cant, the veteran grower, and founder of the Rose industry, was 1st for thirty-six, and Mr. Frank Cant and the Messrs. Prior & Sons winning the other chief prizes.

Among amateurs there was a wider competition, though a very creditable share of prizes were also won by Colchester growers, such as the present Mayor with the energetic secretary of the society, Mr. C. G. Orpen. The winners of the four silver medals presented by the Mayoress were Miss Pemberton for a grand bloom of *Horace Vernet*, Mr. O. G. Orpen for the best Tea, *The Bride*, Mr. Frank Cant for a beautiful bloom, *La Fraicheur* an award rather severely criticised. Mr. Wilson Marriage had the fourth medal for the best dozen Roses.

Among other fine Roses at Colchester on the 20th were *Maréchal Niel*, *Madame Casin*, *Souvenir de S. A. Prince*, *Catherine Mermet*, *Jean Ducher*, *Comtesse de Nadaillac*, *Belle Lyonnaise*, and *Marie Van Houtte*. Among perpetuels, the following, among others, were good for colour, size, form, quality:—*Horace Vernet*, Mrs. John Laing, *Duchess of Oxford*, *Dr. Andry*, *Dupuy Jamain*, *La France*, *Marie Baumann*, *Madame Gabrielle Laizet*, *General Jacqueminot*, *Prince Arthur*, *John Hopper*, *Earl Duffryn*, *Senateur Vaisse*, *Duke of Teck*, *Duke of Edinburgh*, *A. K. Williams*, *Charles Lefebvre*, *Grandeur of Cheshunt*, *Lady Mary Fitzwilliam*, *Marie Rady*, &c.

And now, after a most successful meeting of rosarians, and a most hospitable lunch at Braiswick, we are free to face with thousands and tens of thousands of Roses, and Briars of all possible sorts

and sizes. Almost the only mark they bear of having passed through a semi-arctic winter is that the majority of the Roses are a week, perhaps two, behind time. Hence, had the show been a fortnight later, Colchester's best would have been yet more brilliant and perfect than on June 20.

Without exaggeration, the Colchester Roses were without speck or flaw of any sort. On examining acre after acre, not a sign of mildew nor speck of rust were seen, nor a bud bored, nor a leaf browned, nor burrowed by caterpillars or maggots. And yet the persistent drought and the ever-present north-east winds, are held to be the most potent factor in the production of disease. Neither has the trade in Colchester the means nor the will to adopt artificial watering. But they fight the drought through liberal, deep culture, and a loose surface-mulch of frequently-hoed soil.

It seems that but few of the Roses had had their heads or roots protected last winter, and it was marvellous to see such survivals of standard perpetuels, and dwarf Teas—acre after acre, in well-filled rows, in robust health and highest vigour. The Rose grounds in and around Colchester vary somewhat in character and aspect, and in some portions the standard Teas were hit very hard, and the dwarfs cut to the ground. Others covered their standard Teas with Pea-straw, and these were saved; and the enormous brakes of the latter, in robust health, rushing into bud, were worth a journey of a hundred miles to see in these times, when we hear such depressing reports of the wholesale slaughter of the innocent Roses in February, and the lingering, enfeebled life of yet larger numbers ever since. D. T. F.

Obituary.

S. A. WOODS.—We regret to hear, through the *Journal of Horticulture*, of the death of Mr. Woods of Osberton on the 26th ult. from poisoning. It appears that the deceased has suffered from gout, and from nervous depression. On the morning of his death he was in great trouble about his Grapes, and asked his wife to go and see them, remarking, "I know I shall go mad." Shortly after this he took a bottle of "Wasp Destroyer," which resulted in his death. Mr. Woods, who was fifty-one, has been gardener to the Foljambe family for eighteen years, and has given great satisfaction.

ALDERMAN MASTERS.—The death is recorded in the *Evesham Standard* of this well-known market gardener, at Evesham, at the age of sixty-eight. The deceased gardener was thrice Mayor of his native borough. A few years ago he was Secretary to the Fruit Pests Committee, a committee of investigation which made experiments as to the best methods of destroying fruit-pests; and before the revision of rates, Mr. Masters was one of a deputation who laid the views of the gardeners before the President of the Board of Trade. In every particular connected with the market gardening industry the deceased brought to bear an exceptional degree of intelligence and perseverance. *Journal of Horticulture*.

MARKETS.

COVENT GARDEN, July 4.

OUT FLOWERS.—AVERAGE WHOLESALE PRICES.			
	s. d. s. d.	s. d. s. d.	
Aiums, per dozen blooms ...	4 0-6 0	Pelargoniums, scarlet, per 12 bunches	4 0-6 0
Asters, per bunch...	2 6-3 0	— 12 sprays ...	0 6-0 9
Bouvardias, p. bun.	0 6-1 0	Orchids:—	
Carnations, 12 blms.	1 8-2 6	Cattleya, 12 blms.	6 0-12 0
Eucharis, per dozen	4 0-6 0	<i>Odon toglossum</i>	
Gardenias, per doz.	3 0-4 0	crispum, 12 blm.	3 0-6 0
Lapageria, 12 blms.	1 0-2 0	Pyrethrums, 12 bun.	2 0-4 0
Lilac (French), per bunch ...	4 6 5 0	Roses, Tea, per doz.	1 0-2 0
Lilies of the Valley, doz. sprays ...	2 0 2 6	— coloured, p. dz.	2 0-4 0
Lilium Harrisii, per dozen ...	3 0-4 0	— yellow (Maréchal),	
Lilium Lancifolium, per dozen ...	3 0-4 0	doz. sprays	4 0-6 0
Maidenhair Fern, per 12 bunches ...	6 0-8 0	— red, per dozen	2 0-6 0
Marguerites, 12 bun.	1 0-3 0	— red, per dozen bunches ...	4 0-9 0
Mignonette, 12 bun.	2 0-4 0	Iris, per doz. huns.	3 0-4 0
		Stephanotis, dozen sprays ...	1 6-2 0
		Tuberose, 12 blms.	0 4-0

ORCHID-BLOOM in variety

touching the berries with the hand, or hair of the head will cause it. There is no remedy, and all rusted berries should be cut out as soon as noticed.

MILDEW ON VINES: In Trouble. Beyond doing what you have done, you might place saucers about the house filled with water in which flowers-of-sulphur have been mixed, which will give off sulphurous fumes inimical to the mildew. The spots on the berries that you remark, are the dead patches of mildew. The skin thus affected has lost its vitality, and cannot expand as the berry grows in size, the consequence being that the skin will be ruptured, and the berry decay. When mildew attacks the fruit that is inevitable.

NAMES OF PLANTS: W. T. T. *Ilex polycarpus*, Japan, Bixaceae, diceous, *Halesia tetraptera*.—*Marshall*. Leaf of Poplar, *Populus monilifera*, the Canadian Poplar probably.—*G. T. D.* *Hyoocyanus niger*, Henbane.—*J. A.* *Rosa polyantha*—*Bog-Cotton*. 1, *Hymenophyllum tunbridgense*; 2, *Aspidium spinulosum*; 3, *Eriophorum polystachyum*; 4, *Cotyledon umbilicus*; 5, *Stellaria graminea*.—*W. H.* *Magnolia glauca*.—*A. M.* 1, *Potentilla fruticosa*; 2, *Spiraea confusa*; 3, an evergreen Oak; 4 *Orchis pyramidalis*; 5, *Orchis pyramidalis*; 6, *Orchis maculata*.—*Ribes*. 1, *Epidendrum ocnidioides*; 2 *Dendrobium Pierardi*; 3, *Pelargonium tomentosum* (Peppermint-scented *Geranium* of gardens); 4, *Sedum Sieboldi*; 5, seed in flower; 6, *Bougainvillea spectabilis*; 7, *Gesnera bulbosa*, often called *aplendens* in gardens.—*J. S. U.* *Kalmia angustifolia*.—*J. A. M.* *Pendulous tree*, *Planera Richardi*; *Rosa viridiflora*, the green Rose; the other plant not recognised.

PEA: S. R. H. & Co. The Purple Podded, a variety of the Marly.

TENNIS LAWN: G. G. 39 feet by 36.

TESTIMONIAL: Merton. It belonged to you, and you should not have parted with it. You may claim it, but the difficulty will lie in obtaining possession, if your late employer should object to give it up.

TOMATOS: A. W. E. Refer to recent numbers, where you will find the disease mentioned under the head of "sleepy disease."

VINES: S. A. The fungus is called *Cladosporium viticolum*. Burn all infested leaves, and next season spray with a dilute solution of Bordeaux Mixture at intervals of a fortnight, during the growth of the leaves. *G. M.*

VINES NOT GROWING: W. W. They will do no good, the Vine being above all things a sun-loving plant, and by your own showing the sun cannot shine on the vinery or the border for more than four hours a day. Fancy what that means in cloudy weather. All your endeavours to carry out a proper mode of cultivation will be fruitless.

VINES AND MEALY-BUG: N. Z. Having failed to extirpate the pest by means of the old recipes, why do you not give Richards' XI All Vaporiser a trial. It will not do harm to the Grapes or anything else, and it is deadly to every kind of insect.

WHITE-FLOWERED ROSA RUBOSA AT KEW: L. G. G. The plant mentioned is the variety *Blanc double de Coubert*.

COMMUNICATIONS RECEIVED.—W. R.—G. T., Versailles.—**W. H. N.—F. W. O.—C. W. D.—G. J. I.—J. A.—C. de B.—H. H.—G. W. E.—J. W.—S. R. C.—D.—Reesder.—N. C.—H. F. H.—A. E. A.—M. M. C.—J. B.—A. P.—W. G. R.—R. L. H.—A. D.—E. C.—J. A.—R. J. H.—E. M.—G. H.—W. H. D.—T. F.—J. O'B.—D. T. F.—D. B. C.—P. F. Le Sueur.—A. H.—Harrison Weir.—L. de Smet-Duvivier.—F. R. de L.,** Coticch (many thanks; well known). ?

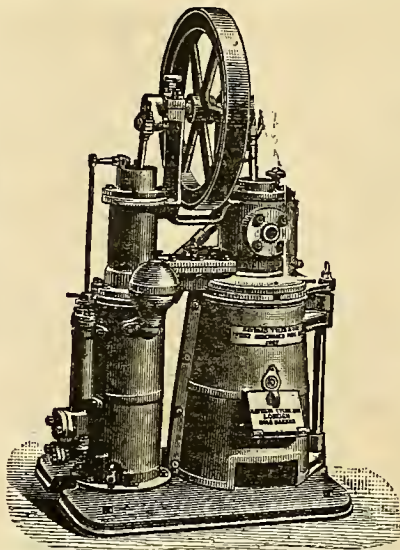
PHOTOGRAPHS, SPECIMENS, & C., RECEIVED, WITH THANKS.—E. H. J. (out of focus).—**R. I. L.—L. L.,** Brussels.—**F. W. R.**

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,

increased to the extent of 80 per cent., and that it continues to increase weekly.

Advertisers are reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN, AND ALL CLASSES OF GARDENERS AND GARDEN-LOVERS at home, that it has a specially large FOREIGN AND COLONIAL CIRCULATION, and that it is preserved for reference in all the principal Libraries.



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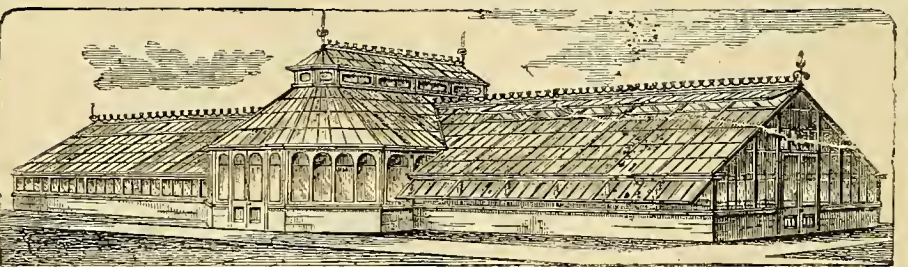
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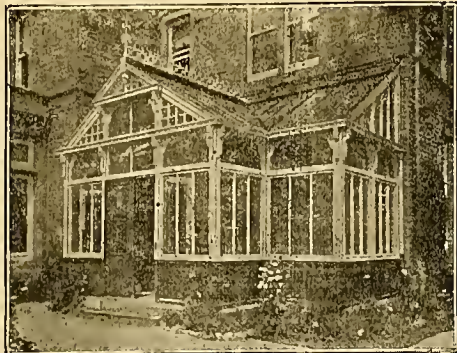
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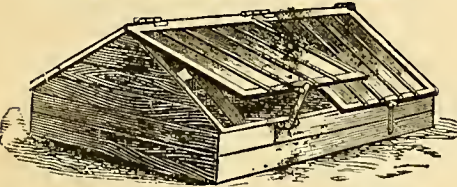
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MR. A. GRUBB, formerly of Ashgrove, Sevenoaks, as Head Gardener to Col. BROCKLEHURST, Rankenhurst Hall, Okeham, Rutland.

MR. JOHN RATES, for the last nine years Gardener to J. T. HARRIS, Esq., The Hayes, Stone, Staffordshire, has been appointed Gardener to JOHN TOMS, Esq., at the same place.

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GARDENER (HEAD WORKING).—Married, three children, youngest age 3½; good practical experience in all branches; good characters. Near London preferred. Please state wages.—W. A., Caryll's Lodge, Fay Gate, near Horsham.

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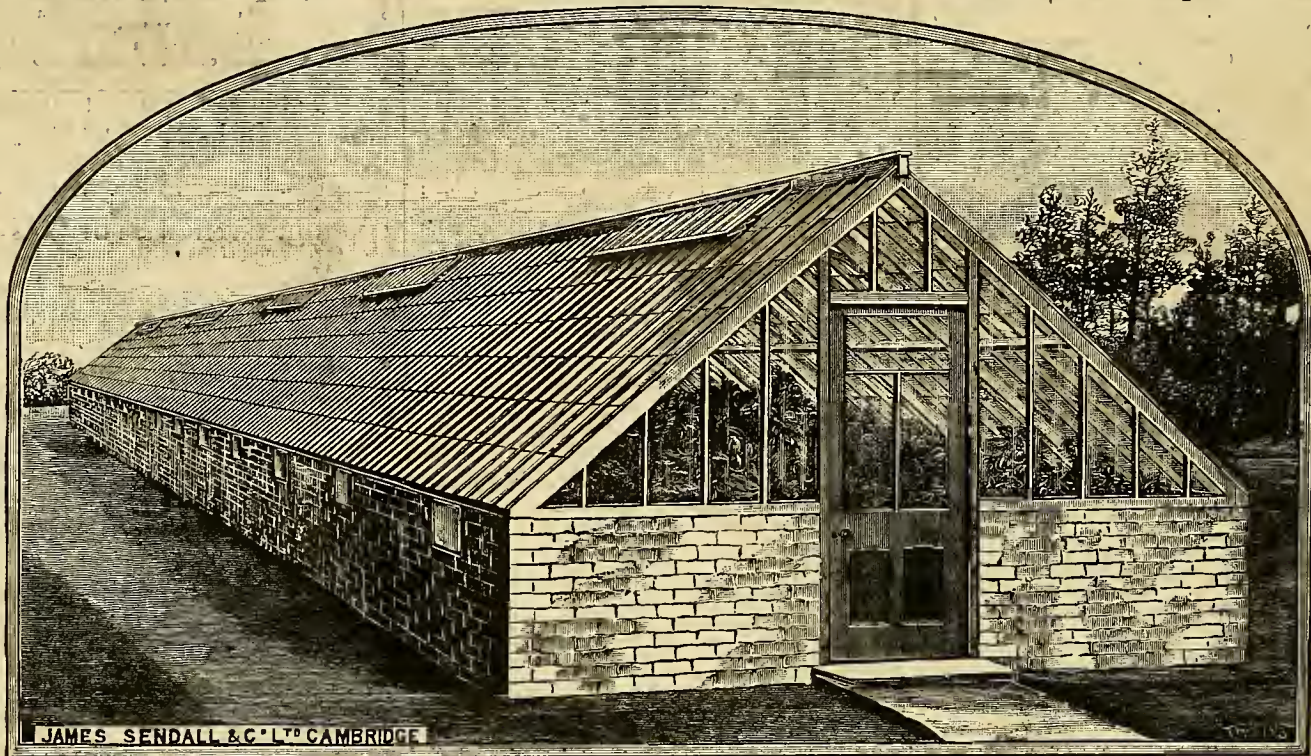
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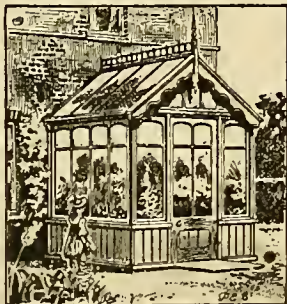
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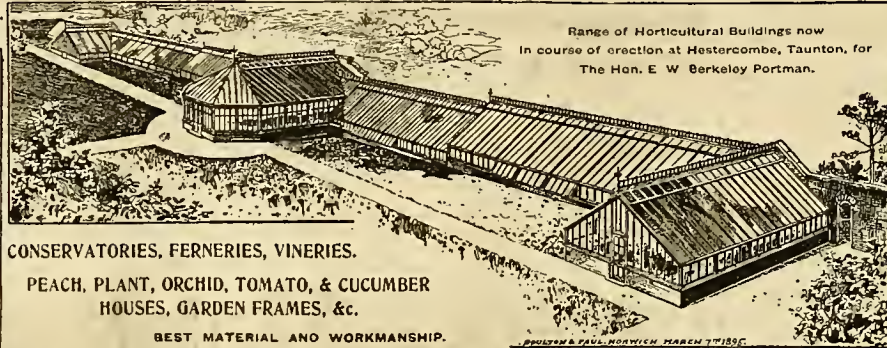
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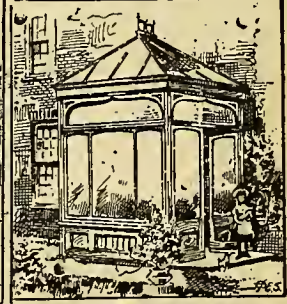
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WM. PAUL & SON invite inspection of their ROSES, FRUIT TREES, and HARDY ORNAMENTAL TREES, now in perfection of Leaf and Bloom. Many new Roses, not to be seen elsewhere, are now in bloom. South entrance four minutes' walk from Waltham Cross Station, west entrance three minutes' walk from Theobald's Grove Station, G.E.R., twelve miles from Liverpool Street Station, London. Everything for the Garden.

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—Send for full Descriptive LIST of Beautiful Autumn-flowering Crocuses, Colechioims (Meadow Saffrons), Cyclamen, Scillas, Snowflakes, &c.
BARR'S SEEDS for present sowing, Catalogue on application. BARR'S DAFFODILS and SPRING-FLOWERING BULBS, Catalogues ready in August.
BARR AND SON, 12, King Street, Covent Garden, London.

FERNS AND DECORATIVE PLANTS!—
(TRADE).—Ferns, in 24-inch pots, Stove and Greenhouse, 30 best selling sorts, 12s. 100; ditto large, in 48's, 10 best selling sorts, 6s. doz.; strong seedlings, 6s. 100, 50s. 1000; Adiantum cuneatum, in 48's, for cutting, 6s. and 8s. doz.; ditto, for making large plants quickly, 16s. and 20s. 100; Aralias, 10s. 100; Cyperus, Aralias, Grevilleas, Geraniums, in 48's, 6s. doz.; Heliotrope, Fuchsias, Double Petunias, Marguerites, Double Tropæolums, in bloom, in 48's, 8s. doz.; Ficus, Palms, Dracenas, Crassulas, Hydrangeas, Pelargoniums, 12s. doz. Lists free. Packed free. Cash with order.—J. SMITH, London Farn Nurseries, Loughborough Junction, London, S.W.

Plants Shipped to all Parts.
WATSON AND SCULL, 90, Lower Thames Street, London, E.C., give special attention to the reception and forwarding of Plants and Botanical Specimens to and from all parts of the World. Be particular, and have them consigned to our Care, and save Expense and Delay. Dealers in Virgin Cork, Raffia, Bamboo Canes, Garden Sticks, Palm Seeds, &c.

Petroleum! Petroleum!! Petroleum!!!
BRILLIANT ILLUMINANT.
In casks, carriage paid, 8d. per gallon. Casks free.
ANDREW POTTER, Melbourne Works, Wulverhampton.
Maker to the Queen and Prince of Wales.

By Special Appointment
To H.R.H. THE PRINCE OF WALES.
MACKENZIE and MONCUR, Limited, HOthouse Builders & Heating Engineers, Edinburgh, London, and Glasgow. Plans and Estimates for all kinds of Horticultural Buildings, Pavilions, Summer Houses, and Heating Apparatus free. Splendid Illustrated Catalogue. LONDON OFFICE:—30, CAMDEN ROAD, N.W.

J. WEEKS & CO., Horticultural Builders
to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W.

SALES BY AUCTION.

Friday Next.

By order of Messrs. W. L. Lewis & Co. Marvellous Importation of ONCIDIUM TIGRINUM, the grandest of all the autumn-flowering Oncidiums.

Also the rare and beautiful

ONCIDIUM CRISPUM GRANDIFLORUM, in magnificent masses.

Yellow and white forms of ODONTOGLOSSUM CITROSUM, O. INSLEAYI SPLENDENS, in fine condition; together with fine masses of the somewhat scarce O. HASTATUM.

Also very fine established plants, showing flower of CYPRIPEDIUM CHARLESWORTHII; fine healthy plants showing flower of C. EVENOR SUPERBUM (extremely rare), and C. NIVEUM, beautifully grown.

Two healthy plants of CATTLEYA REINECKIANA, C. HARRISONÆ, in sheath, and C. CITRINA.

CYMBIDIUM LOWIANUM VIRILE, LYCASTE SKINNERI ALBA, CYMBIDIUM (Seedling), C. giganteum x C. elegans; and others.

MESSRS. PROTHEROE AND MORRIS will

SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, July 19, at half-past 12 o'clock.

On view morning of Sale, and Catalogues had.

Friday Next, July 19.

MESSRS. PROTHEROE AND MORRIS will include in their ORCHID SALE on FRIDAY NEXT, July 19, Two Plants of CATTLEYA DOWIANA, "ROSTIA," a supposed natural Hybrid between Dowiana and Skinneri, with orange petals, suffused with pink, and intense purple lip, with golden feathering.

A Grand Lot of CYPRIPEDIUM CAUDATUM WARSCEWICZII, collected on the Chirigui Mountains, on the precise spot where Warscewicz discovered this beautiful form. The flowers are very large. Sepals yellow with orange veins; petals often 30 inches long, rose-purple, the large rounded labellum rose-purple on the face.

Also a few Plants of an UNDESCRIBED CYPRIPEDIUM, discovered with the above; and a fine lot of EPIDENDRUM PRISMATOCARPUM, ONCIDIUM CHEIROPHORUM (the Canary Orchid).

The Rare Scarlet LÆLIA MONOPHYLLA, collected in a new locality at 5000 feet.

ODONTOGLOSSUM HALLII LEUCOGLOSSUM and XANTHOGLOSSUM, ODONTOGLOSSUM CIRRHOSUM KLAROCORUM, EPIDENDRUM BICOERNUTUM, and various other rare species.

On view morning of Sale, and Catalogues had.

Tuesday Next, July 16.

SPECIAL SALE—HUGH LOW AND CO. have pleasure in offering by AUCTION, through

MESSRS. PROTHEROE AND MORRIS, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on TUESDAY NEXT, 16th inst., at half-past 12 o'clock precisely, a superb importation of the lovely and effective DENDROBIUM PHALENOPSIS SCHRODERIANUM, without the slightest Reserve. This is, without doubt, the finest consignment of this indispensable Orchid that has ever yet been imported, and we are much pleased to offer such a valuable lot of plants. Our Collector has spared neither pains nor expense, only selecting the very best plants.

At the same time will be offered 250 plants of DENDROBIUM SPECIOSISSIMUM (Rolfæ), our recent introduction from Mount Kina Balu, and which has not yet bloomed in England. The flowers are extremely handsome, being pure white, like D. formosum giganteum, but with orange-red spots instead of yellow. The flowers are very sweet-scented, and leaves and stems are covered with black pubescence. It grows on Magnolia bushes, at about 4000 feet elevation, where Nepenthes Rajah is also found.

The Sale will include the lovely and wonderful BULBOPHYLLUM DEAREI, 300 newly-imported plants of CATTLEYA GASKELLIANA, CYPRIPEDIUM CHARLESWORTHII, all in bud and sheath; 150 imported C. LAWRENCEANUM, CÆLOGYNE DAYANA, ODONTOGLOSSUM ROEZLI and ALBUM, ONCIDIUM AMPLIATUM, and other Choice Orchids. By Order of HUGH LOW AND CO.

Preliminary Notice.

TWO DAYS' SALE.

The UNSOLD PORTION of the WILSON COLLECTION of ORCHIDS.

MESSRS. PROTHEROE AND MORRIS have received instructions to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY and WEDNESDAY, August 27 and 28, 1895, without Reserve, the UNSOLD PORTION of the WILSON COLLECTION of ORCHIDS.

WITHOUT RESERVE.

The Sale contains, among others:—
Sobralia Kienastiana (several plants)
Cattleya Schroderæ alba
" Reineckiana
" Wagneri
Odontoglossum Vuylstekeanum
Cattleya Gaskelliana alba
Lælia elegans
" Scottiana
Cypripedium Morganie Burfordiense
Lælia elegans Blenheimensis
" Bluntei
" prasiata
Lælia elegans superba
Lycaste Skinneri alba superba
" armeniacæ
Cælogyne cristata alba
Lycaste Skinneri imperator
Dendrobium nobile Sanderianum
Odontoglossum deltooglossum
" coronarium
" Andersonianum vars.
" Ruckerianum vars.
" asperum
" mulus
Schomburgkia lepidissima, &c.

Messrs. SANDER AND CO. will offer in this Sale, WITHOUT THE LEAST RESERVE, a large number of grand plants of the very finest ORCHIDS, including the new white "bellatulum," C. BELLATULUM ALBUM, new hybrid Lælia-Cattleyas, a white flowered Cattleya labiata with crimson labellum.

LÆLIAS, CATTLEYAS, new HYBRID SOBRIALIAS, NEW DENDROBES, CATTLEYA GIOAS SANDERÆ, &c.

Exning, Suffolk.

MESSRS. GRIFFITHS AND CHENNELL

are favoured with instructions from the proprietor, Mr. Thos. Jennings, to offer for SALE by AUCTION, in one lot, at the Rothsay House Auction Rooms, Newmarket, at 6.30 o'clock in the evening, on MONDAY, July 15, 1895, a Valuable FREEHOLD ESTATE (Tithe free and Land Tax redeemed), consisting of 16 a. 0 r. 31 p. (more or less) of good Accommodation Land of good soil, in a good state of cultivation, and now used as a Market Garden and Nursery Ground, being well planted with thriving trees; also a comfortable Dwelling-house, Barn, Potting-Sheds, Lofts, Stabling, Pump of good Water, and the usual Domestic Offices, and two red brick and slate built Cottages with good accommodation, and separated from the road by a dwarf brick wall.

The property, which is well situated, at the junction of the Exning and Fordham Roads, is within 2 miles of Newmarket, and is let on a lease expiring on September 29, 1896, to Mr. Robert Graham, at the low annual rental of £76.

Particulars and Conditions of Sale may be obtained of Messrs. A. H. AND A. RUSTON, Solicitors, Newmarket; and of the Auctioneers, Rothsay House, Newmarket.

Southend-on-Sea, Essex.

To FLORISTS, NURSERYMEN, MARKET GARDENERS, and OTHERS.

MESSRS. TALBOT AND WHITE are

favoured with instructions to SELL by AUCTION, at their Sale Room, Cliff Town Road, Southend, on SATURDAY, July 20, 1895, commencing at 4 o'clock precisely in the afternoon, the beneficial interest in the LEASE of the old-established NURSERY GARDENS, known as the "BEACH NURSERIES," Southchurch Beach (late Reed's), having an area of about 7½ Acres of Land, well stocked with choice Fruit Trees in full bearing, and showing well for the present season. The Premises include Two capital Dwelling-houses (one of which is let off, and produces £20 per annum); also, a Workman's Cottage, at present let at 3s. per week; extensive Vineries, 136 feet in length, planted with choice Vines, and heated by hot-water pipes; Peach-house, 59 feet by 12 feet; Greenhouses and Forcing-houses, Sheds and Out-buildings, and numerous useful Erections. The Land is held upon a Lease (14 years) direct from the Freeholder, at the very moderate rental of £50 per annum.

This attractive and excellent Nursery Garden has for many years been justly celebrated for its choice Grapes and other Fruit, and being within 1 mile of Southend, the demand for it is very great. A considerable business could also be done with Teas and Refreshments.

Printed particulars, with conditions of Sale, can be obtained of A. A. TIMBRELL, Esq., Solicitor, 24, Martin's Lane, Cannon Street, E.C.; of Messrs. TIMBRELL AND WILKINSON, Solicitors, Town Hall Chambers, Stratford, E.; or of the Auctioneers, Auctioneers' Offices, High Street, Southend.

Hammerswich House, Hammerswich, near Lichfield, STAFFORDSHIRE.

Large and Important UNRESERVED SALE of STOVE and GREENHOUSE PLANTS, ORCHIDS, CHRYSANTHEMUMS, &c.

MESSRS. POPE AND SONS have received

instructions from Job Evans, Esq. (who is removing to Torquay), to SELL by AUCTION, without the least reserve, on the Premises as above, on TUESDAY and WEDNESDAY, July 30 and 31, commencing each day at half-past 11 o'clock prompt, the whole of the STOVE and GREENHOUSE PLANTS, including fine specimen Lapagerias, Stephanotis, Maidenhair Ferns, Hoyas, Begonias, Bougainvilleas, Crotons, Asparagus, 100 Camellias, 80 fine Azaleas, specimen Allamandas, Dipladenias, &c.; sixteen very fine specimen Palms and Tree Ferns, also Gloxinias, Cyclamen, Euphorbias, Poinsettias, Geraniums, Fuchsias, Aloes, Ficus, Dracænas, Yuccas, &c.; also a very fine Collection of Orchids, 20 very fine Cælogyne, 100 Dendrobiums, 70 Odontoglossum Alexandræ, also Lælias, Cattleyas, Lycastes, Cypripediums, Oncidiums, Vandas, &c.; a large quantity of Garden Sundries, including Pots and Plants, Tools, Lawn Mowers, Marble and Iron Vases, &c.; two Marble Fountains, &c.

On view day before and mornings of Sale.

Hammerswich House is only five minutes' walk from Hammerswich Station; L. & N. W. Ry., and about 3 miles from Lichfield.

Catalogues now ready, and may be had free by post from the Auctioneers, at their Offices, 6, Phillips Street, Birmingham.

ORCHIDS! ORCHIDS!

JOHN COWAN & CO.

(LIMITED),

Have just issued a New, Descriptive, and Priced CATALOGUE of their immense and splendid Stock of ORCHIDS, which they will be glad to send, post-free, to anyone who will send their name and address for that purpose to the Company.

THE VINEYARD and NURSERIES, GARSTON, near LIVERPOOL.

FERNS SPECIALITY.

Our Collection is unrivalled. Over 1400 species and varieties of Stoves, Greenhouse, Filmy, Hardy Exotic, and British Ferns. For prices of these and for specially cheap collections in beautiful variety, see our Catalogue, free on application.

W. & J. BIRKENHEAD, F.R.H.S., FERN NURSERIES, SALE, near MANCHESTER.

Normandy Manor Estate, adjoining Wanborough Station, near Guildford.

RESULT of SALE at CHEAPSIDE AUCTION MART.

MESSRS. PROTHEROE AND MORRIS

have Sold Lots 1, 2, 3, 4, 11, and 16.

The following UNSOLD LOTS are for DISPOSAL for private Treaty, to wind up the Estate:—

- Lot 5.—Rich Herby Meadows 5 2 5
- 6.—Rich Herby Meadows 5 1 25
- 7.—Fertile Arable Land 10 1 29
- 8.—Valuable Fruit Farm 5 3 16
- 9.—Very eligible Building Land 17 3 15
- 10.—High Productive Farm 53 3 17
- 12.—Very Valuable Nursery and Fruit Farm, 2 Dwelling-houses, Glass and other Erections, Orchard Land 41 3 35
- 13.—The Cleygate Farm (in perfect working order) 84 0 18

Apply to PROTHEROE AND MORRIS, 67 and 68, Cheapside.

Nursery, Florists' or Gardening.

WANTED, to PURCHASE a BUSINESS, within easy reach of good Markets, and not more than 80 miles from London, plenty of Glass, or room to Build. Capital up to £2000.—W. CLARKSON, 5, Durham Place, Kensington, London.

To Nurserymen and Florists commencing business.

HAMPTON-ON-THAMES, on THE MARLING PARK ESTATE, free from London fogs, a deep rich loam, the favourite neighbourhood for Growers, FREEHOLD LAND for SALE, on easy system of payment. Excellent sites for residences.—For full particulars apply to Mr. FREDK. G. HUGHES (Surveyor), the Estate Office, Hampton-on-Thames.

To FLORISTS and GROWERS.—16 Acres

of FREEHOLD to be SOLD, whole or in part, or part could be rented; in a rising suburb, 14 miles out, on the L. & S. W. R. Produce fetches good prices. The nucleus of a nice little business already started. Glass, Pits, and all suitable buildings, Stables, and Dwelling-house.

Apply to Messrs. W. R. HILL AND CO., 5, Adelaide Street, Charing Cross, S.W.

FRUITERER, FLORIST, and SEED BUSINESS for SALE.—Main thoroughfare; favourite health resort, South Coast. High-class trade. Partnership would be entertained. For further particulars—

FLORA, 41, Wellington Street, Strand, W.C.

To Market Gardeners, Fruit, Cut Flower, Early VEGETABLE, SALAD and MUSHROOM GROWERS, BUILDERS, &c.

Situate in the pretty village of Framfield, near UCKFIELD, SUSSEX.

To BE SOLD, with possession, together or

separately, Lot 1, THE RICH MEADOW, &c., 14a 2r. 5p., with 9 superior modern Greenhouses, in all about 74,000 superficial feet, and 2 Houses cover ½ acre of ground, heated with 10,000 feet of Piping, good Boilers, &c.; 2 Cottages, and other Buildings. The Glass Erections cost nearly £10,000. Lot 2 comprises BUILDING ESTATE of upwards of 12 acres, having 1500 feet Building Frontage to Parish Roads; taxes very low. Upset price—Lot 1, £2500; Lot 2, £1200.

Particulars had of H. M., Messrs. PROTHEROE AND MORRIS, 67, Cheapside, E.C., and Mr. PANNETT, Grocer, Framfield, Sussex.

Herne Bay. Choice Position. Close to the Railway STATION.

To BE SOLD.—FREEHOLD ESTATE,

10a. 1r. 0p., having nearly 1000 feet of Building Frontage to Main Road. High and Fertile Ground for Market Gardeners, Nurserymen, and Florists; 2 Large Brick Cottages; abundant supply of pure water. Price, £1400.—Apply to H. M., PROTHEROE & MORRIS, 67, Cheapside, London, E.C.

To BE LET or SOLD.—A capital NURSERY

with small Cottage, near London. Low rent, or would sell cheap. First-rate position.—Apply to ROBT. PECKITT, 45, Plumstead Road, Plumstead.

Channel Islands.

COMPACT NURSERY GARDENS to LET.

—Large Vinery, 2-span Hot-house, Fruit Trees, and Ground for 3000 feet more Glass; Mushroom-house, 70 by 40 feet. House on premises. Good local trade. FISHER, 43, New Street, Jersey.

FOR SALE, a CHATSWORTH BOILER,

30 inches long by 14 by 14, and fittings in good condition. R. J. WOLTON, Newland Toft Nursery, Hull.

FOR ORCHIDS and GARDENERS

to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

WANTED, PURCHASER for part or whole

of 4 Houses of NURSERY STOCK, consisting of about 2000 Aralias, 1000 Lilies, 20 Ferns, var. spec., 300 Cliveas, 100 Aspidistras. Cheap to clear.

Cumberland Park Nurseries, Willesden Junction, London.

DUTCH BULBS.—We can book the follow-

- Ing Bulbs, on condition that orders be sent at once. The Bulbs are of the very best quality, and true to name. Cases and packing free on board, Rotterdam.
- Tulip Artus, 12s. per 1000
- Belle Alliance, 18s. do.
- Chrysolore, 24s. do.
- Duchesse de Parma, 13s. do.
- Keizerskroon, 20s. do.
- La Reine, 8s. do.
- Pottebakker, white, 30s. do.
- " scarlet, 20s. do.
- Verboom, 18s. do.
- Yellow Prince, 25s. do.
- Crocuses, all round, 8s. do.
- Named Hyacinths, 1st size, 14s. per 100
- Spirea japonica, extra, 40s. per 1000
- " astilboides, 70s. do.
- " compacta, 90s. do.
- Lily of the Valley crowns, the best quality, 20s. do.
- Tropæolum tricolor, 12s. 100
- Pæonia chinensis, in 12 different sorts, 9s. per 100

Apply, by letter, P. V. T., 41, Wellington St., Strand, W.O.

THE NEW EARLY STRAWBERRY for 1895, STEVENS' WONDER.

The earliest variety in cultivation, and very prolific. Solid fruit, good flavour, high perfume. Awarded First-class Certificates, Royal Horticultural Society and Royal Botanic Society, 1895. See *Gardeners' Chronicle*, March 2; *Journal of Horticulture*, March 14; and *The Garden*, March 16. Having purchased the whole of the Stock of this grand New Early Strawberry from the Raier, we have pleasure in offering it as follows:—

Strong Plants in pots ... £5 per 100 ... 15s. per dozen.
Strong Runners ... £3 per 100 ... 9s. per dozen.

Ready for delivery early in July.

EARLY ORDERS REQUESTED, AS STOCK IS LIMITED.
Further particulars upon application.

Wm. CUTBUSH & SON, Highgate Nurseries, London;
And BARNET, HERTS.

FERNS!—FERNS!!

Well-grown Stuff, at Moderate Prices.

A large quantity, in 2½-inch pots, chiefly *Pteris cristata*; also *Alba lineata*, *Adiantum fulvum* and pubescens, at 9s. per 100.

Good bushy stuff in 48's.—*Pteris oristata*, *nobilis*, and *tremula*; also *Aralias*, at 4s. 6d. per dozen.

The above prices are for Cash with Order only. Packing free. All orders carefully and promptly executed.

B. PRIMROSE,

NURSERIES, ST. JOHN'S PARK, BLACKHEATH, S.E.

STRAWBERRIES.

All the leading varieties, new or old, in small pots for fruiting first year. Open-air plants, very cheap. Special low quotations for quantities for Market Growing.

FRUIT TREES

OF ALL SORTS. SEND FOR LISTS.

JOHN WATKINS,

POMONA FARM NURSERIES, WITHINGTON, HEREFORD.

LAXTON'S STRAWBERRIES.

TWO GRAND NEW & DISTINCT VARIETIES FOR 1895.

Both First-class Certificates Royal Horticultural Society.

MONARCH.

To follow ROYAL SOVEREIGN. Brilliant scarlet colour, flavour very rich, enormous size, and great cropper. Compact habit.

LEADER.

Handsome main crop, rich crimson colour, of the largest size, fruit weighing 2 ozs.—true Pine-like flavour.

Both equally as indispensable as ROYAL SOVEREIGN to all Growers.

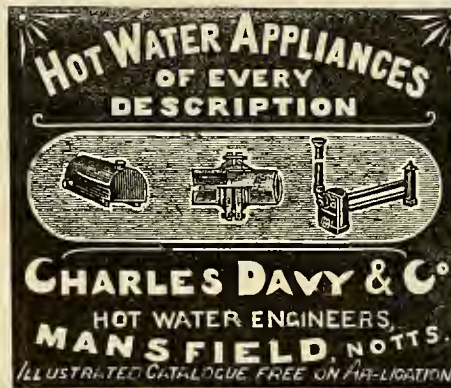
Price, open ground, £3 per 100, 12s. per dozen; in pots, £4 per 100, 15s. per dozen.

These Varieties can only be obtained Direct from us.

Also ROYAL SOVEREIGN, price 20s. per 100; in pots, 27s. 6d. per 100.

And every other variety worth growing. LISTS ON APPLICATION.

LAXTON BROTHERS, BEDFORD.



GREENHOUSE BLINDS

MADE UP TO ANY SIZE.

SHADING CANVAS and TICKING.

BAMBOO CANES.

GARDEN STICKS and LABELS.

RUSSIA MATS and RAFFIA.

TANNED GARDEN NETTING.

TISSUE PAPER. COCOA-FIBRE REFUSE.

ORCHID and OTHER PEATS.

CATALOGUE on application.

JAMES T. ANDERSON,

135 & 137, COMMERCIAL ST., LONDON, E.

J. WEEKS AND CO., F.R.H.S., CHELSEA, LONDON, S.W.

Telegraph—"HORTULANUS," LONDON.

Telephone, No. 8728.

CONSERVATORIES DESIGNED and BUILT TO SUIT ADJACENT BUILDINGS.

ORCHID HOUSES WITH ALL LATEST IMPROVEMENTS.

PLANT AND FRUIT HOUSES FOR ALL PURPOSES.

All Materials and Workmanship of the Best Quality.

ALL KINDS OF BOILERS,

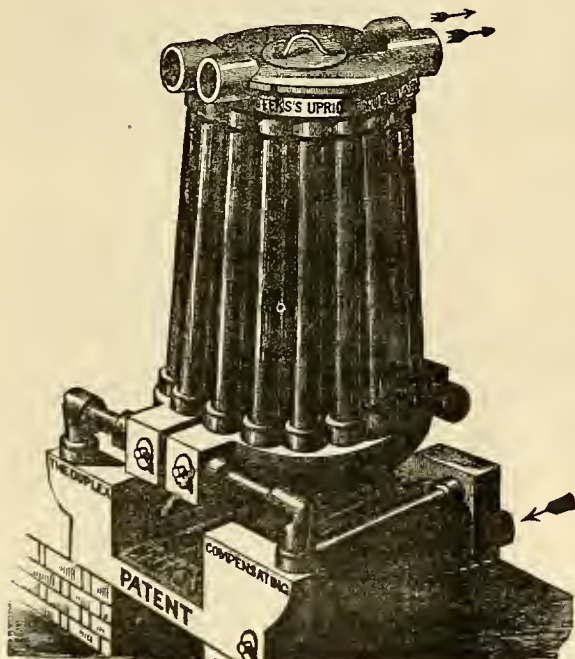
Our Improved and other Valves, Hot-water Pipes, Castings, Connections and Fittings, at Lowest Retail Prices.

The Patent "DUPLEX" Upright Tubular Boilers of all Sizes, conditionally GUARANTEED FOR TEN YEARS.

J. WEEKS & CO., F.R.H.S.,

HORTICULTURAL BUILDERS and HOT-WATER APPARATUS MANUFACTURERS,

CHELSEA, LONDON, S.W.



'KENT, THE GARDEN OF ENGLAND.'

GEORGE BUNYARD & CO.

Beg to ask Buyers to consult their 1895

STRAWBERRY LIST

Before Ordering their Supplies. Now Ready.

Their Plants will be grand, both for Forcing, in little pots, and as Runners.

SEND ORDERS AND ENQUIRIES DIRECT TO—

THE OLD NURSERIES, MAIDSTONE.



1,000,000 PLANTS.

Covent Garden Brussels, 2s. 6d. p. 1000
Myatt's Offenham Cabbage, 2s. 6d. per 1000.
Enfield Market 2s. 6d. per 1000.
Drumhead Savoy, 2s. 6d. per 1000.
Special cheap offer. Veitch's Autumn Giant Cauliflower, strong plants, 3s. 6d. per 1000; large orders, 3s. Early London, same price.
Edmond's Superb White Spring Broccoli, 5s. per 1000.

W. HORNE,
CLIFFE, ROCHESTER.

STRAWBERRIES.

ROYAL SOVEREIGN,

EMPRESS OF INDIA, LORD SUFFIELD, GUNTON PARK,
AND ALL THE BEST NOVELTIES.

Descriptive ILLUSTRATED CATALOGUE Now Ready,
Post-free on application.

J. R. PEARSON & SONS,
CHILWELL NURSERIES, NOTTS.

JAPAN LILY BULBS,

PLANTS, SEEDS, &c.
CATALOGUE on application.

TOKIO NURSERIES

Komagomi, Tokio, Japan.

Cable Address: "NURSERIES, TOKIO."
F. TAKAGHI, Proprietor.

LAINGS' BEGONIAS
NOW IN FULL BLOOM.

The Premier House. Awarded Nine Gold Medals, &c.

Useful as a Floral Display. Visitors are cordially invited; free admission. Frequent trains from the City and West End to Catford and Catford Bridge, also Forest Hill Stations.

Descriptive CATALOGUE post-free. Telephone 9860.

JOHN LAING & SONS,

Begonia, Caladium, Clivia, and Gloxinia Specialists, Seed, Plant, Bulb Merchants, &c.
FOREST HILL, S.E.; also CATFORD, Kent.

JOHNSON'S IMPROVED MUSHROOM SPAWN.



BEING one of the largest Manufacturers of Mushroom Spawn, and keeping over 100 cows, from which I obtain a large quantity of pure virgin spawn, I am in a position to offer the best obtainable at 3s. per bushel.

Special Prices for Large Quantities and the Trade.
HANGER HILL, EALING.

FOR PRESENT AND LATER SOWING,
THE THREE BEST

WALLFLOWERS,

DICKSONS GOLDEN BEAUTY, } Per packet.
DICKSONS SELECTED DARK RED, } 6d. and 1s.
DICKSONS PRIMROSE DAME. } free by Post.

Choice Mixed DOUBLE WALLFLOWER, MYOSOTIS, SILENES, &c. For Prices and all other particulars, see our ILLUSTRATED CATALOGUE, free on application.

DICKSONS, Seed Growers, Nurserymen, &c., CHESTER.

TUESDAY NEXT,
July 16.

SPECIAL SALE

HUGH LOW & CO.

Have pleasure in offering by Auction,
through MESSRS.

PROTHEROE & MORRIS,

AT THEIR

CENTRAL SALE ROOMS, 67 and 68,
CHEAPSIDE, E.C.,

On TUESDAY NEXT, 16th inst., at half-past 12 o'clock, precisely, a superb importation of the lovely and effective

DENDROBIUM PHALÆNOPSIS
SCHRODERIANUM,

WITHOUT THE SLIGHTEST RESERVE.

This is without doubt the finest consignment of this indispensable Orchid that has ever yet been imported, and we are much pleased to offer such a valuable lot of plants.

Our Collector has spared neither pains or expense, only selecting the very best plants.

At the same time will be offered 250 plants of

DENDROBIUM
(ROLFE) SPECIOSISSIMUM

Our recent introduction from Mount Kins Balu, and which has not yet bloomed in England.

The flowers are extremely handsome, being pure white, like *D. formosum giganteum*, but with orange-red spots instead of yellow. The flowers are very sweet-scented, and leaves and stems are covered with black pubescens. It grows on Magnolia bushes, at about 4000 feet elevation, where Nepenthe Rajah is also found.

The Sale will include the lovely and wonderful BULBOPHYLLUM DEAREI, 300 newly imported plants of CATTLEYA GASKELLIANA, CYPRIPIEDUM CHARLESWORTHII, all in bud and sheath; 150 imported C. LAWRENCEANUM, CŒLOGYNE DAYANA, ODONTOGLOSSUM ROEZLI and ALBUM, ONCIDIUM AMPLIATUM, and other Choice Orchids.

BY ORDER OF

HUGH LOW & CO.



THE

Gardeners' Chronicle.

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A GLOUCESTERSHIRE GARDEN.*

SINCE the publication, in these columns, some twenty years ago, of "A Year in a Lancashire Garden," there has been a succession of similar books. Some of these have been written with literary skill, but little knowledge of plants. Some have been more conspicuous for frothiness or sentimentality than for the advancement of knowledge. Rare, indeed, has been the combination of an expert's knowledge and the scholar's reading with the fluency of a ready writer. But this is what the reader will find in the present volume, and having found it, he will assuredly, in Dickensian phrase, make a note of it. The work owes its existence to certain papers published from time to time in the *Guardian*. As now collected, they form two series, one dealing with the aspects of the garden in each month of the year, and the other with various categories of plants and miscellaneous cognate subjects. The garden is, of course, that favoured one in a warm corner of Gloucestershire which has been the object of loving attention on the part of two generations of plant-lovers. It is necessary to bear this in mind, for such a happy combination of circumstances is rare.

Few things afford a better illustration of the character and proclivities of a man than does his garden. Tastes differ, opinions vary, natural intelligence and acquired knowledge are possessed in the most diverse degrees, and all these diversities become manifest in the garden. In some cases the plants exist for the sake of the garden, in others it is the garden that is the casket or the setting for the plants. No hard-and-fast line can be drawn between the two categories as they occasionally blend or overlap. When this does occur, the result is a combination of beauty and interest than which nothing more desirable can be imagined. The author of the present volume recognises this, for he states at the outset that "every garden has its own special and separate character, which arises partly from the tastes of the owner or his gardener, but still more from the situation, aspect, and soil of the garden." As a general statement this is, of course, true; but it is equally true in special cases, that the tastes and knowledge of the gardener cast their impress on the garden, even when the natural conditions are not propitious. Obstacles do but serve to bring out the skill of the gardener. The garden at Bitton is known by repute to so many that some account of it from the author's pen will be welcome:—

"It is not a large garden—the whole extent, including a good proportion of lawn, being about an acre and a half, and in shape a parallelogram, or double square. It lies on the west side of the Cotawolds, which rise about half a mile away to the height of 750 feet; and about fifteen miles to the

* In a Gloucestershire Garden, by Henry N. Ellacombe, M.A. &c. (Edward Aroold, 37, Bedford Street.)

south are the Mendips. These two ranges of hills do much to shelter us from the winds, both from the cold north and easterly winds and from the south-west winds, which in this part of England are sometimes very violent. I attach great importance to this kindly shelter from the great strength of the winds, for plants are like ourselves in many respects, and certainly in this, that they can bear a very great amount of frost if only the air is still, far better than they can bear a less cold if accompanied with a high wind. The garden, then, has this advantage of shelter. It has also the advantage of a good aspect, for though the undulations are very slight, the general slope faces the south; and it has the further advantage of a rich and deep alluvial soil, which, however, is so impregnated with lime and magnesia, that it is hopeless to attempt *Rhododendrons*, *Azaleas*, *Kalmias*, and a host of other things. It has the further disadvantage of being only about 70 feet above the sea-level, which makes an insuperable difficulty in the growth of the higher alpine. On the whole, the garden is favourable for the cultivation of flowers, and especially for the cultivation of shrubs, except those which dislike the lime."

This preliminary account is defective; the scene of operations is brought before us with more or less fidelity, but the warm colliery wall is not mentioned, nor is the water supply alluded to, and nothing is said as to the history of the garden, although its present condition can hardly be fully understood without some reference to its gradual progress in the past. As to the gardeners, the moving spirits, the entire book testifies to their devotion, their knowledge, their skill, their thankful appreciation. Canon Ellacombe in this volume takes us round his garden, chatting pleasantly the while on plants and their ways and apparent caprices, on soils and seasons, on the endless literary suggestions afforded by the subject.

As we go on our way with the author, there is no disturbing element, no inclemency of weather, no hurry, no train to be met; but there are the lawn and the noble trees, and the long series of plants of never-ending interest—there, too, is the genial and scholarly Canon at your elbow, full of garden-lore, botanic knowledge, and apt allusion. Hard by is the well-stocked library, where is ample means of "verifying references." Close at hand is the noble sixteenth-century church, but of this we must not speak further than to say that it adds additional beauty and interest to the scene. Citation from such a book is a difficult matter, but to show how observant its author is we may adduce the following passage:—

"As soon as it (the pistil of the Hazel) is fertilised a very curious thing happens, of which I know no other instance. The little flower is placed upon last year's wood, and if it were an Apple, or a Peach, or any other fruit tree, the perfect fruit would be there also. But the nut acts otherwise, it at once starts away from the old wood and forms behind itself a thin branch 4 or 5 inches long, at the end of which it ripens into a nut; and as it so travels it carries with it the bract in which the flower was formed, and which at last becomes the pretty cup in which the nut lies."

This fact must be familiar to many, but we do not remember to have seen any record of it. The course of proceedings is encephalic of a different interpretation, but the fact remains. "Uplifting" and "concrecence" are, of common phenomena in plants. The fertilisation of the Hazel is in many ways precocious. The two red styles are conspicuous enough at the time when the pollen is shed, but the observer may look in vain at that time for the ovules, or even for the ovary. They are not formed till long afterwards. The point is very curious, as bearing on the question whether or no the pollen does ever exert an influence on the various coverings of the seed, as well as on the embryo germ enclosed within them.

The temptation is great to dilate on other suggestive passages in Canon Ellacombe's book, on the germination of seeds, the forces called into play during growth, the numberless "mysteries" that

attract the attention of the observer, and incite him to attempt to explain them. The sources of interest are indeed endless, and their practical application not to be overlooked either. "From another habit of many plants I get," says the Canon, "another object-lesson, from which I learn that plant-life knows no rest." With the requisite limitations, this is a true statement of fact, but one generally overlooked by the gardener.

The gardener will find in the present volume numerous hints as to the cultivation of various plants, whilst the plant-lover, turning over its pages, will come upon passages which will keenly excite his sympathies. Read this and judge whether it does not express a great truth. Alluding to an unweeded garden, wherein "things rank and gross in Nature possess it merely," the author—a gardener, be it remembered, whose competence is above testimony, says:—"But I have almost an affection for weeds, a decided affection for some of them, and I have not much sympathy with those who say that a garden is not worth looking at unless it is as clean as a newly-swept floor; it is a counsel of perfection which I have no great wish to reach. A weed is but a good plant in the wrong place; I say a good plant advisedly, having a full faith that where Nature plants it, it fills a right place." Oh, the lessons to be got from weeds, if we would but turn them to account!

The passage above cited furnishes an illustration of the strengthening faith and cheery optimism which pervades the book, and renders it so delightful to read. The author finds always something in the garden to "lift him higher;" he owns he is not fond of frost and snow, but he recognises that they have their uses, and that we might be the worse without them, and with a thankful spirit he makes the best even of a garden in December. "To have a garden where nature and the climate do everything, and man is called upon to do little more than scratch the ground and gather the flowers and fruit, might be very pleasant from one point of view, but it would take away all that to me constitutes the real interest of gardening in its difficulties, and even its disappointments."

NEW OR NOTEWORTHY PLANTS.

DORYPHORA SASSAFRAS.*

This is a plant (fig. 6, p. 35) that finds no place in Nicholson's Dictionary, nor in any garden-list that we have examined, and which we may, therefore, conclude to be rare in cultivation. It was sent to us with a request that we would name it, from Mr. Thompeon, gardener to F. A. Newdegate, Esq., M.P., Weston-in-Arden, Nuneaton. Mr. Thomson also obligingly furnished us with the specimens from which our figure was taken. It forms a highly aromatic shrub, with opposite, shortly-stalked, coriaceous, elliptic-acute, remotely-serrate glabrous leaves. The flowers are shortly-stalked, solitary, or in groups of three, the buds surrounded by deciduous boat-shaped bracts. The perianth is about 30 mill. (say, 1¼ inch) across, spreading, with six leathery, whitish, hirsute, oblong-acute segments. The stamens are nine in number, each with a short filament, and two small rounded glands at the base of the anther. Anther two-celled, connective, prolonged into a long slender awn. In the flowers we examined the pistils were absent, or very imperfect; but they are described as numerous, free at the bottom of a cup-like receptacle. Each carpel has a long style, and its single cell contains a single ovule.

The plant, which would require warm-greenhouse treatment, is by no means unattractive when in flower, but its chief value consists in its very aromatic fragrance. It is a native of Eastern Australia, New South Wales, and Queensland, closely allied to *Atherosperma*, and belongs to the *Monimiaceæ*. M. T. M.

* *Doryphora Sassafras*.—Eglicher, *Jc.*, t. 10 (1838); Bentham, *Fl. Austral.*, v. (1870), 283; Bailey, *Cat. Plants Queensland* (1890), p. 39.

DENDROBIUM IMPERATRIX, KRÄNZLIN (*Reichenbachia*, vol. ii, part xii., p. 111, t. 95).*

"This new species is very similar to *Dendrobium Angustæ Victorisæ*, Kränzlin, and is one of the most stately in growth of all *Dendrobium*s. The stems reach to a height of 6 or 7 feet. The leaves are comparatively small, although in other *Dendrobium*s a leaf of 6 to 7 inches in length by 2½ or 3 inches in breadth would be considered as a rather considerable one. The flower-spikes rise from the axils of the upper leaves of the previous year, and very often exceed 2½ feet in length, carrying from thirty to forty flowers.

It is impossible to do full justice to such plants in the space at our command, but still the plate illustrates the charming delicacy of its blossoms better than a long description. The affinities may be briefly described as follows:—*Dendrobium veratrilobum*, A. Rich, has shorter and broader leaves, it is much smaller, and its racemes very seldom exceed 18 inches in length; the petals are larger, and the side-lobes of the labellum smaller. *Dendrobium Mirbelianum*, Gaudich, is also a smaller species, but very closely allied; it has a larger lip, the middle lobe of which is strictly lanceolate and acuminate, and the little spur is sharply incurved. *Dendrobium Angustæ Victorisæ*, Kränzlin, the most showy of the whole section, has petals with amethyst veins; the side-lobes of the lip are very blunt, and the three crests are frilled and denticulated not only in front, but on the upper side. The rest of the section is out of the question for comparison, as their petals exceed the sepals by twice their length, and also by other essential characteristics.

"This fine plant was discovered in German New Guinea, at Finchhafen, by Dr. Hollrung, and later on was collected by Mr. Wm. Micholitz, who found it, to use his own words, 'mostly on trees overhanging the beach. I found it is only seldom to be found;' and, he adds, 'it flowers probably in March—April.' The rainy season is not sharply defined, but it generally rains most from June till October. It should be grown in sharp heat, with plenty of sunlight, and after flowering receive a long, dry rest."

ORCHID NOTES AND GLEANINGS.

THE ORCHID HOUSES AT RAMBOUILLET.

WHEN visiting the fine establishment of M. Ang. Dallemagne, we were reminded that at that time more than 150 groups of Orchids had been transferred to the Bordeaux Exhibition, where they were very generally admired. The arrangement of the houses at Rambouillet comprises a winter garden in the fore-part, a large central house with, on both sides, and opening into it, four houses of similar size. This, in fact, is the plan of the establishment started in Brussels by the Horticulture Internationale. In the winter garden a magnificent *Kentia australis* springs from a large rock-work, on which various plants are growing. The central house is full of *Cattleya Warocqueana*, *Lælia purpurata*, &c., fine plants of unusual vigour; *Angræcum sesquipedale*, and *Vanda anavis* showed equally good health.

1st house: Importations of *Cattleya*, showing

* *Dendrobium imperatrix* (§ *Antenata*), Kränzlin.—Caulibus aggregatis maximis multi-articulatis late viridibus ad 2 m. altia ad 2 5 cent. diametro; foliis oblongis coriaceis, 15 cm. longis, 6 m. latis apice obtusis; racemis maximis multifloris 75 cm. longis vel imo longioribus; bracteis minutis pedicellis multo longioribus basi incrassatis 5–6 cm. longis; sepalis lateralibus a basi paulo latiore triangulis acutis in pseudocalcar minutum curvulum connatis margine undulatis, intermedio lineari undulato acuto; petalis paulo longioribus semitorcia linearibus antice paulum dilatatis obtusis labellum lateralibus rhombis margine laterali et anteriore denticulatis, intermedio vix expanso fere orbiculari margine valde undulato crispo acuto, disco lamellis 3 a basi in medium labii intermedii decurrentibus ibique in lamina erectas denticulatas subito abruptas ductis, lobis lateralibus pulcherrime venulosis; gynoostemii parte liberâ brevî tridentata æthæra plana antice minute pilosula. Nov. Guinea Ori-nt. Kränzlin, in *Reichenbachia*, vol. ii., tab. 95.

masses of buds. One plant of *C. Mendeli* had an unusually dark lip. 2nd house: *C. gigas* and *aurea*, growing splendidly. 3rd house: *C. Mossiæ* and *Trianaï* adorned the stages, and did admirably. Above the path, as in all the other houses, a triple row of hanging baskets and pots of Orchids was arranged. 4th house: Seedlings of *Cypripedium* and *Dendrobium*; also *Cypripedium*, *Phalænopsis*, a fine *Cattleya Mossiæ alba*, a splendid specimen of *Cattleya Rex* and *Vanda Sanderiana*. 5th house: *Odontoglossums*, especially *crispum*, un-

magne's horticultural establishment. Another and tenth house is full of *Cattleyas*, and in reserve, in a very cool place, are *Odontoglossum crispum*, *Cattleya* and various other Orchids destined for the approaching Congress at Bordeaux.

In a special kiosk is installed a machine worked by petroleum intended to draw up water for irrigating.

The entire buildings are surrounded by a fine fruit garden. The property was acquired by M. Dallemagne in 1892; in less than four years he has formed

in spite of the absence of the lip, are by no means unattractive—indeed, there is an increase of delicacy and refinement resulting from the absence of strong colour.

LÆLIA GLAUCA, *Bentham and Hooker, Lindenia*, t. cdlxv.

The *Brassavola glauca* of gardens. Flowers 5 inches across, fragrant, rounded in outline, stellate, segments oblong, straw-coloured lip projecting, white, with a purplish blotch, convolute at the base,



FIG. 6.—DORYPHORA SASSAFRAS. (SEE P. 34.)

usually well cultivated. One *Lælia purpurata* with an extra dark lip; a very beautiful *Odontoglossum aureum*. Remarkable also were the *Masdevallias* and the numerous examples of *Cochlidia Noetzliana* which, suspended, formed a charming arch of bloom. 6th house: *Odontoglossums* in excellent health. 7th house: *Odontoglossums*, among them many excellent varieties. 8th house: still more of *O. crispum*, as well as *Deporidium atropurpureum*; a remarkable *Cymbidium eburneum*; a graceful *Odontoglossum cirrosum*, and a flowering canopy of *Cochlidia Noetzliana*. In addition to these houses grouped together and showing the cunning of the master's hand, there is a ninth house which may be called the cradle of M. Dallemagne's

splendid collection of Orchids, which won him, at Paris last year, the *prix d'honneur* from the President of the Republic. *Ch. De B.*

ODONTOGLOSSUM CRISPUM.

A correspondent sends a spike of this Orchid bearing one perfect flower, whilst four others have the parts arranged in pairs cross-wise, thus the two sepals alternate with two petals and the lip is entirely wanting.

CATTELEYA MENDELI.

Baron Sir H. Schroder sends flowers of this variety showing the same condition of affairs as in the *Odontoglossum* just mentioned. We believe the plant throws similar flowers every year. The flowers,

anterior lobe broadly ovate acute. It is a native of Mexico, and requires to be grown in a cool house as a basket plant. It flowers in early spring.

LÆLIO-CATTELEYA VARJENEVSKYANA, Lindenia, t. cdlxvi.

A hybrid between *Lælia grandis* and *Cattleya labiata* Warneri. Segments rosy-lilac, anterior lobe of lip frilled rich carmine. It is dedicated to a Russian nobleman.

ODONTOGLOSSUM HALLI-XANTHINUM ×, *Lindenia*, t. cdlxvii.

A reputed hybrid between the two species named. Introduced from Ecuador by MM. Linden.

CATTELEYA HAEDYANA X VAR. LINDENI, *Lindenia*, t. cdlxviii.

A gorgeous variety, with deep rosy-lilac segments, lip blotched with golden yellow in the throat, with the anterior lobe slightly frilled, rich carmine-coloured.

CYPRIPEDIUM LITTLEANUM X.

In the current number of the *Orchid Review* are given a description and an illustration of a supposed natural hybrid in the collection of Mr. H. Little between the Bornean *C. Lawrenceanum*, and perhaps *C. Dayanum*, also Bornean.

ORCHIDS AT FAIR OAK LODGE.

Mr. W. A. Gillett, the owner of Fair Oak, near Eastleigh Junction, on the London and South-Western Railway, is a true connoisseur of Orchids, and he has got together an excellent collection of species and good varieties of these plants. He finds in his able and energetic gardener, Mr. Carr, an excellent cultivator. The gardener when he came to him fourteen years ago knew nothing of Orchids or their cultivation, and he is at the present time an instance of a man who by perseverance and a good share of common sense has become proficient as an orchidist. It would be difficult for anyone to find fault with the state of the plants under his care.

On the occasion of a recent visit to this garden I found in the cool-house numbers of plants of *Odontoglossum crispum*, one of this species having two spikes, 1 yard long, and carrying twenty-five blooms; of *Miltonia vexillaria* in noteworthy examples, namely, one with three new pseudo-bulbs and ten flower-spikes, carrying altogether seventy-three flowers of a large size and fine colour; *O. cordatum*, *O. Peacetorei*, *O. maculatum*, *O. citrosum*, *O. hastilabium*, *O. polyanthum*, and *Phalaenopsis*. The display of *Odontoglossum* was heightened by flowering examples of *Epidendrum vitellinum mejus*, *E. Godeffianum*, *Zygopetalum crinitum*, *Sophranitis grandiflora*, and *Masdevallias* in variety. Plants of *Ocycidium ampliatum majus* and *C. sphacelatum* showed, as grown here, their great usefulness as decorative subjects.

There was remarked a capital lot of plants (sixty) of *Dendrobium Phalaenopsis Schroderianum*, some of them with very dark-coloured flowers. *Dendrobium suavisimum* was observed in quantity, also a flowering plant of the somewhat rare *Lælia mejalis*. *Cypripedium Haynaldianum*, concolor, *Parishii*, *Lawrencianum*, *caudatum*, *Roetzlii*, *calurum*, *Warnerianum*, *bellatulum*, and a capital form of *niveum*, form part of the collection. A plant of *Calanthe Turneri nivalis* was making most satisfactory growth, as was also one of *C. Veitchii*. A specimen of *Cattleya gigas imperialis* gave promise of some good flowers shortly. Robust plants which had been in fine flower this season were remarked of *Vanda suavis*, *Cattleya Mossiae*, *C. Mendeli*, and *Lælia purpurata*. *E. M.*

PHALAENOPSIS LINDENI.

From the *Journal des Orchidées* for June 16, we take the following account of *Phalaenopsis Lindenii*, Lohér.:—"This new species was named in honour of M. J. Linden by the traveller who found it, and who gives the following description of it: 'Folia oblonga, abido-argentea, viridi-maculata; pedunculi purpurei, bracteis parvis acutis; perigonii phylla exteriora et interiora subæqualia, obovata subclavata, obtusa, albidia (versus nervum medium subrosea); labelli tripartiti lobi laterales subfalcati, oblongi-obtusai, versus basin anteriorem maculis aurantiacis; scutello vel callo bilobo aurantiaco maculato; lobus intermedius cordatus, rotundatus breviter acuminatus, striis quinque purpureis, basi albidus, medio superiori amethystinus.'

"The foliage of this species resembles a little that of *P. Schilleriana*, but the leaves of the former are much narrower, almost sword-shaped (*Gladiolées*); as to the flowers, they closely resemble those of *P. rosea*, but are much larger—nearly double. Furthermore, they are remarkable for the colouring of the lip, the anterior lobe of which is bright amethyst, with the base pale rose; this division is decidedly rounded, briefly acuminate, while in *P. rosea* it is

lozenge-shaped. M. Lohér noticed that no other *Phalaenopsis* grew in the spot whence this new species was taken."

PETER COLLINSON.

(Continued from p. 6.)

LINNÆUS was another of the many intimate friends and correspondents of Collinson. The great Swedish naturalist visited England, and a life-long acquaintance between the two men was formed. The British Museum contains copies of two letters which the English naturalist addressed to Linnæus, dated respectively 1739 and 1767 (2 Add. MSS., 23,545, ff. 140, 140b), the earlier of which runs as follows: "Dear Friend, I could not omit so convenient an opportunity by my worthy friend, Dr. Dillenius, to enquire after your welfare, and give you joy on your marriage. May much happiness attend you in that state. I am glad of this conveyance to express my gratitude for the particular regard shown me in that curious, elaborate work, the *Hortus Cliffortianus*. Something, I think, was due to me from the Commonwealth of Botany for the great number of plants and seeds I have annually procured from abroad, and you have been so good as to pay it by giving me a species of eternity, botanically speaking; that is, a name as long as men and books endure." The plant to which Collinson refers is, of course, the *Collinsonia canadensis*, which is figured in the above-mentioned work of Linnæus (Amsterdam, 1737).

The MS. department of the British Museum contains many hundred letters written by and addressed to Collinson, who appears to have been the guide, philosopher and friend of nearly all the celebrities, botanical and horticultural, of the period. There are many from the Duke of Richmond, who was living at that time at Goodwood, and who made extensive alterations in and additions to the gardens there. The subject of the present sketch was a frequent visitor, and so was his young son Michael. The letters which passed between them were of the most cordial nature; one of them, for example, ending thus:—"Adieu, my dear Peter, this cruel weather [the letter was written February 16, 1747-8], puts me quite out of all patience, but in frost, or snow, wet weather, or fine, I am, honest Peter, sincerely thine, Richmond." In another letter, his Grace remarks, "The small *Magnolias* are confounded dear, but I must have them, tho' I believe nobody else will be fool enough to buy any at that price." Collinson was also a frequent visitor at Holland House, in the early fifties of the last century. Henry Fox, the celebrated Lord Holland, father of the even more famous Charles James Fox, had not yet been elevated to the peerage; whatever may have been his failings as a politician—and there can be no question that he was an adventurer of a very questionable, and now, happily, obsolete type—his friendship for Collinson was genuine. Collinson was frequently at his house; an invitation to dine, in 1750, was backed up with the plea, "Lady Caroline has a thousand questions to ask you about flowers, and I not much fewer about plants." Another invitation in 1752 ran, "Will you dine here on Saturday? You shall be guarded home," is a very curious and interesting illustration of the dangers which attended foot-passengers in the suburbs of London at that period—for Holland House was not then surrounded by bricks and mortar, and even Oxford Street and Tottenham Court Road were country fields.

Peter Collinson's place of business was at the Red Lion, in Gracechurch Street. The name of his place suggests to us of to-day a public-house; but the fashion of numbering houses had not yet come into vogue, and, as a consequence, all the principal shops were distinguished by signs. From a very early age he lived at "Peckham, in Surrey," a very different place to what it has since become. It was here that he formed a very extensive botanical garden. Through his marriage with Mary, daughter of Mr. Bashell, of Mill Hill, Hendon, in 1724, he eventually came into possession of this place. The removal from Peckham thence, however, did not take effect until a quarter of a century afterwards.

He himself tells us, under date April 8, 1749, "removed from my house at Peckham, in Surrey; for two years was transplanting my garden to my house at Mill Hill, called Ridgway House," "ten miles from St. Giles's Pound, in Holbourn." The gardens at Peckham and Mill Hill had attained such a high celebrity that a publication of Collinson's catalogue appears to have been called for by some of the most distinguished naturalists of the time; and the reason for this non-compliance with their wishes is thus given in a letter of his, dated May 12, 1756, to Linnæus:—"You must remember I am a merchant, a man of great business, with many affairs in my head and on my hands. I can never pretend to publish a catalogue of my garden unless I had one of your ingenious pupils to digest or methodize for me."

Collinson began early to keep an alphabetical register of the plants which he cultivated. At his death in 1768 the catalogue, which had by himself been bound up with the seventh folio edition of Miller's *Dictionary*, passed into the possession of his son-in-law, John Cater, of Beckenham, Kent, and there it remained until 1809, nearly, if not quite, unknown. In the tenth volume of the *Linnean Society's Transactions*, Lambert gave some account of it. A quarter of a century later, Lambert obtained it, with Collinson's copies of the sixth and eighth editions of Miller, studded with notes and memoranda by Collinson. At Lambert's sale after his death, they passed into the possession of L. W. Dillwyn, who privately printed, in his *Hortus Collinsonianus*, 1843, all these notes, &c., and from which it appears that Collinson introduced 119 plants. It would be interesting to know of the whereabouts of these three editions of Miller, annotated by Collinson, although Dillwyn's exceedingly interesting and valuable excerpts doubtless include all of the notes which possess permanent value.

Collinson strongly urged the American colonists to cultivate flax, hemp, silk, and wine, which led to the cultivation of these industries in several of the States. Collinson was a liberal contributor to the collections of the British Museum; and, according to the late Robert Hunt, it was contemplated to appoint him as curator of the botanical division. This was not carried into effect, for what reason it is not now known. Collinson died while on a visit to Lord Petre in Essex, and enclosed in his will was a paper importing "that he hoped he should leave behind him a good name, which he valued more than riches; that he had endeavoured not to live uselessly, and that all his days he constantly aimed to be a friend to mankind." Dr. Fothergill wrote a privately-printed account of his friend in 1770, the British Museum copy of which once belonged to Sir Joseph Banks, which is reprinted in the collected edition of Fothergill's works, 1781. The original issue of this biography contains an exceedingly good portrait of Collinson, engraved by J. Miller; and this portrait, reduced from quarto to octavo size, with the details slightly altered, was reproduced by Nichols in his *Literary Anecdotes*, whence the illustration given at p. 6 is derived. *W. Roberts.*

COOMBE COURT, KINGSTON-ON-THAMES.

THE grounds here (the residence of W. A. Bevan, Esq.), are extensive and picturesque. They were laid out some years ago by Messrs. J. Veitch & Sons. From the terrace in front of the fine red-brick mansion may be obtained some fine landscape views, embracing a wide stretch of the Surrey hills. Grand masses of *Rhododendrons*, *Azaleas*, and other flowering shrubs are features here, and seen from the terrace when in beauty, they have a wonderfully fine effect. Some fine named varieties of *Rhododendrons* are grown, specially noticeable at the time these notes were taken being *John Waterer*, *The Queen*, *Francis Dickson*, and *Lady Palmerston*. *Kalmias* revel in the peaty soil, and the *Rhododendron* beds are edged with them. That handiwork of the Berberises, *B. Darwinii*, flourishes here, and the plants become covered with a profusion of the

orange-coloured blossoms. Some beds consisting of *Skimmia japonica*, golden *Laurnstinus*, and Irish H-ath, edged with *Euonymus radicans*, are quite remarkable.

Hollies were remarked as growing luxuriantly, some fine specimens in front of the house moved two years ago being specially noticeable. Some good specimens of *Abies Douglasii* shifted three years ago have also done well, making good growth. The various forms of *Cupressus* are attaining good dimensions. *Retinosporas* do not seem to take kindly to the gravelly sub-soil here, and some of the fine Sweet Bays were much cut during the past severe winter. *Cedrus Deodara* finds a congenial home here, as do the Oaks, Elms, and Piceas. On the lower side of the grounds, abutting on to Coombe Lane, a long line of closely-trimmed Limes gives an air of order and neatness characteristic of the whole place. A lake bordered by suitable trees is a very pretty and "restful" feature.

Some bold mixed beds of *Abutilons*, *Coleus*, *Zea japonica*, *Ricinus*, *Carnations*, &c., in proximity to

Apples and Pears, principally as pyramids promise good crops, the root-pruning to which the trees were subjected two years ago having had a beneficial effect.

Veitch's Extra-early Forcing Cauliflower is extremely early, and very dwarf. Sown the middle of February, cutting has been going on since May 28. Pea Veitch's Early Selected was ready for picking on June 3. A fine breadth of some 500 plants of that old but good Cabbage, Cattell's Reliance, stood the winter so well; ready first week in April.

Amongst Potatoes, Myatt's Ashleaf is much esteemed here, as is that fine-constituted variety, of excellent quality, Schoolmaster.

Peas are grown in 100-foot rows, as a large family has to be supplied, the principal varieties grown being the old but finely-flavoured Ne Plus Ultra, Veitch's Perfection, William I., Main Crop, Criterion, and Duchess of Albany.

A concluding note may be found in recording the fact that the whole place is well-managed by the gardener, Mr. Springthorpe. J. B.



FIG. 7. — A COMPOSITE PEACH: PART PEACH, PART NECTARINE.

the mansion will constitute attractive features a little later. The culture of the useful and beautiful herbaceous plants is being taken up. In the conservatory attached to the residence the usual foliage and flowering plants for decorative purposes in such structures were in remarkably good condition.

In a range of houses 100 feet long in three compartments, Pine-apple Nectarine was carrying a good crop. Roses on a back wall of this division do well in spring, exceptional top-light being obtained.

Black Hamburgh and Muscat of Alexandria are the favourite Grapes grown, and the crops are all that can be desired.

Two span-roofed houses, 130 feet in length, contain some well-fruited trees of Dr. Hogg, Royal George, and Early Louise Peaches.

The best forcing Strawberry is found in Anguste Nicaise, the picking commencing on April 1. White Ischia and Brown Turkey Figs in pots give promise of good fruiting. The favourite Melons are Countess and Frogmore Selected; Tomatoes, Ham Green, Frogmore Selected, and Perfection.

In the kitchen garden, a fruit-wall some 300 yards in length, is quite worthy of note. The Cherry-trees on this wall are in the best of health, and reaching to the top of the 9 feet wall, the principal varieties grown being May Duke, small, but carrying a good crop; Bigarreau Napoleon, Elton, Morello, Frogmore Bigarreau, Black Eagle, Old Bigarreau, and Early May, fruits of the latter being gathered early in May. On this wall some of the best varieties of Plums, Peaches, and Pears are also grown. Pears are, however, a scarce crop this year.

Coming to second early Peas, two varieties stand out prominently, Gradus and Daisy, the former introduced by Laxton and the latter by Carter. For earliness, Gradus excels Daisy, and, when true, it is really a grand Pea. It is a good bearer, has fine large pods of the Duke of Albany type, and is of fine flavour. Daisy (1½ to 2 feet) is one of the coming Peas; a wonderful bearer, the pods coming in pairs, and they are large and well filled; it is, moreover, of compact habit and comes among the first of the second-early section. Dr. Hogg is a good old second-early Pea, and holds its place pretty well. William I. is so apt to "sport" that growers are getting tired of checking its waywardness, and are inclined to drop its cultivation. Gradus is also said to have this fault, but I do not think that it deserves a bad name. A stock of it sent out this season in packets was as full of rogues as it well could be, but I have seen another stock which was almost free of them. Messrs. Dickson, of Chester, have a good early wrinkled Pea in Harbinger, which is somewhat after the style of Exonian, but it has not the deep colour of that variety, nor is it so early by one week. Notwithstanding its pale colour, it is a good Pea.

In a trial of Peas, they must, to arrive at accurate results, be all sown on the same day, on the same plot, and, from the beginning, be treated alike. To sow one variety on a border this year and another variety next year, is no trial at all. It is worse than useless, for often it is misleading. A. H.

VARIATION.

This fascinating subject receives a curious illustration in the specimen here shown (fig. 7). Mr. Thorne, who kindly sends it, described it as Early Dagmar Peach, with a stripe or band which is that of a Nectarine. Occasionally we see Peaches and Nectarines on the same bough, and an illustration of such an occurrence was given in our columns in 1891. When this phenomenon was first observed, the narrative was received with incredulity. An illustration of this is shown in the Kew collection of drawings, where is preserved a coloured drawing, accompanied by a document formally attested by a number of botanical and horticultural celebrities. Since that time a similar occurrence has occasionally been noticed, not only in Peaches, but in Apples and other fruit. Darwin, in his *Animals and Plants under Domestication* (1868), vol. i., p. 341, mentions several cases of the kind culled from horticultural literature. The earliest case on record, it appears, is one stated by Peter Collinson, whose life forms the subject of a notice in the present issue; and Sir James Smith in 1821 was the first to record the occurrence of fruit partly Peach, partly Nectarine, in character. Similar amalgamations are met with in Oranges. We have ourselves seen a fruit half Orange, half Lemon; see also Darwin, *loc. cit.*, p. 336.

PLANTS IN FLOWER IN THE ROYAL BOTANIC GARDEN, EDINBURGH.

MICHELIA FUSCATA, perhaps better known under the generic name of *Magnolia*, is now flowering very freely in the temperate-house, the delightful fragrance of its flowers being detected as soon as the house is entered. This fragrance should recommend it to a place in every greenhouse. The plant is about 8 feet high, of a shrub-like habit, with plenty of dark evergreen foliage. The axillary flowers are of a light purple colour, the fleshy corolla soon dropping, but they are produced for a long period of time. It is a native of China, and has long been in cultivation; it is easily propagated, and grows in rich loamy soil. Young plants flower freely.

Orthociphon stamineus is a native of India, Malaya, and some other tropical countries. Its flowers are very attractive, at the present time the most conspicuous part being the long filaments and style that project about 1½ inch beyond the bilabiate corolla.

potash than phosphoric acid is exported in the cereal grains, much more being retained in the straw; whilst the other products of the rotation—the roots and Leguminosæ—which are also supposed to be retained on the farm, contain very much more potash than the cereals, and comparatively little of it is exported in meat and milk.

Of lime, very little is taken up by the cereal crops, and by the roots much less than of potash; more by the Leguminosæ than by the other crops, and, by the Clover especially, sometimes much more than by all the other crops of the rotation put together. Of the lime of the crops, however, very little goes in the saleable products of the farm under the conditions supposed of a self-supporting rotation. There is, however, frequently a considerable loss of lime in land drainage.

The interpolated crops of rotation—the roots and the Leguminosæ—take up scarcely any silica; but the cereals take up a very large amount of it. Indeed, the large amount of silica taken up by these crops when grown under ordinary conditions, is as characteristic a chemical phenomenon of rotation as is the very large amount of lime taken up by Clover and other Leguminosæ. Very little silica, however, is lost to the land in the assumed saleable products.

Although the eventual loss to the land of mineral constituents is, in a self-supporting rotation, comparatively so small, the very fact that the different crops require for their growth, not only very different amounts of individual constituents, but require these to be available within the soil in very different conditions, both of combination and of distribution, points to the conclusion that, in any explanation of the benefits of an alternation of crops, the position, and the rôle of the mineral constituents must not be overlooked; and the less can it be so when their connection with the very important element—the nitrogen of the crops—is considered.

As to the nitrogen, it has been seen that, although very characteristically benefited by nitrogenous manures, the cereal crops take up and retain much less nitrogen than any of the crops alternated with them—in fact, the root crops may contain two or more times as much nitrogen as either of the cereals; and the leguminous crop, especially Clover, much more than the root-crops. The greater part of the nitrogen of the cereals is, however, sold off the farm, but perhaps not more than 10 or 15 per cent. of that of either the root-crop, or the Clover, or other forage leguminous crop, is sold off in animal increase or milk. Thus, most of the nitrogen of the straw of the cereals, and a very large proportion of that of the much more highly nitrogen-yielding crops, returns to the land as manure, for the benefit of future cereals and other crops. Indeed, it is, as a rule, only a comparatively small proportion of the very much increased amount of nitrogen obtained in rotation compared with that in continuous cereal cropping (chiefly due to the interpolated crops) that is lost to the land in the saleable products.

As to the source of the nitrogen of the so-called "restorative crops," it has been shown that certainly in the case of the roots it is not, as has sometimes been assumed, that such plants take up nitrogen from the air by virtue of their extended leaf-surface. Both common experience and direct experiment demonstrate that they are as dependent as any crop that is grown on available nitrogen within the soil, which is generally supplied by the direct application of nitrogenous manures—natural or artificial. Under such conditions of supply, however, the root crops, grass feeders as they are, and distributing a very large amount of fibrous feeding root within the soil, avail themselves of a much greater quantity of the nitrogen supplied than the cereals would under similar circumstances, this result being partly due to their period of accumulation and growth extending even months after the period of collection by the ripening cereals has terminated, and at the season when nitrification within the soil is the most active, and the accumulation of nitrates in it is the greatest. Lastly, full supply of both mineral constituents and nitrogen being at command, these crops assimilate a very large amount of

carbon from the atmosphere, and produce, besides nitrogenous food-products, a very large amount of the carbohydrates—sugar, as respiratory and fat-forming food for the live-stock of the farm.

The still more highly nitrogenous leguminous crops, on the other hand, although not characteristically benefited by nitrogenous manures, nevertheless contribute much more nitrogen to the total produce of the rotation than any of the other crops comprised in it. It is also certain that, at any rate, a large proportion of the nitrogen of these crops is obtained from the soil and sub-soil; though recent investigations have proved that some of their nitrogen, and sometimes much of it, may be derived indirectly from the free nitrogen of the atmosphere, brought into combination under the influence of micro-organisms within the nodules on the roots of the plants.

But independently of the benefits arising from the difference in the requirements and results of growth of the different crops, of the increased amount of manure available, and of the increased sale of highly-valuable animal products, there are other elements of advantage of considerable importance. For example, with a variety of crops, the mechanical operations of the farm, involving horse and hand labour, are better distributed over the year, and are therefore more economically performed.

Last, but by no means least, the opportunities which alternate cropping affords for the cleaning of the land from weeds is a prominent element of advantage. *J. J. Willis, Harpenden.*

FORESTRY.

THE NATURAL REGENERATION OF WOODS.

Few branches of British forestry probably are more neglected than the restocking of mature woodland by means of self-sown seedlings. Although it occurs more or less in every seed-bearing wood, yet we seldom, if ever, find any systematic methods adapted to bring it about in a uniform and satisfactory manner. It requires, of course, a certain amount of skill and judgment on the part of those who regulate the management of the wood previous to, and at the felling of the old crop; but beyond this, the establishment of a healthy crop of young trees by this means is as simple as raising a farm or garden crop by artificial sowing. Just as a seed-bed is prepared in the case of the latter, so must one exist for the reception of the seed which falls from the parent trees, and this is the requisite which is chiefly lacking in our woods.

A good forest seed-bed prepared by natural causes, differs with the species which are to occupy it. For the proper development of a seedling into a sapling, the seed must germinate upon matter which will support the plant after its stock of reserve material (stored up in the cotyledons or endosperm) has given out, and it must also be exposed to sufficient air and light for its leaves to carry on their work properly. In dense woods, especially when composed of shade-bearing species, a thick layer of raw, or partially-decomposed humus, existing, which is not sufficiently compact to retain moisture for any length of time, nor has it such an intimate connection with the soil beneath which would set up capillarity. Under these circumstances, a seed falling upon the forest floor may germinate, but invariably perishes from insufficient moisture and nutriment in the course of a few days. To effect the decomposition of this inert matter, the annual leaf-fall must be checked, and sun and wind allowed to act upon and hasten the decomposing process. For this reason, the felling of a wood which it is intended to regenerate naturally, is usually performed at two distinct periods. Two or three years before a seed crop is likely to occur, what is known as a "preparatory felling" is made, which removes about one-half, more or less, of the trees, and greatly reduces the leaf-canopy. This felling has a twofold object—the reduction of the humus-

layer, as already mentioned, and the exposure of the crowns of the remaining trees to the sun, so as to induce and favour the formation of flower-buds, and thus bring about a plentiful crop of seed. After the latter occurs and falls to the ground, a second felling is made in order to further lighten the canopy for the benefit of the seedlings which appear in the following spring. The extent of this felling depends upon the requirements and nature of the seedlings. In the case of shade-bearers, such as Beech or Hornbeam, sufficient trees may remain to form a light but fairly regular shade, as the former of these species is very sensitive to late frosts, and the seedlings are easily destroyed during the first year. Where the parent trees possess comparatively light crowns, as Oak or Ash, the same proportion may remain without interfering with the seedlings, for this canopy prevents the drying-up of the ground and baking of the surface, and thus favours the growth of the seedlings. After the latter are fully established, the remaining trees can be gradually removed, and the blanks which occur filled up by transplanting seedlings from the thicker parts.

In the case of Conifers of the Pine genus, heavier felling at the time of the seed crop is necessary, as Pine seedlings require plenty of light, and the preparatory felling is also of importance, as unless the radicles come quickly in contact with the mineral soil, a large proportion perish. With the Scots Pine, for instance, fifteen to twenty trees per acre are amply sufficient to provide the necessary seed, as the winged form of the latter enables it to be carried long distances by the wind. The development of this wing upon fine seeds furnishes an interesting field of speculation for the evolutionist, and those acquainted with the peculiarities attending the natural regeneration of this tree are able to recognise the enormous advantages which this wing confers upon the seed with regard to its distribution and conveyance to suitable localities for its germination. Whatever the reason may be, the fact remains, that both the germination of the seed and the growth of the seedlings occur most readily on sites which have never, or at least not recently, borne a crop of timber. On heathy moors, whether these be wet or dry, peaty or gravelly, this species quickly establishes itself, providing a few seed-bearing trees are within reasonable distance, and the heather is not too long and rank to prevent the seed reaching the soil. But under its own shade, or that of other trees, the Scots Pine fails to reproduce itself in a satisfactory manner; hence the necessity for means of locomotion other than those usually provided in the case of most other tree species.

The real secret of success in all cases of natural reproduction is the total suppression of undergrowth. Whether this consists of grass, brambles, or coarse weeds, a regular crop of any kind of seedling is impossible, and with some species the germination, under such conditions, of a seed becomes a rare occurrence. This suppression can only be effected by maintaining a close and unbroken leaf-canopy for several years previous to the preliminary felling. With light-demanding species a dense canopy is difficult to obtain, unless a mixture of some shade-bearing tree, usually Beech, is introduced either at the time the crop is planted or later on, according to circumstances. By such means a clear field is left for the seed of the legitimate crop, which are able to germinate and make a fair growth before weeds and coarse grasses get possession of the soil.

The chief obstacle in the way of natural regeneration, or the adoption of measures for securing it, is game cover. We have never been able to understand the precise difference between a crop of young trees from five to twenty years of age and a crop of nettles, brambles, bracken, &c., so far as their value as game cover for pheasants goes, especially when, as is invariably the case, a fair proportion of the latter are mixed in with the former. But this is a matter of which the layman is not qualified to judge, any more than of the character of the hand-reared pheasant. In the eyes of the inexperienced this bird appears to resemble a rather shy barn-door fowl, with just sufficient fear of man to keep twenty yards

or so out of his way. But we are given to understand that this bird is so painfully shy that the cracking of a dry stick, or the occasional sound of the axe is sufficient to drive it "out of the cover" (whatever destination that may be), a course which it seems loth to adopt before an army of beaters. *A. C. Forbes.*

ELMET HALL, LEEDS.

A VIEW of the picturesque rockery and other parts of the garden at Elmet Hall, the property of J. H. Kitson, Esq., was given in the *Gardeners' Chronicle*, April 28, 1894, and the issue of May 5 contained some account of the pretty and extensive gardens which are managed by Mr. T. Bonsall, the remarks on that occasion relating chiefly to the gardens outdoors. A recent visit found the establishment beautiful as ever, the rockery bright with large tufts of pretty alpine and other herbaceous perennials. Some large patches of the lovely dwarf blue *Myosotis rpicola*, the yellow and purple *Arnebia echioides*, of blue *Gentian*, species of *Edrianthus*, *Androsace*, *Lithospermum Gastoni*, and other plants of similar class being specially beautiful, and the herbaceous plant-garden for tall and strong growers formed on the site of the old kitchen-garden, a bewildering mass of varied colours. From the mansion beautiful views of hill and dale open up on all sides, and care is taken to preserve the continuity of the scenery from the very walls of the house to the vanishing point, the intervening space of garden and pleasure ground being arranged so as to merge into the distant landscape, and this object is mainly attained by keeping a large unbroken expanse of green lawn around the house, and making no provision for flower-beds containing *Pelargoniums* and other things usually denominated bedding plants, which are often allowed to mar what would otherwise be pretty views.

THE ORCHIDS.

In the glasshouses a collection of Orchids was commenced some time ago, and under Mr. Bonsall's skilful management the venture being successful, and the flowers found specially adapted for cutting for use indoors, additions have been made, until now a large number of plants of showy species are remarkably well grown, and occupy places in most of the plant-houses, as well as in those devoted entirely to Orchids. Perhaps the greatest success has been attained with the cool Orchids, the range used for their culture being at the present time filled with some hundreds of strong plants of a good strain of *Odontoglossum crispum*, chiefly established plants, though there was a batch of importations of the present year, which are making satisfactory progress. Some few other species of *Odontoglossum* were in flower; but *O. crispum*, in its various forms, is the favourite here as in most other gardens.

The Melon-house, with its good crop of fruits, is utilised for growing *Dendrobium Phalaenopsis Schroderianum*, of which there are many plants, and other species requiring a high temperature, and some of them were in bloom. Here, too, *Calanthe Veitchii* and others were being grown in quantity.

In the next, an intermediate-house, there was remarked a fine plant of *Coryanthes maculata* suspended at the entrance, the two pendent spikes bearing each three of the large fleshy and singularly-formed, light orange-coloured flowers; the plant, which is in a basket, was growing luxuriantly. In the same house in flower were fine plants of the bright *Oncidium ampliatum majus*, the rose and purple *O. Lanceanum*, *O. Cebolletii*, *O. flexuosum*, *Peristeria elata*—the Dove Orchid, *Cypripedium caudatum*, *C. philippinense*, *C. Lawrenceanum*, and other *Cypripediums*; and *Utricularia montana*. In the span-roofed range was a fine show of *Lælia purpurata* and *L. tenebrosa*, with a plant or so of the true *L. grandis*, some *Cypripedium bellatulum*, well-flowered plants of *Dendrobium Bensonæ*, *D. Pierardi*, and several handsome *Odotoglossum citrosum*. Here some of the plants were noticed to be standing on small brass turn-tables, which have the merit of possessing

holders for water in the lower division, the upper half on which the plant is placed, and which revolves easily, allowing the plant to be readily turned round for examination or to alter its position from time to time as may be found necessary, in order to cause it to grow equally on all sides. The need of some such an arrangement has long been felt by Orchid-growers, and some rather heavy revolving iron stands are in use; but these brass ones, invented and patented by Mr. Kitson, are a long way in advance of former things of the kind, and apparently difficult to improve on.

In the next house, the show of flowers was chiefly furnished by *Dendrobium*, *Cymbidium*, and *Madevallia Harryana*. There were in bloom a lot of *Lycaste Deppei*, some *L. aromatica*, covered with yellow flowers; a few handsomely-flowered plants of *Rodriguezia venusta* (often called *Barlingtonia fragrans*), the pretty *Phaius Owenianus*, *Nanodes Medusæ*, *Maxillaria Sanderiana*, &c.

MISCELLANEOUS.

In the large stove, a few *Phalaenopsis* were suspended among the *Nepenthes*; and of the latter, a specimen of *Nepenthes Curtisi* with two stems, displayed a curious dissimilarity in the form and colouring of its pitchers. The basal ones are of the ordinary form, and profusely blotched with dark red; the upper ones more slender, and perfectly green, without spotting. Some other good specimens of *Nepenthes* were *N. × Mastersiana*, which is undoubtedly the best of the *N. sanguinea* class, and a favourite everywhere; *N. Raflesiana*, and *N. Morgania*. Also in the house were some well-flowered specimens of *Clerodendron*, *Eucharis*, *Musa Paradisiaca*, fruiting; and other showy plants; and on the roof *Aristolochia elegans*, *Gloriosa superba*, and *Stephanotis floribunda*; at one end being a collection of *Stanhopeas* which are very healthy and in good condition to flower.

Passing through one well-cropped vinery we noted large bushes of *Rogiera gratissima* covered with flowers, and a quantity of *Streptocarpus* yielding a profusion of *Gloxinia*-like blooms. In the *Camellia*-house some *Lilies* were flowering, and in another vinery were *Ferns*, *Palms*, &c., and a nice display of *Gloxinias*. This lofty old-fashioned vinery range has the upper part enclosed, and fitted with staging and walk, the upper part being now used for growing decorative flower and foliage plants. Another range had a quantity of *Tea Roses* in pots and planted out; and other houses were filled with small *Crotons*, *Dracænas*, *Ferns*, &c., such quantities of which are continually in demand that Mr. Bonsall must exercise considerable skill and forethought in preparing the supplies in different stages, such as are in the Elmet Hall Gardens. *J. O'B.*

THE WEEK'S WORK.

THE ORCHID HOUSES.

By W. H. WHITE, *Orchid Grower, Burford, Dorking.*

PLATYCLINIS FILIFORME AND OTHERS.—Amongst plants now in flower, *Platyclinis filiforme* may be considered a gem, its slender drooping racemes of small golden-yellow flowers being especially attractive. The flower-spikes are produced from the centre of the young breaks, which at this particular time are only partly developed; it is, therefore, necessary that the plant should have copious supplies of water afforded it until the pseudo-bulbs are matured. Overhead syringing is not advisable while the plant is in flower, but the leaves should be sponged instead. After the flowers fade, the plant should be placed in a hot, moist house, and be shaded from bright sunshine. The spring-flowering *P. glumacea*, and its variety, *vallida*, flourish under similar treatment, but now that growth is completed, they should be taken out of the warmest house, in which they had been hitherto, and placed in a shady part of the intermediate-house, there to remain till growth recommences. While at rest sufficient water should be afforded to preserve the bulbs and leaves in a plump condition, frequent syringing of the undersides of the foliage to ward off the attacks of insect pests, being carried out.

MISCELLANEOUS.—A sweet-scented and pretty dwarf-growing Orchid now in flower, is *Trichocentrum tigrinum*, whose cultivation is easy when the plant is suspended in a shallow pan on the shady side of the hottest house, using a very small quantity of peat and sphagnum-moss, for if the roots are much covered with compost they are apt to quickly decay, and the leaves to spot in a similar manner to *Oncidium Lanceanum*. The rare *Oncidium guttatum* should be grown under exactly the same conditions, both species while at rest requiring but a small quantity of water at the root to keep their leaves plump.

PACHYSTOMA THOMPSONIANUM.—This is another lovely little species that is now in bloom, and its flowers, if preserved from damp, will last a considerable time. It is a species that succeeds admirably in a shallow pan, hung up close to the roof-glass; and it requires almost the same kind of treatment as the deciduous *Calanthes*, but more shade than those. While in flower very little water should be afforded, and when at rest the plants may be exposed to a good deal of sunlight, and only just sufficient water afforded to prevent the shrivelling of the pseudo-bulbs. At all times judgment is required in watering the plant, the bulbs being very liable to decay. The rare *Eulophia guineensis* should be treated in the same way.

CATLEYA SPECIOSISSIMA, C. LAWRENCEANA, C. SUPERBA, AND C. SCHILLERIANA, now commencing to grow, should be placed in more warmth than others of that genus. To be successful in growing and flowering them, it is necessary, if the specimens are large, to stand them on inverted pots, thus bringing them up towards the light, smaller examples being suspended near the roof. *Cattleya speciosissima* should not be repotted at this season, but soon after the flowers fade; but any of the other varieties named may be repotted. During repotting or surfacing, care should be taken to make the potting material very porous, so that the material, whilst the plants are growing, will dry quickly, consequently stand in need of frequent applications of water. When watering any that are in full growth, afford enough even to saturate the entire mass of compost, and afford no more till each plant again becomes properly dry.

THE KITCHEN GARDEN.

By JOHN LAMBERT, *Gardener, Powis Castle, Welshpool.*

MUSHROOM BEDS.—Horse-droppings may now again be collected for making Mushroom-beds under cover. The produce from these beds will follow that from the last beds out-of-doors. If Mushrooms are plentiful, and likely to be so, there is no necessity for haste in the matter of preparing materials. The stable-litter should have most of the long straw shaken out of it, and what remains should be mixed together and turned over every fourth day, spreading it out in a layer about 1 foot in thickness, so as to dissipate some of its moisture and rankness. The litter from horses fed with grass, Vetches, green Clover, Furze, &c., in considerable quantity is not of any use in Mushroom culture.

BUSSELL'S SPROUTS.—Another planting of this useful vegetable should now be made. These plants will not grow so tall as earlier plantings, on the contrary they will be sturdier and short-legged, and calculated to withstand the severity of the winter. A still later planting may be put out in about two weeks; these will give the latest pickings in the spring, and produce small, very solid sprouts.

BROAD BEANS.—The last sowing for the season may be made about this date, preference being given to early podders, as *Mazagan* and *Beck's Dwarf Green Gem*. All of the earlier sowings, if they consist of tall growers, should be topped when sufficient pods are set to form a crop. The pods of Beans for exhibition should be thinned, leaving only the more promising ones; and syringe the plants occasionally in the evening with soot-water, supporting the stems some kind of support if they are too weak to stand erect.

GARLIC AND SHALLOTS may be lifted when the tops show signs of decaying, spreading the bulbs out thinly in the sun to dry; and when dried, partially clean off the soil that adheres to them, and put them in store.

LEeks.—The present is a good time to plant the main crop of Leeks. I always plant them in trenches, like those made for Celery, two lines in a trench. So cultivated, they are easily protected in hard weather. Leeks will, however, grow

as fine if dropped into holes made on the flat, partly filling up the holes when planting the *Laeka* with fine soil. Afford the plants a good watering, to settle the soil about the roots. The holes will be quite filled up as time goes on by the hoeing that the land will receive. Those in trenches will be moulded up on the approach of winter.

PEAS.—The last sowing of dwarf late and early Peas should be made at this date; and then, if no early frosts come to cut them off, a few dishes of green Peas may be obtained at a very acceptable time. Afford the sowings a sheltered, warm situation.

THE FLOWER GARDEN.

By BAILEY WADDS, Gardener, Birdsall Gardens, York.

FLOWER BEDS should be kept neat and clean by removing decayed leaves, and the old flowering trusses of *Pelargoniums*, &c. Edgings of *Cerastium tomentosum*, Ivy-leaved and Manglei *Pelargoniums*, &c., should be neatly pegged out as soon as they require it, so that they may quickly form a good edging. The flower-spikes of these and other variegated varieties used for edging should be kept pinched off. *Calceolarias* and *Lobelias* should be kept thoroughly watered as long as the drought continues; and considerable care will be required in watering, staking, and tying tall-growing sub-tropical plants that are used as backgrounds to clumps. The show varieties of *Dahlias* should have the lateral shoots taken out, and the principal shoots thoroughly secured to sticks. Mulch the beds well with manure, and give liberal supplies of water. Earwigs are very troublesome, and quickly destroy the young growth and foliage if not carefully looked after. A small pot with a bit of dry hay or moss in it makes a good trap for earwigs, and it should be examined every day. Bedding *Dahlias* should be pegged down as soon as they require it.

PROPAGATION, &c.—The layering of *Carnations* and *Picotées* should now be proceeded with, especially of varieties that are scarce, and where the blooms are not required for cutting purposes. If large flowers are required, take out the lateral buds, and leave only the end bud on each spike, and when the pods start to burst, some protection should be afforded against rain in the way of hand-lights or canvas on tripods. Cuttings of *Carnations* and *Pinks* may now be taken and put in, six in a 48-pot, plunging them in a pit where there is some amount of bottom-heat; or the cuttings may be pricked out under hand-lights or in frames, and kept close and shaded till rooted. Cuttings strike best in sandy loam and leaf-soil of about equal proportions. Cuttings or slips of *Anriculæ*, *Sweet Williams*, *Pentstemons*, *Antirrhinums*, *Phloxes*, herbaceous *Pansies*, *Violas*, and *Wallflowers*, may also be struck in this manner.

ZONAL PELARGONIUMS.—Scarce varieties which may have been kept for propagating uses should now be increased as fast as cuttings can be obtained. Place the cutting-bed on a sunny border. When well-rooted and not before, place them thickly in boxes for storing under glass when the time comes for so doing. Cuttings may be taken as late as September.

SEED GATHERING AND SOWING.—Seed-pods of *Anriculæ*, *Primroses*, *Polyanthuses*, and *Pinks* should be gathered as soon as ripe, sowing the seed without delay in beds or in drills 1 foot apart. Old plants of the above may now be divided, the roots being shortened somewhat, planting them afresh in some rich garden mould. They soon make fine plants, flowering well the next year. Early-raised seedlings should be planted out, taking care that they do not lack water in dry weather. Old plants of *Pansy*, *Viola*, *Arabis*, *Alyseum*, *Ajuga*, *Aubrietia*, &c., may now be divided and replanted in soil enriched with decayed short manure, shading and watering them for a time. Afford attention to the planting out of seedling *Anemones*, *Aubrietia*, and *Wallflowers*, that will be required for planting in the autumn in the spring garden. Sow hardy annuals for spring flowering, viz., *Silene pendula*, *Escholtzia*, *Myosotis*, &c., pricking the seedlings out as soon as they are large enough to be handled.

FRUITS UNDER GLASS.

By RICHARD PARKER, Gardener, Goodwood, Chichester.

STRAWBERRIES IN POTS.—One of the chief matters connected with successful culture in pots is the securing of early runners, so that the plants may become completely established in the fruiting-pots before the autumn. It is a saving of labour to layer the runner on the fruiting pot, and many gardeners do so with good results, but it

needs much care in affording water, as the soil is apt to become sour before the season is over, and then the plant is sure to suffer in health. I have commenced layering different varieties in small 60's, and several thousands are required to cover our wants. The more promising plants will be selected as soon as they are rooted, potting them at once into 32's; those which remain being planted in a well-manured border, and by keeping the flowers picked off these plants, they will supply strong early runners another year. Where plants for furnishing runners for forcing have not been so treated, and the gardener has to resort to the fruiting beds, it is desirable to assist the old stools with several applications of manure-water, freeing the bed from weeds, and the plants of weakly and cramped growth. The most promising runners should be selected for layering, the pots being stood in each alternate space. Water should be afforded with a rose watering-can morning and evening until the runners are well-rooted, when they may be placed as soon as possible in the fruiting-pots. It is not a wise course to starve the young plant in a small 60-pot. The filling of the small pots should contain a small quantity of decayed manure as an aid to root action, and to prevent the soil becoming hard. If the layering has to be done on the fruiting-pots, these should be quite clean, and drainage good, a small quantity of soot being placed on the tops of crocks to prevent the ingress of worms. A compost of a retentive nature is best for the Strawberry, and very firm potting should be the rule. If the loam used is of a very heavy nature, one-eighth of its bulk in spent Mushroom-bed dung may be added, together with a sprinkling of wood-ashes, bone-meal and soot. Keen's Seedling is still one of the best as a first early fruiter, and may be followed by *Vicomtesse Héricart de Thury*, which, though small, is one of the richest-flavoured Strawberries grown. *La Grosse forcea* well, and produces fine fruit, but the flavour is not first-class. *Royal Sovereign*, a new variety, is an excellent forcer, and will become a favourite in time. President is not grown to such an extent in pots as formerly—it is, however, a useful variety, to follow the earlier ones. Where there is accommodation, a few hundreds of *British Queen* should be grown in pots, as these brought on slowly produce as fine fruit of the richest flavour about the same date as, and are preferred to, the first earlies growing on warm borders out of doors. *James Veitch* and *Auguste Nicaise* are varieties which produce fruit of large size when grown in pots, if not forced too early, and they receive plenty of ventilation.

PLANTS UNDER GLASS.

By W. H. SMITH, Gardener, West Dean Park, Chichester.

TABLE PLANTS.—Small plants of various species for the decoration of the dinner-table, where this kind of thing is largely carried out, must not be neglected at this season, for it is now more easy to find suitable houses for them than at some other seasons. The present is also a suitable season for propagating and preparing some of them for next winter. *Palma* deservedly rank high as table plants, and some of the best are *Geonoma gracilis*, *Cocca Weddelliana*, and *Areca Verschaffelti*. These should be kept in pairs in pots of various sizes, especially 60's. They do well in sandy loam in well-drained deepish pots. Crotons of telling candle-light colour may have the tips of well-coloured shoots cut off and struck singly in small pots. Suckers of *Pandanus Veitchii* may be detached and potted in sandy loam and peat. Ferns, in variety from spores, when potted up, are always useful decorative stuff. *Dracæna Cooperi*, *D. Guilfoylei*, *D. angustifolia*, *D. terminalis*, and *D. hybrida*; *Aralia Veitchi*, *A. V. gracillima*, *A. elegantissima*, *Casuarina ericoideae*, a particularly light and graceful plant, will also be found of service. Of flowering plants that may be grown on to the flowering stage in 60's are *Begonia*, *Gloire de Sceaux*, *Gloire de Lorraine*, *John Neal*, *Winter Gem*, and *Adonis*. Gesneras in variety should not be forgotten.

LILIUMS.—These plants will require to be top-dressed with rich loam, or loam, leaf-soil, and dry cow-dung, placing this well up and about the stem. They will also require to be plentifully supplied with root-moisture, and occasionally with manure-water, say, twice a week. Place a stout stick to each stem, and on the first appearance of "fly" fumigate the plants. If a few of these are placed out-of-doors, the flowering season will be much lengthened.

CHRYSANTHEMUMS.—In case the final potting has not been done, no time should now be lost in getting the plants potted. Those which were cut

down early in June will have now grown sufficiently for the gardener to distinguish which of the shoots may be left, and which rubbed off; about six shoots should be reserved; pot these last plants in 9 inch pots, and stand them on a bed of coal-ashes in full sunshine. Plants intended for the production of large flowers should be secured to stout stakes, or horizontally stretched lengths of wire placed a good distance apart. If posts or iron rods are driven into the ground about 15 feet apart, with a wire strand along the top, the *Chrysanthemum* stakes can be tied to this, and injury by the wind effectually prevented.

SOUVENIR DE LA MALMAISON CARNATION.

The young plants of this variety, if they were layered as advised on p. 653 of the last volume, will now be ready for potting into 60 pots. Much care will be required in separating the layers from the mother plants, or many of the roots will be broken off. Pot them rather firmly in a compost of loam, peat, leaf soil, and sand, place them in a cold frame, and keep rather close and lightly shaded till they have pushed roots into the new soil. Continue to layer shoots as the plants finish flowering, but reserve as many as may be required for potting on into large pots for early work.

THE HARDY FRUIT GARDEN.

By W. POPE, Gardener, Highclere Castle, Newbury.

PEACHES AND NECTARINES.—The thinning of Peaches and Nectarines should now be completed. Continue to stop sub-lateral shoots at one leaf, and secure the young wood by tying or nailing it as growth advances, so as to afford the fruit the full benefit of air and sunshine. Syringe the trees frequently, to prevent red-spider finding a lodgment; an insect apt to be very troublesome under fixed glass coverings, especially if the trees do not get a sufficiency of water at the roots. Occasional soakings of sewage or other liquid-manure will be of great benefit now that the fruit is swelling, but it must not be applied too strong, nor yet in driblets.

STRAWBERRY PLANTATIONS.—As soon as the fruit is gathered from Strawberry plantations, cut off all runners not wanted for increase, together with old leaves, &c., and clear away all straw and other mulching material at the same time. The surface-soil should be loosened by hoeing, and if a mulching of rotten manure can be applied afterwards, it will be of great benefit to the plants, in strengthening and plumping up the crowns for another season. If the beds are to be destroyed, do this without delay, so that the ground may be utilised for winter crops of Broccoli, for which it is generally suitable without any special preparation. Three years, or at most four, is a sufficiently long time to allow Strawberries to remain on the same ground. After the third year, as a rule, the fruits deteriorate very much in size, and consequently in weight. If runners are to be layered in pots for new plantations, they should be layered at once, or if not convenient to do this on the ground, very good results may be obtained by taking runners that may have slightly rooted into the ground, potting into large thumbs or small 60 sized pots, and putting them at once into a frame; when by keeping them close after watering, and slightly shading for a few days, they will soon begin rooting freely, and may be gradually hardened off and planted as required; such plants answer perfectly for mid-season and late forcing if taken in good time. When rooted runners are received by post or otherwise from a distance, they should be treated in the same manner, for if ever so well-rooted they rarely make a satisfactory start when planted out without preparation. If any plants are to remain in the nursery beds throughout the winter to be planted out in the spring, they may be allowed to root into the soil between the rows. Take them up with a trowel when rooted, and plant in rows a foot apart, and 6 inches from plant to plant. Water well, and shade slightly for a day or two after planting.

HEDYSARUM MULTIJUGUM.—Numerous correspondents have written to confirm our doubt as to the identity of the plant sent from the Cambridge Botanic Garden under the above name, and figured in our last issue. Messrs. BARBER & SONS obligingly send specimens corresponding with the figure in the *Gartenflora*. We will endeavour in a subsequent issue to ascertain the true state of the case.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

Letters for Publication.—All communications intended for publication, as well as specimens and plants for naming, should be addressed to the Editor, 41, Wellington Street, Covent Garden, London. Communications should be WRITTEN ON ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETING.

SATURDAY, JULY 13—Royal Botanic Society.

SHOWS.

SATURDAY, JULY 13 { Wood Green Horticultural, Galashields Horticultural.
WEDNESDAY, JULY 17 { National Rose Society, at Derby; Waterford Horticultural.
THURSDAY, JULY 18 { Halifax Rose, Canterbury (Keat) Hospital Fête.

SALES.

TUESDAY, JULY 16 { Imported Orchids, from Messrs. Hugh Low & Co., at Protheroe & Morris' Rooms.
FRIDAY, JULY 19 { Imported and Established Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—63°.4.

THE first of the three exhibitions of the National Rose Society was an unqualified success. For many years the National held two exhibitions, one metropolitan and the other provincial. A few years ago, however, an attempt was made to hold an earlier show of Teas and Noisettes in connection with the Royal Horticultural Society at the Drill Hall, as it was urged that the best blooms of these classes were past before the Crystal Palace show came on. The attempt was not a very successful one, and it was ultimately determined to supersede it, and to have three general exhibitions—Metropolitan, Northern, and Southern. Previous to this, Gloucester had asked for the provincial show to be held there, and the request had been acceded to. But then came the tempting request from Windsor to hold the first southern show there; and the fact that the show was to be patronised by Royalty, induced the committee to ask Gloucester to waive its claims for another year. It was, perhaps, an advantage to them that they did so; it gave all concerned more time for maturing their plans. The place was convenient, the tent an admirable one, while the courtesy and kindness of the secretary, and the hospitality of the Mayor and officers of the local Society, made everything move with the utmost harmony.

There are two classes of persons who visit exhibitions of this kind, those who are captivated by the brilliancy of the show who are perhaps ignorant of its real character, and therefore view it with an uncritical eye; to them the Roses are perfection, and they cannot understand how any fault can be found with them. There are those, on the other hand, who are hardened, so to speak, by the exhibiting of twenty years or more, and whose judgment is not influenced by what first meets the eye, but by a comparison with the results of former

years; they may be at times exacting, as when someone says that is the finest bloom of Horace Vernet that ever was seen, they quietly add "but don't you think the colour is a little gone?" Beautiful and bright as the Roses were on this occasion, they were perhaps somewhat wanting in size and solidity. There were no exceptionally grand blooms, and when one considers the terrible winter through which Rose growers have passed, and the long drought of the last two months which has so disappointed the hopes of gardeners and farmers, it is marvellous that on such a day blooms of such freshness could have been shown, more especially when they have had, as in many instances, to make a night journey on such a close and sultry night as that which preceded the show.

There has seldom been a more close contest than that which took place for the 5-guinea cup presented by the High Sheriff of Gloucester; and when ultimately the prize fell to Rev. J. H. PEMBERTON, no doubt could exist but that it was a hard fought and well won victory. The details of the fight were given in our last issue.

In such a season it was not at all likely that blooms of surpassing excellence should be seen, none concerning which you would say to a brother rosarian, "Have you seen Smith's splendid bloom of Marie Baumann, or Jones' grand Catherine Mermet?" and hence it happens that peculiar interest attached to the selection that would be made for the best bloom in the respective classes. Now, it very often happens that in the great race of the Derby the favourite on whom long odds have been laid are nowhere, while an outsider carries off the coveted prize. Last year at the Crystal Palace, for instance, Marguerite Bodet carried off the silver medal in the amateur's class for Dr. BUDD, and this year an equally little-known rose did the same for Messrs. HARKNESS in the nurseryman's class, for few people have heard of the Rose in question, Comtesse Ludre; this is a bright carmine red Rose, which was sent out by EUGÈNE VERDIER fifteen years ago, but has never, so far as we know, been exhibited before, and yet although there were fine Roses of well-known varieties, the coveted prize was awarded to it.

The curiosity which is always active as to new Roses was not destined to be gratified at Gloucester; there were no seedlings exhibited for competition for the gold medal for the best seedling, and amongst new Roses already in commerce there was hardly anything that merited special notice.

A beautiful yellow Rose was exhibited by Messrs. JEFFERIES & SONS, of Cirencester. It is a seedling between Cloth of Gold and Maréchal Niel, a beautiful soft yellow with good glossy foliage, and stout foot-stalk, more resembling Cloth of Gold than Maréchal Niel. The severe winter of last year tried it very much, but it is to be hoped that the raiser may be able to bring it forward at some later show; it is of rampant habit, and should it fulfil its present promise will be a valuable addition to what are called our climbing Roses.

Whatever interest may be taken in other exhibitions of Rose Societies throughout the country, there can be little question that they are all eclipsed by that taken in the great Metropolitan show held by the National Society at the Crystal Palace. Whatever doubts may have existed as to the suggestions by which amateur exhibits were regulated by the number of plants grown, it is unquestionable that though it may not have realized what some expected, it has given a stimulus to Rose exhibitions.

Everyone must have been struck by the immense improvements which have taken place in the arrangement of the show under the direction of the Garden Superintendent, Mr. W. G. HEAD. Instead of the long formal line of boxes stretching from end to end of the transept, the exhibition was broken up into groups containing a few classes, and this, as the boxes were mingled with growing plants, not only gave a pleasanter aspect to the exhibition, but also enabled visitors to move about more freely, so that it was possible at any time during the afternoon to get a sight of the flowers.

Conjectures, anticipations, and opinions have been freely indulged in, and as usual some of these were right and some wrong; thus, it was generally thought that it would not be a first-rate exhibition, and this, we think, notwithstanding the fine blooms exhibited by some growers, was the true state of the case. The flowers in most instances lacked substance, and, consequently, staying powers, those that were grown on heavy soils standing best. It was also expected that, owing to the character of the season, the northern growers would stand the best chance. It will be seen that this was not the case, the chief prizes both in the nurserymen and amateur classes going to southern growers. In comparing it with the exhibition held at Gloucester, the verdict we think would be that the Teas and Noisettes were better at the provincial exhibition, and the hybrid perpetuals at the metropolitan. As happens most times at a great show, the amateurs are fully abreast of the nurserymen in the excellence of their exhibits, and in fact the stand of Mr. LINDSELL's, in the Trophy Class, would, if there had been such a prize, have been awarded that for the best box in the show; it contained some grand blooms, the colour and freshness of which at such a season as the present were remarkable. It contained, moreover, a flower to which the Silver Medal of the National Rose Society for the best hybrid perpetual in the amateur classes was awarded; and it is somewhat remarkable that the award for the same prize in the nurseryman's class was given to the same flower in Mr. B. R. CANT's stand. No outsider this time came in to carry off the honours, and it is tolerably clear from the number of blooms exhibited and their excellence wherever shown, it must be regarded as "Her Majesty's" year. One could have anticipated that it would have been just the year for Comtesse de Nadsillac, but it was not so; very few good blooms of it were staged as far as we could see, and the Tea Rose which seems to have come out most conspicuously was Madame Cusin; for whenever shown, it had a richness of colour quite exceptional, and indeed, in one instance, where one of our most experienced growers had cut a grand bloom of it for his box, he would not allow it to be staged, because he considered it out of character.

It was anticipated that garden Roses would be somewhat deficient, and this proved to be the case. A most beautiful collection which won the first prize, came from Bath, and another from Dundee. In the same way, new Roses were not plentiful, and of these none of those from abroad seemed to attract any attention; neither was there anything very striking in the absolutely new Roses, namely, those which are not in commerce, and were exhibited for the National Rose Society's Gold Medal. None of them was adjudged worthy of the Gold Medal. The two exhibited by Messrs. DICKSON (one very similar to The Bride and another a pink rose), were highly commended; Messrs. COOLINGS'

Bladna is a large Rose, very full, somewhat in the style of Merveille de Lyon, but higher in the centre, but the texture of the petals was somewhat thin; this may have been owing in some measure to the season. Mr. WILL TAY-

and East Anglia has claimed the palm in the contest; rarely has greater pleasure been displayed among all classes of Rose growers and Rose exhibitors than when it was announced that the old warrior, Mr. BEN CANT had again

Mr. F. B. LINDSELL carried off the Challenge Trophy with a box of blooms, which, as has already been said, might be justly termed the best in the exhibition. Mr. O. G. ORPEN, from Colchester, carried off the Tea Trophy



FIG. 8.—CATASETUM TABULARE, variety RHINOPHORUM: COLOURS GREENISH-BROWN. (SEE P. 44.)

lor's was a high-coloured Rose, very sweet and promising, but unfortunately he had not complied with the schedule, thus the two exhibitions of the National Rose Society have passed without any additions to our Gold Medal Roses.

With regard to the chief honours of the day, they have followed, as far as nurserymen are concerned, the course of the last couple of years,

carried off the Trophy, together with the Gold Medal that accompanied it; while, as we have already said, the best blooms of H.P. was found in his box, for which he gained the Silver Medal. Mr. FRANK CANT's flowers were also exceedingly good, while Messrs. PRIOR & SON showed that they were determined to hold the place they had of late years aspired to. In the amateur classes,

as well as other pieces of plate. There were upwards of 100 exhibitors from all parts of the kingdom, and this it must be remembered is a very different thing from an exhibition of Chrysanthemums or Dahlias—you may stage both of these the day before in the stands in which they are to be exhibited, and the probability is, that unless some extraordinary mishap overtakes them, they

will be exhibited as they left their owners' garden; but not so the Rose, the long railway journey, or hot nights, may shatter half his blooms, and consequently he must bring with him a box of what he calls "spares," often containing twice the number that he actually requires, and with which he can replenish his boxes on the morning of the show. It is this enthusiasm which tends to keep the National Rose Society alive, and every year to extend its operations.

CATASETUM TABULARE, Lindl., VAR. RHINOPHORUM, Rehb. f.—The species is one of the most interesting of the curious genus *Catasetum*, and the interest in its curiously-constructed flowers is still further heightened by their extreme variability both in form and colour. The type was described by LINDLEY in 1840, and since that several distinct varieties have been recorded by the late Professor REICHENBACH in the columns of the *Gardeners' Chronicle*, three of the most distinct being one with greenish flowers, slightly blotched with light purple-brown; *C. t. brachyglossum*, which has a shorter lip and much broader callus than the type; and *C. t. rhinophorum* (described in the *Gardeners' Chronicle*, p. 358, Sept. 18, 1880), of which the author says, "the whole surface of the callus is broken in innumerable, irregular, transverse-toothed lamellæ, of white colour, with spots of 'burnt sienna,' thus making one think of a file—hence the name." The striking feature in *Catasetum tabulare* is the broad, fleshy table-like callus which occupies the greater part of the lip, the toothed or bristled margin of which is turned up around the raised table, thus forming a gallery which traverses how he may lead the insect promener to the setæ, which spring and release the pollinia. The colour of the large raised callus is usually white, and its surface is generally smooth, but in the instance illustrated it is rough and like the other parts of the flowers spotted with red-brown of various shades. The *Catasetums* are fast increasing in favour in Orchid collections, and as a consequence their habits and requirements are more closely observed than formerly, and their culture is now considered simple, if they be treated like other Orchids which lose their leaves and require a drier and cooler situation during the resting season. The plant from which our illustration (fig. 8) was taken was exhibited by Messrs. J. VEITCH & SONS, Royal Exotic Nursery, Chelsea, on June 25 last, at a meeting of the Royal Horticultural Society.

BLANCHING.—The announcement that Mr. FRANCIS DARWIN was to lecture at the Royal Horticultural Society aroused much interest. Mr. DARWIN was associated with his father in carrying out many of those experiments which have proved so stimulating and suggestive. On this occasion he chose for his subject the changes in form and structure connected with blanching or etiolation, and he showed that these changes are not to be considered of a pathological nature, but are the result of adaptation to adverse circumstances. The lecture was very clear and conclusive, but more fitted for the Scientific Committee than for the miscellaneous groups that constitute the "3 o'clock meeting." The publication of the lecture in the *Journal* will be awaited with interest.

THE ROYAL GARDENERS' ORPHAN FUND.—The usual Rose Fair in aid of the Royal Gardeners Orphan Fund, was held in connection with the Croydon Horticultural Society's show on Wednesday, July 3, and the amount taken for the sale of flowers was £7 16s 0d. Among the contributors of blooms were Messrs. F. SANDER & Co., HUGH LOW & Co., LAING & SONS, B. CANT, T. B. HAYWOOD, H. V. MACHIN, M. HODGSON, E. M. BETHUNE, W. MEASE, C. J. SALTER, J. SLATER, C. LANE, and R-v. J. H. PEMBERTON. Mrs. W. GUNNER again kindly undertook the sale of the flowers.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.—The Worshipful Company of Skinners have

given a donation of £10 10s. to the funds of the Gardeners' Royal Benevolent Institution.

"DICTIONNAIRE PRATIQUE D'HORTICULTURE ET DE JARDINAGE.—The French translation by M. MOTTEZ of what has come to be known as *Nicholson's Dictionary*, has now reached its 39th part, which brings the work up to the letters Met. The translator has added to the original text, and enhanced its value. Additional illustrations are also applied.

STOCK-TAKING: JUNE.—Every day's experience in the matter of stock-taking tends to convince us that POPE, in his "Essay on Man," hit the mark when he wrote "Man never is, but always to be blest," for have we not been looking forward, not to a rash, but to a gradual rise in the values of both imports and exports—and have we not been doomed to a partial disappointment? All was going on nicely, when on came the Whitsun holidays and a parliamentary dislocation, and over go our calculations. But the fall this month is not a very large one, £345,095, or about 1 per cent. as compared with the Returns for June, 1894. Here is our usual extract from the Summary of Imports:

IMPORTS.	1894.	1895.	Difference.
	£	£	£
Total value of imports	34,229,679	33,884,584	-345,095
(A.) Articles of food and drink—duty free	13,414,987	12,585,318	-829,669
(B.) Articles of food and drink—dutiable	1,439,023	1,551,788	+112,765
Raw materials for textile manufactures	4,390,045	5,219,880	+829,835
Raw materials for sundry industries and manufactures ...	4,362,931	3,676,176	-686,755
(A.) Miscellaneous articles	1,110,635	1,213,218	+102,583
(B.) Parcel Post	96,893	70,371	-26,435

Wheat has increased by 334 240 cwt. over June last year, but this has had no effect on the price of the loaf other than to raise it: the price of Wheat on the market has gone up some 6s. in about as many weeks, and it would be interesting to note what the changes (and charges) have been during the past hundred years, but space will not permit. Tea shows a rise of £79,000, and £95,000 in coffee; spirits have gone down by £60,000. Other food supplies fell off some £830,000. Oats gained £144,000 from Russia; cheese shows a reduction—though the arrivals from Australia have nearly doubled. Butter from Australasia has gone down in quantity—also from France and Denmark. Timber shows a reduction of £780,000—last year's imports for the same period being exceptionally heavy. Textile materials were £30,000 over June, 1894; cotton went up £293,490; while flax increased by £266,405; wool went up £170,000. Manufactured articles, mainly silk stuffs from France, show an increase of £233,153—but leather and woollen manufactures foot up for about a third. Fruits, &c., now claim attention, and here is our usual excerpt:—

IMPORTS.	1894.	1895.	Difference.
Fruits, raw:—			
Apples bush.	38,196	50,556	+12,360
Cherries "	193,231	115,670	-77,561
Plums "	3,731	4,660	+929
Pears "	157	13	-144
Grapes "	4,036	3,035	-1,001
Unenumerated	245,697	155,451	-90,246
Onions "	328,548	318,021	-10,527
Potatoes cwt.	1,253,263	954,735	-301,528
Vegetables, raw, unenumerated value	£ 170,550	£ 199,746	£ 29,196

Some of these figures are well worth noting. To pass, it may now be agreed that the new Manchester market is a success; in one day 300 tons of foreign fruit were put up to auction, sold, and despatched to their final destination by rail. A few days since the same work

was done with some 14,000 packages of fruit, and we are informed that a new line of steamers—the Guelph—will be placed on the Australasian line, for the carriage of agricultural produce to Manchester.

THE EXPORTS

foot up at £17,800,100—a decrease of £109,055. Under the head of "manufactured articles," there is a gain of £485,000, of which £333,000 is due to arms and ammunition. Metals went down £245,721, telegraph-wire figuring for nearly all this amount. Cotton goods fell off considerably, but linens went up—America also buying largely in the woollen and worsted department. Coals fell off to the amount of £123,729. Manure fell away to the value of nearly £75,106. The exports for the six months show a loss of £106,117,516—the decrease being £765,959. We can only hope for improvement in our next report.

"THE BOTANICAL MAGAZINE" for the present month contains descriptions and coloured figures of the following plants:—

Senecio Huaitata, Bertero, t. 7422.—A noble *Senecio* from temperate Chili and Argentina. It is a tall herbaceous plant, with bold cordate-oblong leaves, somewhat woolly and a branching inflorescence, bearing numerous cream-coloured flower-heads, each about 1 inch in diameter. It is hardy at Kew, and flowered in that establishment in June last. It is allied to *S. sagittifolia*, already figured; the specific name is an adaptation of the appellation generally given to the plant by the Chilians.

Pyrus Cratægifolia Targioni, Tozzetti, t. 7423.—An Italian species, having more the appearance of a *Cratægus* than of a *Pyrus*. The leaves are like those of *P. torminalis*, but the inflorescence is lax, and the pedicels long and slender. Kew.

Aristolochia unguifolia, Masters, t. 7424.—A curious Bornean species, figured in these pages, 1880, vol. ii., p. 116, fig. 28.

Newwiedia Griffithii, Reichenbach, t. 7425.—A highly interesting plant, linking Orchids to Irids. The leaves are plicate, and the numerous white flowers borne in long erect dense spikes.

Rubus lasiostylus, Focke, t. 7426.—A Chinese species with pinnate leaves, snowy-white beneath, the nerves being of a pink colour. The flowers are in loose cymes, each about 1 inch in diameter purplish. Hardy at Kew.

MESSRS. W. P. LAIRD & SINCLAIR.—The annual outing of the employés of this well-known firm of nurserymen at Dundee, was held at Glamis Castle, on Wednesday, 3rd inst., a very enjoyable day being spent.

EALING HORTICULTURAL SOCIETY.—The annual show of this Society took place on the 3rd inst., in the beautiful grounds of Gannorsbury Park. The number of exhibits was not so large as usual—in fact, the shows of this Society do not compare favourably for some reason with its earlier exhibitions. In the principal class for a group of plants arranged for effect, the successful exhibitors were Mr. W. Roberts, gardener to J. Harrie, Esq., Braemar; and Mr. Long, gardener to E. P. Oakshott, Esq., Orchard Dene. For twenty-four distinct varieties of cut Roses, the 1st prize (only entry) was awarded to Mr. C. Turner, Slough. A good competition resulted in the prizes offered for eighteen Roses (not fewer than twelve varieties); 1st, Gold Medal of the National Rose Society, Mr. Edwards, gr. to W. Owen, Esq.; 2nd, Silver-gilt Medal, National Rose Society, Mr. C. Long; 3rd, Silver Medal, National Rose Society, Mrs. Bosey; 4th, Bronze Medal of National Rose Society, Mr. S. Lowe. An excellent display of garden produce was made by the cottagers of the district.

PRACTICAL GARDENING IN EGYPT.—Mr. WALTER DRAPER has been giving a course of lectures at Ramleh on this subject. The lectures treated of the following matters: Botanical classification of plants, climate and soil, trees and Palms, arrangement of a garden, the planting of shrubberies and borders, lawns and flower-beds, climbing plants, plants for windy and sheltered positions, Roses.

annuals, hedges, conservatories, specimen isolated plants, water-gardening and aquatics, potting, bulbs, Chrysanthemums, Cactus and succulents, garden economic plants, Vines, fruit-trees, pruning, grafting, and propagating. Mr. DRAPER, who is an old Kewite, has been appointed director of the government gardens at the Barrage, near Cairo. A book on *Gardening in Egypt* may shortly be expected from Mr. DRAPER'S pen.

ORCHID HYBRIDS.—We learn that Mr. HANSEN'S complete list of Orchid hybrids is in the press, and will shortly be issued.

THE COTTON PLANT is losing its popularity as a "safe investment" in the very heart of the cotton-growing States of America. Time was—some forty years since—such an assertion would have been laughed at. "You cannot do without American cotton" was the article of faith set up by growers and brokers on the other side of the Atlantic; starvation in Lancashire during the cotton famine shook the belief in many minds, and alterations in spinning and weaving machinery brought under subjection cottons of short staple; planters and capitalists took up the cultivation of the plant; and to-day, Lancashire is no longer dominated by New Orleans or New York. But planters in the Southern States kept on; and in the face of a steady fall in prices, opened up all over the world a market for cotton seed, cotton oil, and cotton cake. Of course, the same products can be placed on the market wherever cotton is grown, and capital can be utilised. Should it be desired to learn where cotton is grown at the present time, the intelligence can be had from the "market" columns recording sales in any daily paper any morning in the week. And it has come to pass, that it has been determined to reduce considerably the growth of cotton in America. The result of the special investigation set on foot by the Federal Government's Agricultural Department in 720 Cotton-growing counties in the United States shows that in eighty-eight there will be little or no change in acreage as compared with 1894; five report an increase up to 10 per cent.; two, an increase of from 11 to 20 per cent.; three an increase of from 21 to 30 per cent.; and three an increase of over 30 per cent.; 127 show a decrease of 10 per cent. and less; 250 a decrease of from 11 to 20 per cent.; 158 a decrease of from 21 to 30 per cent.; forty-four a decrease of from 31 to 40 per cent.; seven a decrease of from 41 to 50; and thirty-three a decrease of more than half. This decrease in acreage is not confined to any particular locality, but covers a widespread territory, embracing almost the entire area devoted to Cotton culture. The extraordinary low price of the staple gave rise to the agitation as to the necessity for reducing the acreage in 1895; this resulted in a convention this year, and a rise in prices is hoped for. Doubtless, much may be done in improving the varieties now grown, and so placing on the market the highest class of raw material. Meanwhile, the above noted facts are surely well worth record.

PELARGONIUM SPORT.—Mr. WALKER, of Wellfield, Leyland, sends us a truss of a very pretty flesh-coloured or rosy-pink variety of Pelargonium, which originated as a sport from "Mr. Povia." The flowers are very double, so that the sport seems well deserving of propagation.

THE INTERNATIONAL FRUIT, WINE AND VEGETABLE EXHIBITION AT BERLIN.—This exhibition, as we learn from an official announcement, which is to form a part of the more permanent one of the National Hygienic Society, will remain open to the public from July 1 to some date in September. It will be held in the old Reichstag buildings, which have been lent by the Prussian State Government for the purpose. The exhibition has created very general interest both in Germany and other countries. It will not be of the usual kind, as may be gathered from the programme, which furthers neither the interests of the producer nor of the consumer. On the contrary, it is intended to establish a well-

organised agency, whereby producer, and seller, and the wholesale buyer will be brought together to their mutual benefit, and that of the German people. An addition is made to Rule 13, which will make it possible for a visitor to the exhibition to take out the value of his entrance money in exhibited articles, by which it is hoped that the number of visitors may be increased at the same time that the exhibitor will be enabled to sell his goods more freely. Articles which are perishable, and which have not been sold by the exhibitor, will be sold regularly at public auction, for the benefit of the latter. The exhibition will serve, not only as a means of disposing of goods according to sample, but also as a market where the finer sorts of vegetables, Grapes, and conserved goods, wine, &c., can be ordered from the producers, and the carriage of the same by railway or post arranged for. Prospectuses and forms of application will be sent, post-free, from the office of the International Hygienic Exhibition, Berlin, W. Leipzigerstrasse, 4, upon application.

OXFORD UNIVERSITY: MATHEMATICAL HONOURS.—Many of our readers will be pleased to hear that Mr. J. HUDSON'S son has just passed the final public examination (Greats), taking first-class honours, thus repeating his success of 1893, when he took first-class honours in the first public examination (Mods.). He proceeded to his B.A. degree on Saturday last. He holds a scholarship at Jesus College, the said scholarship being renewed for another year, in order that he may take science as an additional subject.

JOHN WILLS.—As we go to press, we hear with great regret of the death of this prominent horticulturist on the 9th inst. Mr. WILLS was in his 61th year, and had been suffering from illness for a long period. In our next issue we shall allude more at length to his work in horticulture.

CAUTION.—The following letter tells its own tale:—Dear Mr. CANNELL, There is a rascal going about representing that he travels for you, and is selling to the unsuspecting people awful rubbish. He called here, of course after I had gone to town, and persuaded my wife to buy some wonderful Carnations, &c. The enclosed is the result, and they are all the same. It is rather clever to get a lot of labels printed, and then state that he represents a man so well known as yourself. H. P. B., Solicitor." One of the labels reads "Malmation, silvery edge Clove," the other "Turner's Masterpiece." The specimen enclosed was valueless.

PLANT PORTRAITS.

- AMORPHA CANESCENS, *Mehans' Monthly*, June.
- CANNAS.—1, SARAH HILL, red self; 2, MAURICE MUSSEY, orange-pink self, *Garden*, June 22.
- DENDROBIUM NOBILE NODILUS, *Illustration Horticole*, June 30.
- DIPLODENIA ATRO-PURPUREA, *Illustration Horticole*, t. 33.
- HUERNIA MAROCARPA, Schwernfurth, *Gartenflora*, July 1, t. 1418.
- LOTUS PELLORRHYNUS, *Revue Horticole*, July.
- LUPINUS ARDORUS, *Garden*, June 8.
- RUBEBGIA MAXIMA, R. PINNATA, *Garden*, June 15.
- SYRINGA VULGARIS MADAME LEMOINE, double white, *Revue de l'Horticulture Belge*, July 1.
- THUNBERGIA GRANDIFLORA, *Illustration Horticole*, t. 32.

HOME CORRESPONDENCE.

THE SLEEPY DISEASE OF TOMATOS.—Due prominence has been given in your leading columns to the prevalence of the so-called "sleepy disease" in Tomatos, and to the cause thereof. I am a grower of this fruit for market of near upon a quarter of a century's experience, and my daily occupation from early morn till darkness sets in is amongst the plants; I therefore claim to have some little practical knowledge of that particular crop. Moreover, I have been sorely troubled and annoyed with the "sleepy disease" in question, hence the article ament the same interested me greatly. For the past eighteen months I have visited many gardens, collected information

by means of the local press, and experimented with a view of finding out the cause of this mysterious disease, and at last I venture to think I have solved the problem—at least in my particular case—though I may say not in the direction of that set forth by your correspondent in the article on the subject in question. I have no hesitation in saying that this disease is not in all cases due to the fungus *Fusarium lycopersici*, or any other of that nature. I certainly do believe that if such did really exist in the soil the plants would go sleepy, but in my case after several minnte examinations last year of every part of the roots, as also the soil, I came to the conclusion that fungus was not at the bottom of it. Moreover, there is no discoloration of the leaves or stem, no "delicate white bloom;" after a time, in fact, with the exception of the drooping of the leaves, the characteristics are dissimilar to that described in the said article. With a view of showing that fungi were not present in the instances which have come under my notice, I will just state that, say two plants planted in a box or pot, one will go off, and the other remain healthy and fruitful to the last. As recently as last week a large plant in a box with fruit of half size showed signs of drooping; it was at once pulled up. The soil was worked up, no fresh soil being added, and two young healthy plants put in. A few days after, the surface was covered with white rootlets. This is but one instance, as I have had many such, though I generally use fresh soil; but after reading your article, I thought I would test it, and prove conclusively whether the soil was at fault or not. Well, I really and fully believe that no more of this sleepy disease will ever trouble me, and to prove the same, I have with my own hands, and on the system which I will a little later on make public, planted a late 90-foot house with 300 plants as an experiment. They are now swelling their first trusses, and if no plants flag or droop by September 1, I shall have the satisfaction of knowing that the investigations I have made have not been in vain. I should say that the house that I have planted had many cases of this "sleepy disease" last year, and the soil is the same, so this will be a sure test of the fungus theory. P. F. *Le Sueur, Grand Vale, Jersey, June 23.*

HYBRID POPPIES.—In the *Gardeners' Chronicle* for June 15, Mr. W. Wilks says he does not believe there has been a true hybrid between a perennial and an annual Poppy. Like him, I have been trying to cross Poppies, and I have succeeded in crossing the double-flowered annual Poppy with the orange nudicaule Poppy, which is a perennial. The double-flowered annual variety was the seed-bearing plant, and I have about twenty seedlings, but only one has come with foliage and habit very much like nudicaule, and that only has flowered; the flower is the same shape as nudicaule, but a brick-dust red, quite distinct from nudicaule. The foliage has the glaucous shade, but not so much as the annual Poppy. The other seedlings which resemble the annual are not yet in flower, but they will open in a few days; they are only about 9 inches high, and I do not think that they will grow any higher, although they might do so another season, as they have only received two waterings this season, and no rain has fallen here since the end of March. As I have been crossing flowers and vegetables for several years, I have a fair idea of what a true cross should be. J. Lansdell.

CELOGYNE CRISTATA IN A WIRE BASKET.—I enclose herewith a photograph of *Cœlogyne cristata* grown in the conservatory of E. Wells, Esq., Wallingford, which will serve to show how admirably adapted this popular Orchid is for cultivation in wire baskets, and as a hanging plant generally. This specimen has been two years in a 7-inch basket, and has borne over 300 blooms this year. Its ivory-white blossoms were most acceptable early in April and May, and as its cultivation presents no difficulties, the *Cœlogyne* is a most useful and attractive plant for suspending from the roof of a cool conservatory. *Arthur Cooper.* [An evidence of very successful culture. Ed.]

YOUNG GARDENERS AND WRITTEN CHARACTERS.—I think young men have one great grievance to contend with, and that is being compelled to leave a place without a character, when no reason can be given for refusing to give one. I do not think I can do better than state my own case, which will help to show what I mean. For the past fifteen months I have been employed as a journeyman at a certain place, and I have done my utmost to uphold the good testimonials which I have received from previous employers. This spring I decided on making

a move, and asked the head gardener if he would get me into a nursery. His answer was "No." Later on, upon my leaving the place, I asked him for a character, which he also refused to give me, with the result that I had to turn out, and I am now fifteen months to the bad. Now, what I wish to know is, if such a thing ought to be? I think it is scandalous that young gardeners should be so treated; and what is more trying to anyone than to know that after having done his duty, a "character" is denied him? If gardeners would only act up to the motto, "Do unto others as you would have them do unto you," it would save a great deal of needless misery, besides giving young men much needed encouragement. H. M. C.

TOO MANY PANSIES.—It has been said with some truth, that we have too many Pansies, and too few really good ones. I have just opened the catalogue of a noted Scotch florist, and I find it contains 344 show varieties, selfs, yellow grounds, and white grounds; and including ten new varieties offered this season for the first time, enumerates the enormous number of 434 fancy varieties. Really this is ample proof that there are too many Pansies. An examination of other catalogues would no doubt show that it would be possible to make up a list of 1000 assumed distinct varieties of Pansies. As to how many really good ones could be selected from the lists I cannot venture to say, and I think it is doubtful if any substantial advance has been made in English show Pansies during the last twenty years. The fact is, the show Pansy is so closely restricted to a few types that repetition is inevitable. In the case of the self, the colour should be as uniform as possible, whether dark yellow or primrose, or in the case of the white self, excepting the central blotch, the absence of colour. The dark selfs admit of considerable variation from the deepest velvety maroon and velvety black, through bright claret, crimson, pale claret, mulberry, purple, and shades of violet to the palest tint; the yellow selfs vary a little in colour, the primrose selfs less, the whites differ in purity. Of course, those who are intimate with the varieties see small differences which escape the eye of the casual observer; still, in such numbers there must be considerable resemblance. Thickness of texture, circularity, flatness, smoothness on the edge, and the density and symmetry of the blotch, are the leading qualities. In the case of the dark selfs where the blotch is not clearly defined, there is yet a small eye just above it, and the clearness and vividness of the eye imparts life and light to the flower. There is great refinement in a stand of twelve or twenty-four show Pansies when the blooms are approximately perfect, fresh, bright, even in size, displayed well on the stand, and arranged—selfs, yellow grounds and white grounds—so as to afford the most effective contrasts. Much art and cultivated taste can be displayed in setting up a stand of show Pansies in the best manner, more, perhaps, than in the case of any other exhibition florist's flower I am acquainted with. That the English show Pansy has greatly declined as a cultivated flower in the southern parts of the country is abundantly shown at the exhibition of the Pansy and Violet Society, for very few are seen there, and those exhibited are brought up by the northern and especially by the Scotch florists. Years ago Hammer Smith and other suburbs had their Pansy shows, and many grew for competition. There were no fancy Pansies in those days, and the Viola, as we now know it as a bedding plant, was undreamed of. Then came that baleful time—more than a generation ago—when a kind of disease infested the show Pansy, and made it in southern parts extremely difficult to cultivate the show Pansy for any purpose, and the area of cultivation became greatly circumscribed, till it has become largely a midland and northern flower. We want a revival of the show Pansy; whether the Pansy and Viola Society will bring it about remains to be seen. The advent of the fancy Pansy came at an opportune time. Having more tenacity of life, being more vigorous in growth, and harder in constitution, it soon won its way into popularity. Untrammelled by the divisions of type which fetter the show varieties, it admits of great variation in colour and combinations of colour; but size of flower, stoutness of texture, smoothness, circularity, harmony in and brilliancy of colours, are all qualities for which the raisers strive. But there is yet a great amount of similarity in a stand of twenty blooms of distinct varieties, though there is enough of variation to admit of sharply-defined distinctive lines, but yet not so assertive

and self evident as in the case of the show varieties. But a list of 500 so-called distinct varieties is somewhat appalling. One-fourth of this number would be more than ample, and yet addition is much more certain than reduction. It is now a good time to sow some seeds of Pansies for summer and autumn display. Though seed of fine strains of the show varieties is not plentiful, still, with due care, it can be procured. Strains of fine types of fancy varieties are more plentiful. Seed sown in pans or shallow boxes in light friable soil, soon germinate in a gentle warmth or when kept close in a cold frame. If pricked off into other boxes, the seedlings soon grow into size for planting out, and if carefully moved with some soil adhering to their roots, quickly establish themselves. One secret in successful Pansy and Viola growing during summer, is to have a layer of good manure a little way below the roots, and given appropriate soil and an open spot, the Pansy will stand a chance of being seen at its best. R. D.

ONIONS.—The growing of Onions to a large size is considered by some gardeners as a great achievement, although they are unanimous in stating that big bulbs are neither economical in the using, or long keepers. An Onion that measures 9 inches to 12 inches in circumference will remain longer in good condition than one of 15 to 16 inches, and the former will be less ready to start into growth in the spring. At the middle of May this year I had a fine lot of Onions hanging in a cool-house, which had been hard frozen for a period of two months. The Onions of globular form, viz. Ailsa Craig, Cranston's Excelsior, and Brown Globe, were good till the present month. To meet all wants, it is my practice to grow Potato-Onions and Shallots, and to plant a quantity of bulbs which are least likely to keep late, early in the spring, on land that is in the shade. By this means the supply of green Onions is kept up all through the early part of the summer, a matter of some importance when the autumn-sown Onions are injured or destroyed. I made a new departure this season in Onion sowing, when about the middle of March I found the ground frozen to a depth of 2 feet, except about 9 inches from the surface. I pricked up the land, and sowed the Onion seed in drills. It came up in first-rate fashion, the drills having been covered with spent Mushroom-bed manure, but not trodden at first. M. Temple, Carron, N.B.

NEW USES FOR JADDOO FIBRE.—Ferns of many kinds have proved to do so well in this soil, that its great lightness in weight points to its use as very desirable in covering the walls of ferneries behind wire-netting, and also to much lighter netting being then necessary. The rapidity with which seedling plants throw out their roots into this material suggests the expediency of wrapping a small quantity of it round such plants when they are being pricked out, especially in such very dry weather as we have had lately. W. T., Bishopsteignton.

OUR POULTRY.

BY HARRISON WEIR.

(Copyright.)

(Continued from vol. xvii., p. 764.)

The Indian Game, as a coloured fowl, comes next, as of much excellence for "table purposes." It is of the Malay type, but with much shorter legs, and of a more sturdy appearance, and is apt, like the Malay, to be rather inclined to rest on the hocks or heel, thus showing in some degree its past ancestry. The flesh is firm, short in fibre and in quantity, that on the breast being somewhat dry by comparison with the old English Game, and in some cases is somewhat hard, owing probably to the almost entire lack of fat on that portion of the body; which defect, for defect it is, is somewhat atoned by the excess on the back and the abdomen. The feathers are short, hard, and close, and of varied colouring, some being very dark, while others are of a bright intense red, spangled with black, with black and golden hackle; others are of a rich bay colour, each feather being what is termed doubly laced with black. This is considered by some to be the proper "exhibition" marking, though many, like myself, much prefer the old style of "pheasant spangle," which gives a far brighter appearance. As to length of limb, there is also a growing tendency towards the Malay type, which is

much to be regretted, the short legs and thighs being far preferable as a quality for a table fowl. As layers they are very inferior to most other fowls, and incorrigible "sitters." As "fighters" in the poultry-yard, they are only surpassed by the Game and Malays.

The Langshan as a table-fowl has high claims for recognition as one of the best of our table fowls; in fact, for an "all-round" variety, it is scarcely equalled, with the exception of its black legs. Otherwise it is good, and is gaining steadily in the estimation of the public. I am not alluding to the long-legged, gawky, flamingo-type of birds that is now affected—what are termed Langshan fanciers—but the shorter-legged and far more compact sort. These square-made birds are more hardy, less liable to leg weakness, are more fleshy, and arrive at maturity much earlier than their "storky" brethren, and are in every way more desirable.

The breast meat of the Langshan is of the whitest description, and of a rich and excellent flavour. When well selected, and compactness of form sought for and obtained, it is often preferred by some to the coarser kinds of Dorking.

They are excellent layers, of fair size, and of high colour, varying from a deep brown-chocolate to red, and red-tinted pink, and spotted with deep chocolate. Though not large, the number is often surprising, laying often, as they do, twenty or more consecutive days. They are good mothers, and the chickens are hardy and easily reared, the early hatches withstanding the cold far better than most fowls.

The black-coloured variety is the most common, though now there are whites and blues claiming public notice and favour.

(To be continued.)

TREES AND SHRUBS.

MAGNOLIA WATSONI.

This comparatively new hardy Magnolia has lately been in bloom at Gannarsbury. The leaves are glabrous, obovate-oblancoate, tapering at the base into a longish petiole. The flowers, which are produced with the leaves, are 5 inches across, of a delicate cream colour, the three outermost segments obovate, spoon-shaped, somewhat fleshy, and of dull rosy-pink colour. A figure is given in the *Gardeners' Chronicle*, vol. xvi. 1894 p. 189.

SOCIETIES.

NATIONAL ROSE.

JULY 6.—The great annual exhibition of the National Rose Society at the Crystal Palace was held on the above date. There have been many despondent forecasts this season as to the inferior quality likely to be exhibited at this show, owing to the exceptionally inclement season with which growers have had to contend. If the worst of these forecasts were not fulfilled—and we think they were not—at the same time, there was no doubt a falling off in the quality as compared with last year. The extreme frosts in February, about which we have talked so long, had a killing effect in many districts, and it was particularly unfortunate that such an abnormal visitation should be succeeded by a hot season and long drought. Nevertheless, there were many stands of excellent Roses at the Palace on Saturday last, and individual blooms quite worthy the Society's Silver Medals were easily found, but unlike the exhibition in the previous week at Gloucester, there were many indifferent collections as well.

NURSERYMEN'S CLASSES.

Seventy-two distinct Single Trusses.—There were five competitors for the coveted Trophy and Gold Medal which accompany the 1st prize in this most important class. Each competitor had placed a stand of blooms of the greatest excellence possible in such a season, and, albeit, there were inferior specimens in every collection; there nevertheless were numerous instances of good quality, and the two blooms

judged worthy of the Silver Medal were each found in this class, one of them in Mr. B. R. CANT'S collection, and the other in that from Mr. FRANK CANT. First-place was awarded to Mr. B. R. CANT, Colchester; and 2nd to Mr. FRANK CANT, also of Colchester, who held the trophy during the year just ended. The blooms in the 1st prize exhibit were—*Back row*: Her Majesty (Silver Medal), Suzanne-M. Rodocanachi, Lady Mary Fitzwilliam, Marie Baumann, Caroline Testout, Duke of Fife, Marchioness of Dufferin, Ulrich Brunner, Alfred Colomb, White Lady, Boildieu, E. Y. Teas, Souvenir d'un Ami, Maurice Bernardin, Marie Finger, Madame Crapetel, Mrs. Jno. Laing, Countess of Oxford, Madame de Watteville, Xavier Oliho, Heinrich Schultheiss, Earl of Dufferin, Duchesse de Morny, Gustave Pignanneau. *Centre row*: Marquise de Litta, Beauty of Waltham, Luciole (a pretty bloom, with attractive bronze shading, but difficult to obtain in such condition), Mrs. Sharman Crawford, La Boule d'Or, Madame Henri Periere, Chas. Lefebvre, Marchioness of Londonderry, Marie Verdier, Marchioness of Downshire, Dupuy Jamin, Innocente Pirola, Duke of Edinburgh, Sultan of Zanzibar, Madame G. Luizet, Victor Hugo, Jeannie Dickson, A. K. Williams, Maréchal Niel, Dr. Sewell, Catherine Mermet, Horace Vernet, Souvenir de S. A. Prince, Dr. Andry. *Front row*: Ethel Brownlow, Reynolds Hole, Merveille de Lyon, Etienne Levét, La France, Captain Hayward, La Fraicheur, Duke of Wellington, Madame Cusin, Jean Souper, The Bride, Alfred Dumesnil, Marie Van Houtte, Fisher Holmes, Ernest Metz, Crown Prince, Comtesse de Nadaillac, Camille Bernardin, Margaret Boudet, Duke of Connaught, Countess of Rosebery, Comte de Raimboud, Marguerite de St. Amand, and Prince Arthur.

Mr. FRANK CANT was only a few points behind. In his stand were good blooms of Comtesse de Nadaillac (Medal), Her Majesty, Gustave Pignanneau, Marie Baumann, Madame de Watteville, Corinna, Victor Hugo, Captain Hayward, Duke of Connaught, Mrs. Jno. Laing, Horace Vernet, Charles Gater, Duke of Albany, Alfred Colomb, Ethel Brownlow, and Earl of Dufferin; 3rd, Messrs. HARKNESS & SONS, Bedala, York.

Forty distinct varieties, three trusses of each.—The exhibits in this class made a capital display, and the blooms in the 1st prize stand from Mr. FRANK CANT were very bright and effective. Those which appeared especially good for grouping in trebles were Victor Hugo (excellent colour), Pride of Waltham, Suzanne-Marie Rodocanachi, Duke of Fife, Ulrich Brunner, Marie Verdier, Duke of Connaught, Marguerite de St. Amand, Innocente Pirola, Comte de Raimboud, Baroness Rothschild, Salamander, and Mrs. John Laing. Mr. B. R. CANT was 2nd, and we noticed in his collection very good trebles of Prince Arthur, Mrs. Sharman Crawford, Heinrich Schultheiss, Duchesse de Morny, Chas. Lefebvre, Marchioness of Dufferin, A. K. Williams, Her Majesty, Mrs. Jno. Laing, and Merveille de Lyon. The 3rd position was secured by Messrs. HARKNESS & SONS.

Forty-eight, distinct, single trusses.—Messrs. PRIOR & SONS, Colchester, were 1st, and their best blooms were Suzanne-Marie Rodocanachi, Duchesse de Morny, Abel Carrière, Star of Waltham, Marie Baumann, Marie Verdier, Gustave Pignanneau, Horace Vernet, Maréchal Niel, Mrs. John Laing, Countess of Oxford, Bruce Findlay, François Michelson, Annie Wood, Constantin Petriakoff, and Ernest Metz. Mr. HENRY MERRYWEATHER, Southwell, who was 2nd, showed good specimens of Gustave Pignanneau, Comtesse de Ludre, Fisher Holmes, Chas. Darwin, Mrs. Jno. Laing, General Jacqueminot. Messrs. J. BURRELL & CO., Howe House Nurseries, Cambridge, were 3rd.

Twenty-four distinct single trusses.—The quality in this class for twenty-four blooms reigned very high, especially in the exhibit from Mr. JNO. MATTOCK, New Headington, Oxford. Capital were the following:—Dupuy Jamin, Duke of Connaught, A. K. Williams (very pretty and bright), Gustave Pignanneau, Her Majesty, Horace Vernet, Charles Lefebvre, Comtesse de Nadaillac, Duke of Bedford, and Mrs. J. Laing. The 2nd prize lot came from Wales, and were exhibited by Mr. STEPHEN TRESDEMER, Pwllcoch Nursery, Cardiff. The blooms were rather small, but pretty and bright nevertheless; those most attractive were Duchesse de Morny, Alfred Colomb, Lady Helen Stewart, Countess of Rosebery, Duke of Connaught, and Exposition de Brie. 3rd, Messrs. TOWNSEND & SONS, Lower Broadheath, Worcester.

Twenty-four distinct varieties, three trusses of each.—Messrs. D. PRIOR & SONS, who were 1st, showed excellent trebles of Constantin Petriakoff, Mrs. J. Laing, Heinrich Schultheiss, Alfred Colomb, Fisher Holmes, Duchesse de Morny, A. K. Williams, Marie Verdier, Xavier Oliho, Jeannie Dickson, Marie Baumann, and Her Majesty. Messrs. TOWNSEND & SONS, Worcester, were 2nd; and Messrs. GEO. COOLING & SONS, Bath, 3rd.

Eighteen bunches, distinct, exhibits to be staged in vases or other receptacles, instead of boxes.—This was an interesting class, because it afforded a little variation from the usual boxes and flat method of showing, and gave a little opportunity to growers to exhibit in a more tasteful manner. Exhibitors were not limited in their choice of varieties, but the space for each collection was not to exceed 6 feet by 3 feet. Messrs. PAUL & SONS, Cheshunt, who were 1st, had a pretty group, the sprays of flowers bearing good healthy foliage, shown in vases. The varieties chosen were General Jacqueminot (H.P.), Etienne Levét (H.P.), Jeannie Dickson (H.P.), La France (H.T.), François Levét (H.P.), Mrs. Paul (Bourbon), Paul's Cheshunt Scarlet (H.P.), Abel Carrière (H.P.), Heinrich Schultheiss (H.P.), Bacchus (a new H.P.), Caroline Testout (H.T.), Reynolds Hole (H.P.), Merveille de Lyon (H.P.), Alfred Colomb (H.P.), Suzanne-Marie Rodocanachi (H.P.), Countess of Oxford (H.P.), Captain Christy (H.P.), and Duke of Edinburgh (H.P.). Mr. GEO. MOUNT, of Canter-

bury, was 2nd in this class; his best were Fisher Holmes, Marie Baumann, Gabrielle Luizet, and Niphetos.

TEA AND NOISETTE SECTION.

Twenty-four distinct single trusses.—The principal prize in this section was well won by Mr. FRANK CANT, who has exhibited Teas very successfully this season. His collection in this class was of excellent quality, judged by the average merit of the exhibition. The blooms staged were the following:—*Back row*: Ernest Metz, Madame de Watteville, The Bride, Niphetos, Madame Cusin, Souvenir d'Elise Vardon, Comtesse de Nadaillac, and Innocente Pirola; *Centre row*: Catherine Mermet, Souvenir de S. A. Prince, Ethel Brownlow, Maréchal Niel, Souvenir d'un Ami, Hon. Edith Gifford, Maman Cochet, and Souvenir de Paul Neyron; *Front row*: Cleopatra, Francisca Kruger, Bridesmaid, Marie Van Houtte, Madame Jacquier, Rubens, Corinna, and Jean Ducher. Mr. B. R. CANT had blooms of smaller size, but otherwise they were good, being bright and fresh-looking. Madame Cusin was splendid; Devoniansia, Madame de Watteville, Ernest Metz, Innocente Pirola, Bridesmaid, Corinna, and Catherine Mermet were also noticeable. 3rd, Messrs. D. PRIOR & SONS.

Eighteen distinct single trusses.—There were nine entries for this class, and consequently the quality of the prize collections run very close. The 1st position was taken by Mr. JNO. MATTOCK, New Headington, Oxford. In his stand we noticed as the best specimens, Souvenir d'un Ami, Hon. Ed. Gifford, Adam, The Bride, Ernest Metz, and Catherine Mermet. Mr. HENRY MERRYWEATHER took 2nd, and he had good Catherine Mermet, Cleopatra, and Ernest Metz, &c., smaller in size than the first exhibit; 3rd, J. BURRELL & CO., Howe House Nurseries, Cambridge.

Eighteen distinct, three trusses of each.—There were five collections shown in this class, and of these the best was one from Mr. FRANK CANT. The stand contained several very fine trebles, but was nevertheless much marred by a few inferior specimens, such as those of Francisca Kruger. The best were Madame Cusin (very good), Catherine Mermet, Madame de Watteville, Souvenir d'un Ami, Rubens, Innocente Pirola, The Bride, Ethel Brownlow, Comtesse de Nadaillac, &c.; Messrs. D. PRIOR & SONS were 2nd with a fresh collection, bright and clean, but small, Maréchal Niel, Madame Cusin, Ernest Metz, and Corinna, were good; Mr. B. R. CANT was 3rd.

OPEN CLASSES.

Twelve trusses of hybrid Teas, not fewer than nine varieties.—The hybrid Teas are now fully recognised by the Society, and have a special class to themselves. The class is a popular one, and there were eight or more entries. The 1st prize was won by Mr. FRANK CANT, and the names of his varieties were Augustine Guinoiseau, La France, Viscountess Folkestone, Lady Mary Fitzwilliam, Caroline Testout, Kaiserin Augusta Victoria, Duchess of Albany, Grace Darling, Danmarck, Germaine Caillot, and La Fraicheur; Mr. B. R. CANT was a close 2nd; his La Fraicheur was excellent; Captain Christy and Kaiserin Augusta Victoria were also good. Mr. GEO. PRINCE, Oxford, who was 3rd, included a very fine bloom of Kaiserin Augusta Victoria.

Twelve trusses of any yellow Rose except Maréchal Niel.—This class was won by Mr. GEO. PRINCE, Oxford, with a stand of moderately-good Comtesse de Nadaillac; Mr. JOHN MATTOCK, who was 2nd, showed the same variety; and Mr. FRANK CANT, with Marie Van Houtte, was 3rd.

Twelve single trusses of any white Rose.—Mr. GEO. MOUNT won with good specimens of Merveille de Lyon; 2nd, Mr. GEO. PRINCE; 3rd, Mr. B. R. CANT.

Twelve single trusses of any crimson Rose.—With very bright, but slightly damaged blooms of A. K. Williams, Messrs. TOWNSEND & SONS were 1st, being followed by Mr. B. R. CANT, who had Gustave Pignanneau, and Mr. GEO. MOUNT, who had good Ulrich Brunner.

Twelve single trusses of any dark velvety crimson variety.—Mr. B. R. CANT and Mr. GEO. MOUNT were awarded equal 1st for two fairly commendable stands of Fisher Holmes. 3rd, Messrs. G. and W. H. BURCH, Peterborough, with Horace Vernet.

Twelve single trusses of any light Rose.—The 1st prize exhibit in this class was a stand of twelve blooms of Mrs. Sharman Crawford, and was perhaps the prettiest dozen Roses in the exhibition. Certainly the brightest of all the light varieties, it is at the same time pretty and attractive in tone. The blooms were shown by Messrs. ALEX. DICKSON & SONS, Newtownards, Ireland. 2nd, Messrs. D. and W. CROLL, Dundee, who had extra nice Mrs. Jno. Laing, and the same variety was shown by Mr. FRANK CANT, who was 3rd.

Twelve single trusses of any Rose except a Tea or Noisette.—There was considerable competition in this as in a few other of these single variety classes. Mr. FRANK CANT, who was placed 1st, had extra good blooms of Her Majesty, very full and bright; and Messrs. PAUL & SONS, Cheshunt, were 2nd with the same variety; while Mr. B. R. CANT, who had Marchioness of Dufferin, was 3rd.

Twelve single trusses of any Tea or Noisette.—Mr. B. R. CANT was 1st, with a dozen nice blooms of the lovely Madame Cusin; Mr. FRANK CANT was 2nd, trusting to Madame de Watteville; and Mr. JAS. MATTOCK obtained 3rd with Ernest Metz.

Twelve single trusses of Maréchal Niel.—This class was only poorly sustained. Messrs. PRIOR & SONS, were 1st, and Messrs. TOWNSEND & SONS, 2nd.

NEW ROSES.

The classes here were of more interest than last season, Messrs. A. DICKSON & SONS, of Newtownards, staging a good twelve of Mrs. Sharman Crawford, a Rose of great merit and

useful colour. Mr. F. CANT, Colchester, was 2nd, with Marchioness of Londonderry; and Messrs. PAUL & SONS, Cheshunt, 3rd, with Jeannie Dickson. Similar to last season, all three winning stands were raised by the Irish firm.

Twelve varieties, distinct.—Messrs. A. DICKSON & SONS were also 1st in this competition, showing Mrs. S. Crawford, Shamrock, Avoca (a Tea like Ernest Metz, but brighter), Captain Hayward, Marchioness of Dowshire, Tom Wood (a pretty Rose, between Madame Ousin and Souvenir de David in colour, but brighter and more full), Lady Moyra Beauclerc, La Fraicheur (good), Marchioness of Londonderry, Helen Keller, Mavourneen, and Muriel Grahame; the last is a good and promising Tea, with habit and form midway between Madame Bravy and Catherine Mermet. The colour is almost white, with creamy shading—an undoubtedly promising Rose. Muriel Grahame was also staged for the Gold Medal, as was Countess of Caledon. Mr. W. TAYLOR, Hampton, showed a new Rose called Robin Lyth, which we consider is too near to Fisher Holmes and Harrison Weir. The new Tea, Muriel Grahame, was decidedly the best of those now staged for the first time.

GARDEN ROSES.

These were not so good as usual, and, as at Gloucester, the hot season has evidently been too much for them.

Nurserymen: Thirty-six bunches, distinct.—Messrs. G. COOLING & SONS, Bath, 1st, having L'Idéale, W. A. Richardson, Cooling's Scarlet Perpetual, G. Regis, and Pepita being among the best. Messrs. PAUL & SONS, Cheshunt, and F. CANT, Colchester, were 2nd and 3rd with much the same varieties.

Eighteen bunches, distinct.—Messrs. TOWNSEND & SONS, Worcester, and Messrs. D. & W. CROLL, Dundee, were successful. The first-named had Madame Falcot, Madame Charles (good), Celine Forestier, and Isabella Sprunt; while Messrs. CROLL had a pretty bunch of Madame C. Brunners (Polyantha).

Amateurs:—A silver cup presented by the Rt. Hon. Lord Penzance for eighteen bunches of Garden Roses, was won by H. V. MACHIN, Esq., Worksp, who had very good bunches, but rather too cramped in arrangement. The 2nd prize stand from Mr. A. TATE, Leatherhead, was certainly the most admired and best set up stand; O. G. ORPEN, Esq., Colchester, was a good 3rd.

In an open class for twelve bunches of Roses suitable for button-hole flowers, Mr. J. MATTOCK, Oxford; Messrs. W. TOWNSEND & SONS, Worcester; and Mr. A. EVANS, Oxford, were successful; W. A. Richardson, Madame Falcot, Ma Capucine, L'Idéale, and Madame de Watteville, being the varieties most shown.

Nine bunches of Single-flowered Roses.—Messrs. G. PAUL & SONS, Cheshunt, met with no opposition; Moschata alba, Lucida, Bugosa, and Pissardi were the best.

Mr. MATTOCK, Oxford, had a very pretty lot in the "display of Roses" (open), and was followed by Messrs. TOWNSEND & SONS, Worcester.

MEDAL ROSES.

Bennett's Rose, Her Majesty, won the H. P. medals in both Nurserymen and Amateur Classes, and were exceptionally good throughout the show. Mr. B. R. CANT and E. B. LINDSELL, Esq., were the winners. A large, but rather loose, Comtesse de Nadaillac was successful among Tea and Noisettes, for Mr. F. CANT; and Maréchal Niel for the Rev. A. FOSTER-MELLIAR. The latter flower was also loose, but had once been magnificent.

AMATEURS.

The Champion Trophy Class, thirty-six blooms, distinct.—This class was open to all amateurs, and the coveted Trophy and Gold Medal went to Mr. E. B. LINDSELL, Hitchin, who staged some good flowers. His back row consisted of Her Majesty, S.-M. Rodocanachi, Mrs. Paul, Earl of Dufferin, Marchioness of Londonderry, Ulrich Brunner, Mrs. J. Laing, A. K. Williams, Merveille de Lyon, Charles Lefebvre, Madame E. Verdier, and Gustave Pignanneau; middle row, Duchesse de Bedford, Souvenir d'Elise, Dupuy Jamin, Caroline Kuster, Alfred Colomb, Gabrielle Luizet, Duke of Wellington, Duchesse de Morny, Fisher Holmes, Comtesse de Nadaillac, Madame Hausmann, and Mrs. Sharman Crawford; the front row being Catherine Mermet, Louis Van Houtte, Innocente Pirola, Prince Arthur, Abel Carrière, Dr. Andry, François Michelson, Duke of Connaught, Etoile de Lyon, Maurice Bernardin, Marie Verdier, and Dr. Sewell. Perhaps the worst flower here was Comtesse de Nadaillac, all of the rest being even better than those in the professional classes. The Rev. J. H. PEMBERTON, Havering-atte-Bower, was 2nd, his best being Her Majesty, Horace Vernet, Xavier Oliho, Duchesse de Bedford, and a peculiarly-striped Marie Verdier. T. B. HAYWOOD, Esq., Woodhatch, Reigate, was 3rd, with a very young and bright collection.

A piece of plate, given by Mr. Frank Cant for forty-eight singles, also went to Mr. E. B. LINDSELL, who put up much the same varieties as in the trophy class. Alfred Colomb, Louis Van Houtte, and Marchioness of Londonderry were extra good. Mr. WALTER DREW, Ledbury, made a close 2nd, and was followed by Mr. A. TATE, Leatherhead.

For twenty-four singles, J. GURNEY FOWLER Esq., South Woodford, Essex, was 1st, staging good examples of The Bride, Dr. Andry, Reynolds Hole, Harrison Weir, and A. K. Williams among others; Mr. W. BOYES, Derby, beating the Rev. A. FOSTER-MELLIAR, Ipswich, for 2nd honours. There was a particularly good Horace Vernet and Prince Arthur in Mr. BOYES'S stand, and a very full Merveille de Lyon in the Rev. A. F. MELLIAR'S.

For twenty-four, distinct, single trusses.—This division was open only to growers of fewer than 2000 plants of exhibition variety, and here W. C. ROMAINE, Esq., The Priory, Windsor,

flowers, named Barghley Pat; and Mr. WILLIAM CARMICHAEL exhibited some seedling Strawberries. A collection of vegetables, including Peas, Beans, Lettuces, and Cabbages, was exhibited by Messrs. BARR & SONS, King Street, Covent Garden, W.C.

Lecture by Mr. Francis Darwin.

The lecture by Mr. Darwin was on "The Effect of Darkness on the Form of Plants," and in commencing the subject Mr. Darwin said that before the phenomena of etiolation or blanching could be satisfactorily and conclusively explained more facts were required, and these facts were such as could be furnished by horticulturists. This was one reason that suggested the subject of the present lecture, that those engaged in horticulture might be induced to take an interest in the question and communicate the results of their experiments to the scientific world.

Mr. DARWIN then proceeded to say, that if a plant was subjected to continual darkness, the most striking effect produced was one of colour, the stem becomes white and the leaves yellow, but it was more particularly to the difference in shape a plant assumes under such conditions that he wished to speak on the present occasion, with a view to explaining that the abnormal growth which takes place is not a pathological condition, but rather the result of adaptation to environment or circumstances. If a Potato or seedling Bean be kept in darkness, an elongated stem will be produced, and but minute leaves formed. In the case of cereals, the leaves were elongated, not dwarfed. Light is essential to the nutrition of plants. So true was this that Stephen Hales and others in his day thought that light was a material food for plants, whereas it is now recognised as a necessity to assimilation only. In the absence of light the plant can abstract no carbon from the atmosphere. It had been held that etiolation was a purely pathological state in the plant, but this view is probably dead, except that Sachs still holds it. From such a view, Mr. Darwin wished to express his dissent, and to put forth a different one altogether. Mr. Darwin had worked at this question a good deal, and when about to publish the result of his research, he found that a Polish botanist, Godlewski, had also taken the same view.

The view of the phenomena which the lecturer favoured was, that it was merely adaptation, or response to a stimulus to overcome, or get the better of an accidental environment. The difference of the two theories was explained thus, rickets in a scrofulous child is produced by injudicious feeding [and hereditary endowment], but the symptoms do not in the least assist the child to escape from its malady, the condition is purely a pathological one. On the other hand, a Potato set, if deprived of light, will continue to grow as if it were under the soil, the energies of the whole plant will be thrown into producing a long stem, and this to the neglect of the leaves. A seedling Bean would do the same thing, viz., continue to grow as if it were seeking light through the soil, and not until the light—which in this case is the "signal of illumination" to the plant—is obtained will the growth be altered. The plant is deprived in the absence of this signal. The Scarlet Runner grows with a hooked plumule while under the surface, but on entry into an illuminated area, the point is soon straightened, but if light be withheld when the shoot is through the soil, the point remains hooked. The signal of light is necessary to remove this condition, which in itself, is an adaptation to circumstances, the hooked plumule being better able to pierce the soil without injury, than if it were straight. Mr. Darwin then spoke of the sensitiveness existing in the petals of the Crocus to changes of temperature, so much so, that if the temperature fell 1° Centigrade, a movement in the petals may be observed. By this means the pollen was protected against the effect of rain. A species of fungus called Coprinus, normally developed a stalk and a cap of considerable size, but if it be subjected to darkness, the plant will throw all its energies into making a long stalk at the expense of the cap, which will be very small. The stalk in this case is much lengthened in order to reach the daylight, where the spores may be disseminated. The gemmae or buds of Liverworts germinate only in the light; the gemmae remain inactive if covered with a few dead leaves. It was clearly adaptation that caused these gemmae to remain inactive for a short time, during which the temporary darkness may be removed, whereas did they germinate, they would do so, with the result that they would die.

In regard to flowering plants, if a Narcissus be deprived of light, the long scape it produces is another effort to get out of the darkness, where alone the pollen it carries can be made useful. If a plant has only radical leaves, the only chance is to extend these, the distribution of growth is altered in every respect, and in all plants. Mr. Darwin, referring to Sachs' classic paper of 1863, in which he refers to the Hop or Sweet Potato as cases of natural etiolation, said that from Sachs' standpoint this was not a happy word; but viewing all etiolation as adaptation, then these cases were clearly natural. A climbing plant, in order to escape from the earth line into the air, throws most of its energy into producing a long stem, and usually makes a small amount of other material only, which is exactly what occurs in all cases of etiolation. Facts were the food of all hypothesis, and for these he hoped he might look to horticulture.

WIMBLEDON AND DISTRICT HORTICULTURAL.

JULY 3.—The twenty-third annual exhibition was held on the above date, in the grounds of Draxmont,

Wimbledon Hill, kindly lent for the occasion by the President of the Society, T. E. Crocker, Esq. The entries were more numerous than in previous years.

DIVISION I.—OPEN TO ALL COMERS.

For a group of miscellaneous foliage and flowering plants, a very creditable arrangement gained 1st honours to Mr. A. Luff, gr. to J. F. SCHWANN, Esq., J.P.

In the class for four stove and greenhouse plants, in or out of flower, the leading prizes were secured by Mr. G. Hutton, gr. to — FRERE, Esq., and M. A. Methven, gr. to W. KEILER, Esq., Fernwood. Whilst for six foliage or flowering plants, creditable specimens gained the prizes for Messrs. Methven, Hutton, and Luff.

There was a keen competition in the class for four exotic Ferns, distinct, the prize-takers being Mr. J. Bentley, gr. to Capt. BOSWORTH, Roehampton; Mr. A. Luff, and Mr. G. Hutton.

In the class for four Fuchsias, distinct, open to all members, creditably flowered examples were staged by Messrs. Zonal Pelargoniums gave an effective bit of colouring to the show.

For twelve plants in pots not exceeding 6 inches in diameter, Messrs. Law, Bentley, and Chandler were the leading exhibitors.

Well-bloomed Gloxinias were staged by Messrs. Mills, Hutton, and Bentley.

Six well-flowered examples of Begonias were shown by Mr. A. Skeggs, gr. to Mrs. DAUN, Copse Hill. Mr. Skeggs again secured the premier position for four excellent Caladiums. Well-coloured Coleuses were exhibited by Mr. C. Bentley.

The class for twelve plants, suitable for table decoration, was a good one, the prizes going to Mr. McGregor, Mr. H. Alderman, gr. to — HATFIELD, Esq., Morden Hall; and Mr. J. Bentley.

The successful exhibitors in the classes devoted to specimen foliage and flowering plants were Messrs. Mew, Thornton, Chandler, McGregor, Methven, and Bentley.

The best twelve cut blooms of Roses were contributed by Mr. J. Bentley.

Well-finished examples of black Grapes (three bunches) were shown by Messrs. Bentley and Methven. Mr. A. Methven was 1st for three bunches of white Grapes. In the class for six Peaches, well-coloured fruits were staged by Messrs. Luff, Alderman, and Bentley, the last-named exhibitor securing the first position for six good fruits of Nectarines.

For thirty-six fruits of Strawberries, the leading exhibitors were Messrs. Alderman, Hutton, and Methven. Mr. Alderman again had 1st honours for four distinct kinds of fruit, followed by Messrs. Bentley and Luff.

A collection of vegetables, in six kinds, was excellent from Mr. Thornton.

In Division 2, for "single-handed" gardeners residing within the district, a group of miscellaneous foliage and flowering plants was creditably exhibited by Mr. T. Chandler.

In the division for amateurs not employing a gardener regularly, the 1st prize for six miscellaneous plants was taken by Mr. J. BROWN, Norman Road, Wimbledon.

The cottagers of the district made a very good display of vegetables, flowers, and fruit.

Messrs. THOMSON & SON, The Nurseries, Wimbledon, sent a beautiful collection of hardy flowers.

THE PEOPLE'S PALACE HORTICULTURAL.

JULY 4, 5, and 6.—The third summer show took place in the Queen's Hall of the People's Palace, on the above dates, and, both in extent and quality, was a considerable advance on the two previously held.

Not only was the spacious hall quite filled with exhibits, but the large winter-garden also. How heartily the East End Londoners have entered into the spirit of the thing was shown by the large number of groups of plants entered for a 36 feet, and also an 18 feet ground space, and also for 18 feet and 9 feet table-spaces; while collections of six and three plants, as well as many single specimens, were numerous; and there were Fern-cases, model gardens, fruit, cut flowers, and vegetables also. In the small greenhouses, mainly of homely construction, put up at the backs of their residences by the East End gardeners, capital specimens of Plumbago capensis, India-rubber plants, green Draenas, show and zonal Pelargoniums, Begonias (foliage and flowering), Gloxinias, Succulents, Lillies, and many other things are grown remarkably well, and they speak volumes for the care and attention given to them, not a few of the East End gardeners being engaged in the City all day. The favourite window-plants are Fuchsias, trained to wooden-trellises, very large, finely-grown, and flowered; Pelargoniums, Creeping Jennies, Aspidistra, Aralia Sieboldi, &c. In some of their back gardens can be seen planted out subjects that astonish one that they can be found to grow and bloom there. The favourite hardy annual of the East Ender appears to be Virginian Stock.

Prizes are offered for the best kept gardens, and also for window-boxes, and it was necessary for the judges to spend the best part of two days in visiting them, as they laid between Aldgate, Limehouse, the East India Docks, Stratford, Hackney, and Homerton. It is not too much to say some of the best kept gardens were found in the most unlikely places, and in order to equalize the competition, the gardens visited are divided into two sections: those in open and somewhat airy localities, and those in which they are more crowded, and the conditions of culture less favourable. It is so with the window-boxes.

Certain honorary collections of plants, &c., greatly helped the effect. From the Frogmore Gardens, Mr. THOMAS sent a very fine and imposing table of plants; from His Grace The DUKE OF FIFE, arranged by Mr. Osborn, the gardener at East Sheen Lodge, came another similar group; and also from F. A. BEVAN, Esq., Trent Park, Barnet (gr. Mr. W. H. Lees); Messrs. W. CUTBUSH & SONS, Highgate Nurseries; Messrs. W. PAUL & SONS, Waltham Cross (mainly Roses); also from Mr. HOLMES, Frampton Park Nursery, Hackney, a fine group on the floor; and some charming table decorations from Mr. J. R. CHARD. Round the sides of the hall was a very handsome group of plants from S. B. BOULTON, Esq., Copped Hall (gr. Mr. W. M. Wright); from the DUKE OF NORFOLK, and others; and so some very fine features were secured.

Lata in the afternoon, their R.H. The Duke and Duchess of York visited the show, accompanied by the Duke of Fife, the President, when an address was presented to Their Royal Highnesses, and the Duke of York declared the exhibition open. The members of the committee were then individually presented to Their Royal Highnesses, and they made a tour of the show, being much interested in what they saw. There is every reason to believe the exhibition proved a financial success.

CHERTSEY, WALTON, AND WEYBRIDGE.

JULY 6.—The thirtieth annual summer exhibition was held this year in the grounds attached to Oatlands Lodge. Stove and greenhouse plants formed a leading feature of the exhibition, and they were generally well grown.

For a group of 14 by 7 feet, five competed, and Mr. Ridge, gr. to C. SWINFEN EADY, Esq., Oatlands Lodge, was an easy winner. The 2nd place being taken by Mr. G. J. Cook, gr. to J. S. SASSOON, Esq., Walton, with a creditably arranged group. Mr. F. Hopkins, gr. to Mrs. WODDERSPOON, The Chestnuts, Walton-on-Thames, was 1st for a smaller group, with a capital arrangement; and 2nd, Mr. W. C. Pagram, gr. to J. COURTNEY, Esq., The Whim, Weybridge.

For six flowering plants, Mr. JACQUES was the most successful. Fine foliage specimens were best represented by Mr. OSMAN in six varieties, Mr. GARDNER winning a similar position for four. Exotic Ferns are usually seen in excellent condition here, this year proving no exception.

Caladiums, Achimenes, tuberous Begonias, Gloxinias, and Pelargoniums are well shown, the principal prizes being awarded to Messrs. PROTHERO, JACQUES, STEDMAN, and OSMAN.

For six table plants, 1st, Mr. HOPKINS, with bright-coloured examples of middle size.

Cut flowers made an effective display; especially Roses. Stove and greenhouse flowers were shown, the best by Messrs. JACQUES and OSMAN. Herbaceous flowers by Mr. G. VIGERS, Mole House, Horsham, in twelve varieties.

FRUIT was contributed in quantity, Mr. OSMAN had the best collection of six kinds; the best two bunches of Black Grapes, and dish of Cherries. Mr. GARDNER was 1st in the class for two bunches of white varieties, showing ripe Buckland Sweet-water. Mr. J. Buxton, gr. to J. A. FOSTER, Esq., Fernlands, Chertsey, took 1st prize for one dish of Waterloo Strawberries.

Mr. J. OSMAN was, as usual, invincible in the principal vegetable class, that for eight kinds, and he showed extremely well.

Messrs. BARR & SON, sent from their Long Ditton grounds, a charming collection of cut blooms of herbaceous plants, including many choice subjects.

IPSWICH AND WOLVERHAMPTON HORTICULTURAL EXHIBITIONS.

We have received reports of these important horticultural exhibitions just as we are going to press, we must, therefore, postpone their publication till our next issue.

NURSERY NOTES.

CARNATIONS AT THE ROYAL EXOTIC NURSERY, CHELSEA.

STRENUOUS efforts have been made to overcome the difficulties created by a great demand for plants and by the unusual heat of the season, and to furnish a creditable display of sample beds of Picotees and Carnations at this nursery. The results as regards the whole display reflect much credit on those responsible for this department, and we found on Wednesday a pretty show if not a "blaze of colour." The plants are dwarfier than in most years we remember to have seen them, and the "grass" is in the older varieties rather sparse, but fairly abundant in the newer ones, and especially is this remarked in those of Mr. Martin Smith's raising.

We will take these first, as they overtop all the others in height, and beat them generally in size, floriferousness, and freedom from burnt calyxes.

Cardinal Wolsey, a yellow ground flower of the Victory type, but superior in colour and form; Duke of Orleans, also yellow, but differing from the first-named: the flowers large and form excellent—it is

a vigorous grower. Hayes' Scarlet is a splendid self of vigorous habit; thus far the finest self of scarlet colour raised. King Arthur is likewise scarlet with a crimson tinge in it, the flower is large and the form very good; the grass is vigorous and broad, and habit good. Mephisto is a crimson self, resembling the old Clove, but deeper in the tint; the form of the flower leaves nothing to be desired. Miss Andrey Campbell is a vigorous yellow self, large and distinct. Miss Ellen Terry is one of the best of the white Carnations.

Of other raisers' varieties we remarked Cantab (Gifford), a very free border variety, with the fragrance of the old Clove; Germania, in large numbers: this is still one of the finest Carnations of its colour—yellow; Caro Roma, a beautiful purple self; Martin Cahuzac, a Continental variety—deep velvety crimson flower—most floriferous, of dwarf habit: a very nice variety; Mrs. Gifford, a fine white, very free, either as a pot or border variety; King of Scarlets, King of Crimson (Douglas, 1892), a neat flower, of fine quality; Alma Newman, of a shade of red, a free bloomer, and strong compact habit, height 2½ feet; Duchesse of Fife, a tender shade of pink, large, pleasing flower; Lady Nina Balfour, pink tinted with chamoise, erect petals, flowers of middle size, and well formed; Duchesse of York—a flower in colour resembling Souvenir de la Malmaison, very full, and of more than the usual size (Gifford, 1894); Duchesse of Portland, one of the best of the fancies; Rose Celestial; Joe Willet, a bright dwarf, very hardy scarlet self.

Many of the old favourite varieties were found in quantity, and there are colours and forms of flower, and habit of growth, to suit everyone's taste to be found in this very select collection. The Carnation is essentially a townsman's plant, and in this town nursery it may be seen grown in something very near perfection. A numerous collection of varieties of Picotees are likewise cultivated, but these pretty flowers always lose by being planted near Carnations, with their more exacting claims on the beholder's attention.

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Table with columns: DISTRICTS, TEMPERATURE (ACCUMULATED), RAINFALL, BRIGHT SUN. Includes rows for various districts (0-10) with day-degree and rainfall data.

The districts indicated by number in the first column are the following:— 0, Scotland, N. Principal Wheat-producing Districts— 1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; * Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending July 6, is furnished from the Meteorological Office:—

"The weather was very unsettled and showery during the early part of the week, with thunderstorms in many places. After the middle of the period, however, a gradual improvement took place, and by the end of the week fair dry weather had again become general.

"The temperature differed very little from the mean, but was slightly above it in the north and east of Scotland, and below it in most of the English districts, as well as in the south of Ireland. The highest readings was observed as a rule on the 6th of July, and ranged from 71° in 'Scotland, W. and England, N.W.,' to 76° in the 'Midland Counties and Ireland, N.,' and to 77° in 'Scotland, F. and England, S.W. The lowest readings, which occurred mostly on the 5th or 6th, were rather low for the time of year, the thermometer falling to 45° or less, in nearly all districts, and to 40° or less in 'Scotland, W., England, S.W., and Ireland, N.'"

"The rainfall was less than the mean in the extreme northern and north-western parts of the Kingdom, as well as in the 'Channel Islands,' but in most other districts there was a slight excess.

"The bright sunshine varied greatly in amount in different localities. In 'Ireland, Scotland, N., and England, N.E. and S.,' the number of hours recorded was below the average, but in most other districts there was an excess, slight in many cases, but large in 'England, S.W. and the Channel Islands.' The percentage of the possible duration ranged from 16 in 'Scotland, N.,' and 23 in 'Ireland, N.,' to 43 in 'Scotland, W.,' 51 in 'England, S.W.,' and 67 in the 'Channel Islands.'"

MARKETS.

COVENT GARDEN, July 11.

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

Table of market prices for 'COVENT GARDEN, July 11.' Includes sections for 'ORCHID-BLOOM IN VARIETY' and 'ORCHID-BLOOM IN VARIETY' with prices for various flower types.

Table of market prices for 'PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.' Lists prices for various plants like Adiantum, Aspidistra, Ficus, etc.

Table of market prices for 'FRUIT.—AVERAGE WHOLESALE PRICES.' Lists prices for Cherries, Figs, Grapes, Melons, etc.

Table of market prices for 'VEGETABLES.—AVERAGE WHOLESALE PRICES.' Lists prices for Beans, Cabbages, Cucumbers, etc.

NEW POTATOES. Home-grown now coming to hand freely. Samples generally are small. Price from 5s. to 6s. per cwt. French and Channel Islands, 5s. per cwt. J. B. Thomas.

FRUITS AND VEGETABLES.

BOROUGH: July 7.—Quotations:—Peas, 2s. to 2s. 6d. per bushel; Horseradish, 1s. to 1s. 3d. per bundle; Apples, Tasmanian, 6s. to 8s. per case; Gooseberries, 1s. 6d. to 2s. per half-sieve; Strawberries, 1s. 6d. to 2s. per peck; Currants, 2s. to 4s.; Cherries, 1s. 9d. to 2s. 9d. per half-sieve.

SPITALFIELDS: July 7.—Quotations:—Cherries, 3s. to 3s. 6d. per half-sieve; Currants, black, 3s. 6d. to 4s. per half-sieve; Broad Beans, 1s. 6d. to 2s. per bushel; Peas, 2s. 6d. to 3s. per bushel; Cabbages, 4s. to 5s. per tally; Carrots, 2s. to 2s. 6d. per dozen bunches; Turnips, 2s. to 3s. do.

STRATFORD: July 9.—The trade at this market during the past week has been brisk, there being plenty of buyers, and an abundance of all kinds of produce. Quotations: Cabbages, 1s. 6d. to 4s. per tally; Cauliflowers, 1s. to 2s. per dozen; ditto, 4s. to 8s. 6d. per tally; Turnips, 1s. to 1s. 6d. per dozen bunches; Carrots, 1s. to 1s. 6d. per dozen bunches; Mangolds, 10s. to 17s. 6d. per ton; Cherries, 3s. to 4s. per half-sieve; Black Currants, 4s. to 4s. 6d. per half-sieve; Red ditto, 2s. 6d. to 4s. 9d. per half-sieve; Gooseberries, ripe, 2s. to 2s. 6d. per half-sieve; ditto, green, 3s. to 3s. 6d. per flat; Strawberries, s. 6d. to 2s. 6d. per peck; Raspberries, 3s. to 4s. per dozen punnets; Tomatos, English, 4s. to 7s. per dozen pounds; Green Peas, 3s. 9d. to 5s. 6d. per bag; Windsor Beans, 3s. to 3s. 6d. per bag.

FARRINGTON: July 11.—Quotations:—Cabbage, 1s. 3d. per dozen; Turnips, 3s. to 4s. per dozen bunches; Carrots, 1s. 6d. to 4s. 6d. do.; Marrows, 3s. per dozen; Spring Onions, 3s. per dozen bunches; Cucumbers, 1s. 3d. to 2s. 6d. per dozen; Cherries, white-flesh, 4s. per half-sieve; do., black, 2s. 6d. to 3s. 6d. do.; Gooseberries, ripe, 2s. 6d. to 3s. do.; Currants, red, 2s. 6d. to 3s. 6d. do.; do., black, 4s. to 4s. 6d. do.; Pine-apples, 1s. 6d. to 2s. 6d. each.

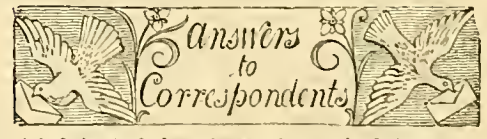
CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending July 6, and for the corresponding period last year:—1895: Wheat, 25s. 7d.; Barley, 19s. 9d.; Oats, 16s. 4d.; 1894: Wheat, 24s. 6d.; Barley, 25s. 7d.; Oats, 19s. 6d.

ENQUIRY.

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

TOMATO FRUITS NOT SWELLING.—A correspondent sends the following:—"I should esteem it a great favour if you would kindly tell me the reason why the first two or three trusses of my Tomatos bear such very small fruit, no larger than Cherries, and quite ripe. The fruit seems to be swelling all right enough half-way up the plant, and making fine large fruit. Should I have stopped the leader, say, when it had got 4 feet high, to cause the lower trusses to swell off, and then let it grow again? My plants are 8 or 9 feet high now. In a later house I have 950 plants in, the bottom trusses are swelling off all right, and I never stopped them. My three earliest houses I planted got a check from some salt or something that had been in the manure unknown to me, and all turned black soon after they were planted. Would that be the cause? They have never suffered for want of water. Nurseryman."



Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.

PLANTS, FRUITS, ETC., TO BE NAMED.—Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.

ASPARAGUS TENUISSIMUS: J. A. F. It does not reckon as a "flowering plant" in the ordinary sense of the word, as used by schedule-makers, and we think that your collection would be disqualified if this plant formed a part of it. Among foliage plants this species of Asparagus would be admissible.

BOOKS: A. B. Index Kewensis, Frowde, Amen Corner, London, E.C. Four vols., at 2 guineas each.—Foreman. There is no one book which treats directly of nursery gardening. Any good garden-

ing Manual such as My Gardeners, by Mr. H. W. Ward, Longford Castle Gardens; Hardy Flowers, by W. Robinson (Macmillan & Co., London); Stove and Greenhouse Plants, by B. S. Williams & Son, Victoria and Paradise Nurseries, Upper Holloway; The Nursery Book, by L. H. Bailey, The Rural Publishing Co., New York, or through a foreign bookseller in London. If you intend to grow only certain plants as Carnations, Chrysanthemums, Clematis, Dutch Bulbs, Tomatoes, &c., manuals on these and others may be obtained at the Bazaar Office, 170, Strand, W.C.

CARNATIONS: G. F. The plants are apparently affected with eel-worms. Nothing can be done except to turn out the soil and get fresh.

CATERPILLARS OF THE SAWFLY ON GOOSEBERRY: P. B. S. To guard against the recurrence of this pest, you should shovel away the whole of the soil beneath the bushes as far as the branches extend at the very least, and to a depth of 4 inches, charring it, or burying it deeply in the soil in some distant part of the garden, replacing it with fresh garden soil, or loamy soil from outside the garden. This may be done at any time from the present till the end of January. If it be done in frosty weather, there should be no haste in replacing the soil taken away, as exposure to hard frost is likely to do good by destroying any chance grubs that may have been left behind. A slight dressing of gas-lime at that time might also be beneficial in the same way. As you say, the quassia-water clears the bushes of the caterpillars, but it does not clear the soil of them.

CORRECTION.—For "tusan chikae," p. 799, in vol. xvii. of Gardeners' Chronicle, read "taisan chiku."

HOLLIES: W. C. The leaves are attacked by a saw-fly. Encourage the birds. We do not think any permanent injury will ensue.

LAWN DRESSING: M. B. Lawrence. At this season a mild kind of liquid manure may be used. In the autumn and winter a dressing of sifted clayey loam, with wood-ashes and sifted charred garden refuse, charcoal-dust should be applied regularly all over the surface, laying it on so that the tips of the grass can be just seen through it. The wood-ashes may be used in the proportion of one-tenth of the whole. Well-rotted farmyard or stable dung does good, but the effects are less lasting.

NAMES OF PLANTS: N. C. Veronica spicata.—A. J. B. 1, Peach-leaf-rotten; 2, Cherry, Late Duke; 3, Lychnis chalcedonica; 4, Galega officinalis alba; 5, Veronica spicata.—Kintore. Gentiana lutea, Lilium Hausoni.—H. C. W. Spurrey, Symphytum asperinum.—A. B. 1 and 2, forms of Dianthus carthusianorum; 3, Dianthus superbus; 4, Campanula grandis; 5, Campanula Hostii.—D. T. F. The so-called crown or mummy Pea, figured in Gardeners' Chronicle, p. 44, January 11, 1873, a fasciated variety. 1, Achillea Millefolium; 2, Orobanche minor; 3, Salvia verbenaca; 4, Myriophyllum verticillatum; 5, Prunella vulgaris; 6, Chenopodium bonus Henricus.—F. W. W. 1, Sedum album; 2, Sedum rupestre; 3, Sedum rupestre; 4, Campanula pulla; 5, Lysimachia nummularia; 6, Astrantia major.—Constant Reader. 1, Abutilon Megapotamicum, better known as A. vexillarium; 2, Ulmus campestris, variegated form; 3, Cœlogyne ocellata; 4, Dendrobium crumenatum; 5, Dendrobium mesochlorum; 6, Dendrobium chrysanthum.—Judy. Carnation W. Toby.—J. R. R. Lilium Martagon.—F. Y. 1, Colutea arborescens; 2, Euphorbia cyparissias.—J. T. The green form of Zebrina pendula, syn. Tradescantia zebrina.—T. R. Rosa lucida.—J. Heath. 1, Pteris longifolia; 2, Adiantum hispidulum; 3, Cyrtomium falcatum; 4, Asplenium bulbiferum; 5, Pteris cretica albobluata; 6, Asplenium trichomanes.—Germany (no letter). Dendrobium gratiosissimum; the other probably Phlox maculata var. candida.—S. H. W. The large Cattleya is C. Warscewiczii, commonly called C. gigas in gardens; the others, C. Mendeli and C. Mossii; No. 4 is also a good C. Mendeli; No. 5, Odontoglossum pulchellum, not Oncidium. The photograph duly came to hand. Many thanks.

NARCISSUS: J. H. T. The bulbs were subjected to bad treatment after they had flowered in January, 1893, the frost doubtless destroying the tender leaves grown in heat. They were weakened thereby, and failed to give strong offsets. The early forced bulbs should not be placed out-of-doors, and receive "no attention" till they are again planted. It is better practice to keep them in cold frames,

protecting them from frost, affording them water in moderation till the leaves mature, when they may be dried off, and the bulbs shaken out of the soil, and fully exposed for a week or two to the sun. A period of from one to two years should elapse before Narcissus are forced a second time. Your soil appears to be of a most unpromising nature, needing much amelioration by mixing it with garden refuse, burned earth, fine coal-ashes, strawy stable-dung, sand, &c. Cow-manure, either decayed or not, is of small value in such land, and to place it at the base of the bulbs in that or any other soil is a dangerous practice with Narcissus, which are plants that are injured by contact with manures. You would find decayed vegetable substances, leaf-soil, &c., much more suitable. Quick-lime would do your clayey loam some amount of good by its mechanical action if dug in before allowing it to slake. We do not think that the drought of 1893 caused any injury to the bulbs, the land being of too retentive a nature to be affected by it; or that the late severe winter was injurious. As you suppose, soot makes a good sort of top-dressing, containing, as it does, considerable quantities of sulphate of ammonia.

NARCISSUS, &c.: T. Bros. and W. W. The bulbs are affected both with mites and fungus, but the bulbs look so healthy that they may outgrow it with less manure.

PINKS: S. B. Your seedling white Pink is a little larger than "Her Majesty," and the habit you describe is an improvement.

SEWAGE DISTRIBUTION: D. W. C. McI. A broad feeding-canal should be made with puddled sides and bottom at the higher part of the field, to hold sufficient sewage to irrigate a large portion of the land. This should be made with a slight fall—say, half an inch in 20 feet. From this canal other smaller canals should proceed, at 12 to 15 feet apart at right angles, each being fitted with a sluice or penstock of an ordinary description in wood. It would be better to divide the field transversely with one or more feeding-canals, and make the intervening land quite level and true; then by allowing the sewage to run into the minor channels from the main feeder until it reached the top or the sides of these, or half an inch above them, the sewage would spread over the surface gradually and without any rush. By this system of shallow drains any part of the land could be saturated at will; and when sufficient moisture had been afforded, the supply must be cut off by closing the sluices. If the land is level, or nearly so, it will not be a difficult matter to irrigate it in the manner described. Very irregular or hilly land, which would cost heavily to level it and lay-out drains, could be irrigated by means of a collecting-tank and an underground system of iron pipes, the sewage being distributed from stand-pipes by means of a hose or a water-barrow.

TOMATOS: Treseder and W. W. Your fruits are attacked by a fungus known as "black spot." Remove each fruit as soon as the disease is noticed. Save seed only from healthy plants.—T. G. Your plants are affected with fungus. Burn all the affected plants at once, and spray the leaves with weak Bordeaux Mixture, taking care not to use it on any of the berries that are near the ripening stage.

TOMATOS NOT SWELLING: Nurseryman. Will you kindly send up samples of fruit from one plant that exhibits the undesirable peculiarity that you mention. We print your letter in another column, in the hope of eliciting the opinions of our readers.

TOMATOS SPLITTING: W. J. Excessive watering probably following on a period of drought. The same thing occurs in stone fruit, Melons, &c. We do not know anything of the peculiarity of Chemin Rouge.

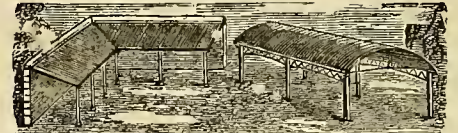
TRUFFLES: G. E. E. There is a book in the French language by M. Chatin, which treats of the culture of Truffles. We would, however, advise you to make enquiries of the secretary of the Société d'Horticulture de France, Rue de Grenelle 84, Paris, who would be pleased to afford you information on the subject.

COMMUNICATIONS RECEIVED.—O. G. Wyatt.—E. C.—W. E. G.—D. T. F.—H. H. D'O.—A. H.—W. E. G.—M. M. Barbier at fils, Orleans.—A. B. F. M.—F. J. T.—T. H. M.—E. L. J.—W. & N.—J. Peed & Sons.—J. Alleop.—Robt. Cock, maoy thank.—D. T. F.—A. C. F.—E. J. W.—O. A. H.—A. F. H.—J. T., Hong Kong.—B. P.—E. B.—T. C. H., Florence.—R. J. L.

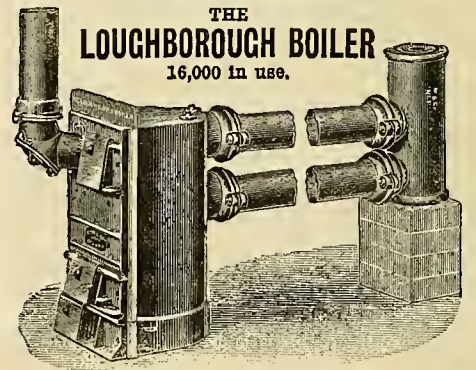
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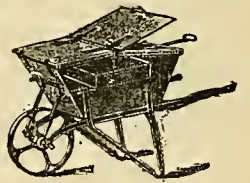
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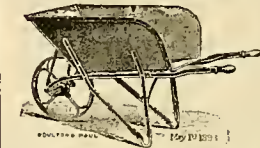
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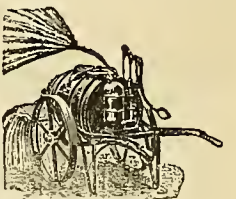


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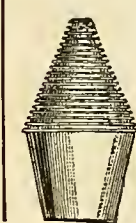
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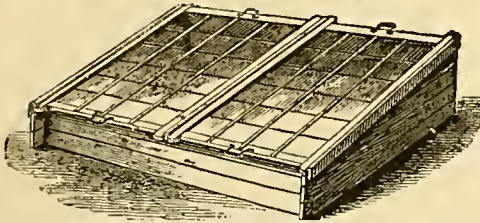
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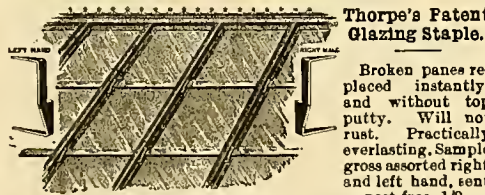
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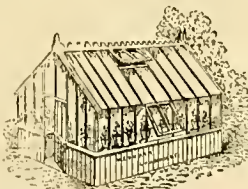
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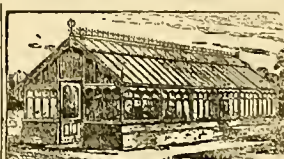
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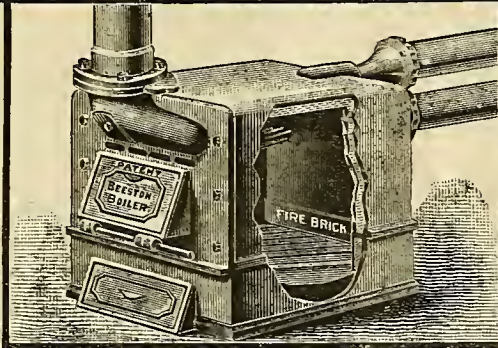


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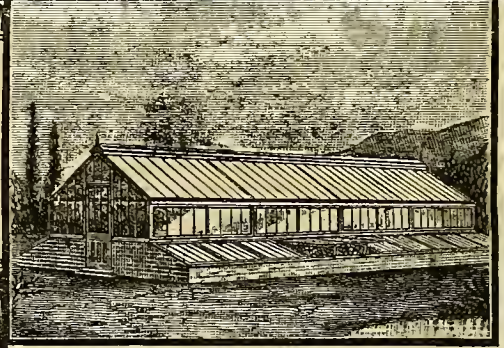


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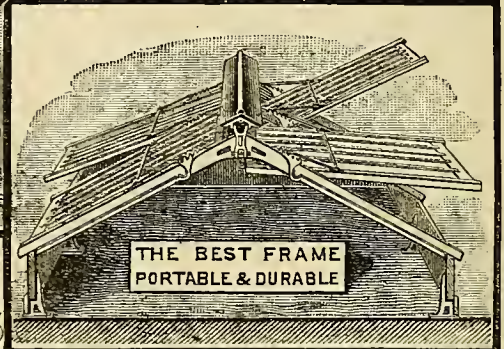
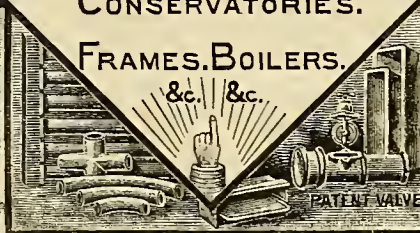
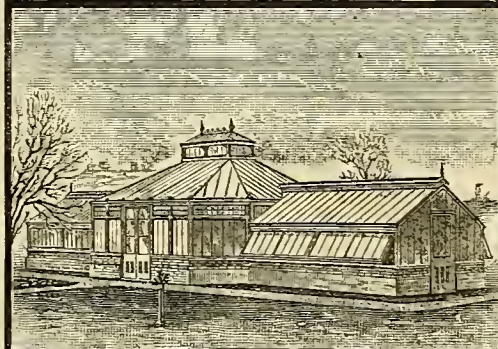
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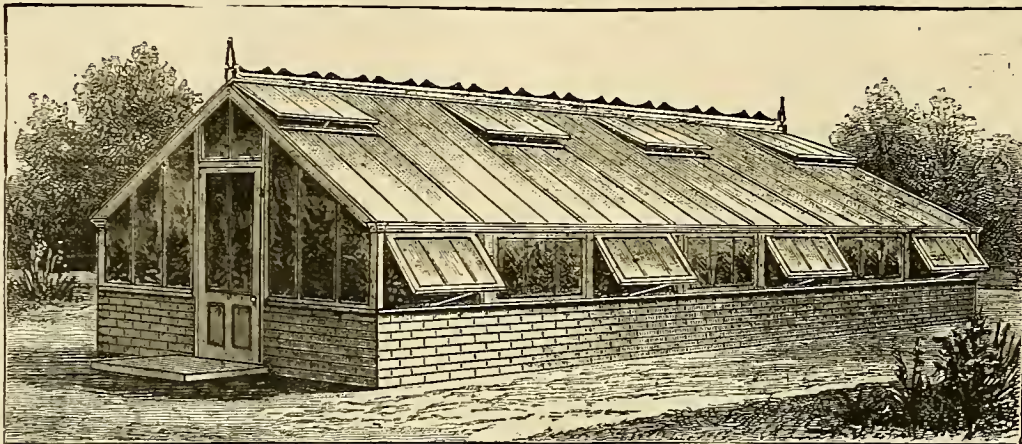
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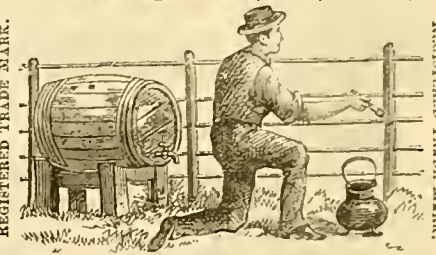
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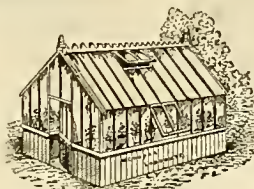
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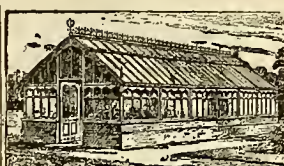
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SATURDAY, JULY 20, 1895.

A PRIMITIVE TOBACCO FACTORY.

CHINA is nothing unless she is primitive, and although the factory which forms the subject of these remarks is not exactly situated in Chinese territory, as it is in the Portuguese settlement of Macao, it is, to all intents and purposes, a Chinese factory, for it is owned and worked by Chinese. The premises comprise several large sheds with earthen floors, and one or two better built rooms, used as storehouses. The factory gives employment to several hundred Chinese men and women. I was accompanied on my visit by Mr. A. A. Pettigrew, a son of Mr. Pettigrew, of Cardiff Castle, who is at present (May) on a tour in the East. The tobacco is not grown at Macao, but at a place called Hokshan, about forty or fifty miles to the north-west of the former town, on one of the numerous mouths of the Sikiang, or Canton River. When the plants are properly dry, they are done up into bales about 2½ feet long, 2 feet wide, and 1 foot deep, and sent down to Macao in junks. On arrival at Macao, these bales are stored in the premises of the factory until such time as they are required for the manufacture of tobacco.

The first room we entered was devoted to stripping the leaves from the stalks, these being discarded in the manufacture. Women, sitting on the floor on their haunches, were busily engaged in this operation when we entered. The sight of us did not distract the women's attention, but several young children who were present on our arrival, scampered away to distant corners like mice into a hole. The dust from the tobacco leaves got into our noses and throats, and caused us to sneeze and cough, much to the delight of our celestial onlookers, as evidenced by the loud outburst of laughter which followed our discomfiture. Strange to say, we did not hear a sneeze or a cough from any of the Chinese whilst we were in the factory. After the leaves have been stripped from the stalks, they are carried into one of the sheds in large bamboo baskets by men, then spread on a wooden floor and damped with water. When sufficiently damp, they are made up into layers about 2½ feet long, 2 feet wide, and 2½ inches thick, and placed on boards. The next process is to make each layer into a solid cake. This is done in the following way:—About a dozen layers, with a board 1½ inch thick between each layer, are placed on the top of one another, and then pressure is brought to bear upon the whole lot by means of a lever of the second order, in the shape of a thick pole. One end of the lever is fixed firmly with strong ropes, and this constitutes the fulcrum; the weight or the resisting substance is the tobacco, and the power is applied at the other end of the lever by means of stout ropes, which pass round a wooden axle that is securely fastened to the ground.

When the tobacco leaves have been properly pressed, the cakes are taken out and cut crosswise into strips 4 inches wide, and the two ends cut off, as they are not sufficiently pressed. The next step is to tie half-a-dozen of these strips together by means of ropes. The next operation is to make the tobacco ready for use. This is done by means of a plane, very similar in shape to an English carpenter's plane. The strips of tobacco are stood up on end on the ground, and kept in position by boards made for the purpose. As the strips are only about 1½ foot high, the men have to work the plane in a half-stooping position, a most uncomfortable way of working from an Englishman's point of view. However, the Chinese do not appear to mind it, as they work away contentedly from morning to night. The shavings of the tobacco leaves are the tobacco ready for smoking. Every man puts his shavings, as he takes them from the plane, into small heaps, weighing about a pound each, enclosing at the same time a ticket with the name of the firm on it in the centre of each heap. These small heaps are then put into papers, the two ends of the papers being left open. The packets are then weighed, and a little more tobacco is added or taken away according to whether the packet is too light or too heavy. When the packets are of the proper weight they are put into another paper, both ends closed up, and then packed in boxes ready to be sent away. There is a good deal of order in the way in which the factory is worked. Women are only employed in stripping off the leaves from the stalks, men do all the rest of the work. There is one lot for damping and pressing the leaves, and another batch for cutting the pressed cakes into strips and tying them up ready for planing. The planers only make the tobacco and put it into heaps, a separate lot of men put it into the first papers ready for weighing. The men who weigh the tobacco pass it on to others, who put it into the second paper, and these finally hand it to the packers. The tobacco is of a dark brown colour, and is only used, so far as I know, by the Chinese. It has the reputation amongst them of being a particularly good brand, and the factory is said to be one of the largest in South China. It was very amusing to see the workers at 12 o'clock, as this is the time they take their mid-day meal. As soon as the clock struck twelve, everything stopped as if by machinery. In less than five minutes tables were produced from unlooked-for corners, basins of rice and other foods were placed upon them, and the men were busily engaged in emptying them by the aid of chopsticks. All the workmen took this meal in the same place as they had previously been working in. *W. J. Tutchet, Botanic Garden, Hong Kong.*

NEW OR NOTEWORTHY PLANTS.

THE GUADELOUPE CYPRESS.*

(*C. MACROCARPA* VAR. *GUADELOUPENSIS*, MAST.)

The late Prof. Serezo Watson described this fine Cypress as a distinct species, under the name of *C. guadeloupensis*, and perhaps rightly. It may

* *Cypripedium guadeloupensis*, S. Watson, in *Proc. Amer. Acad.*, xiv., 1879 (30).—"A widely-spreading tree, becoming 40 feet high or more, and 2 to 5 feet in diameter, with grayish-brown bark cleaving off in thin plates and leaving the thin inner bark with a smooth, claret-red surface; branches drooping, and branchlets very slender; foliage glaucous-green, the acute or acutish leaves very obscurely glandular on the back; cones globose, an inch or more in diameter, of 6 to 8, very thick, and strongly-bosset scales; seeds numerous, large, 3 lines or more. On Guad-loupe Island, off the coast of Lower California. Distributed as *C. macrocarpa* in Dr. E. Palmer's collection from that island. In cultivation about San Francisco, and likely to prove very valuable for ornamental purposes."

also, and, as we think, more correctly, be considered as a form of *C. macrocarpa*. The latter, known as the Monterey Cypress, has a very limited range of distribution on the Californian coast, and, to our thinking, the present is but an insular variety of the species, differing from the type more especially in its glaucous colour. It is true there is a considerable distance between Monterey in lat. 36° 4', and Guadeloupe, an island in 29° N.L., 200 miles from the mainland, with deep sea all around, but it is possible that intermediate localities may be found. At any rate, the presence of distinct characters is a common feature of plants growing on isolated islands. Our illustration (fig. 9) is from a specimen sent us by Dr. Franceschi, of Los Angeles, who can also furnish seeds. The illustration shows a portion of a spray with male flowers of the natural size, foliage and male flowers magnified. The cones are generally larger than here represented. For the sake of comparison we append a figure of *Cypripedium arizonica* (figs. 11 and 12), with a transverse section of the leaves of that species, and also those of *C. macrocarpa* (fig. 10). *M. T. Masters.*

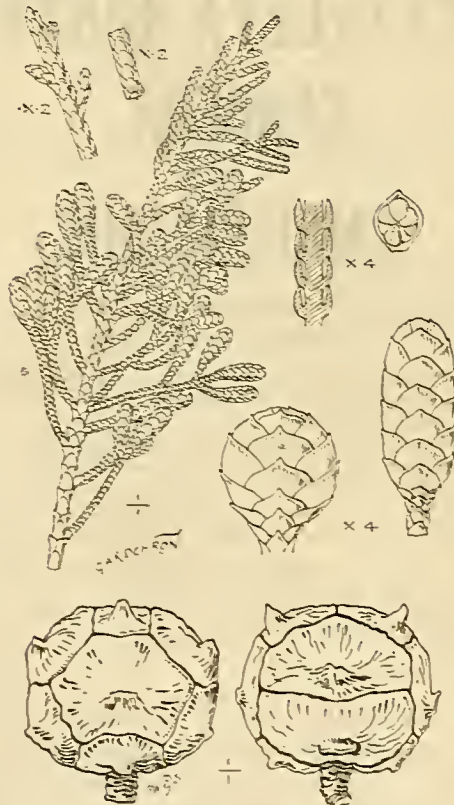


FIG. 9.—THE GUADELOUPE CYPRESS (*C. MACROCARPA* VAR. *GUADELOUPENSIS*).

ENTEROSORA FAWCETTII, Jenm. n. sp.*

The only plant of this discovered was sent to me several years ago by Mr. Fawcett to determine. I saw at once that it was a true *Enterosora*, but it differed from the Guiana species in its much smaller size, hairiness and very slight sinuation of the margins. Having so little material (a single but fully mature plant), after noting the distinctions mentioned, I thought it best to leave it with E. Campbell, thinking it would soon be found again. It has not, however, been re-discovered. I therefore publish it, particularly

* *Enterosora Fawcettii*, Jenm., n. sp.—Rootstock pear-shaped, about one-eighth of an inch thick, oot, or very little, elongated, upright, densely coated with minute scales; stipites tufted, slender, brown, 3-4 inches long, densely clothed throughout with fine ferruginous hairs; fronds dull brown, simple, 3-4 inches long, 4-6 lines wide, coriaceous, linear-lanceolate, apex obtuse or rounded, tapering thence to the base, margins even or sinuated, upper surface slightly hairy, mid-rib covered by parenchyma, veins obscure, partly free, partly areolated; sori in single or partially double series, mostly medial, copious in the upper half of the frond, immersed in oblique slit-like cavities 1-2 lines long, which on maturation slightly open and reveal the erupting sporangia on the under surface. Jamaica, in woods at Rose Hill, St. Andrew Parish, on the slopes of the Port Royal Mountains.

as Mr. Fawcett, after careful examination of the specimens of *E. Campbelli* at Kew, writes me that he regards it, because of the characters just mentioned, as a distinct species. The Guiana plant has an elongated root-stock, which, though morphologically of similar character, is several times larger, quite glabrous, glossy, and bright coloured; more or less freely sinuated, occasionally forked at the top, and sometimes with a furcation, or jib-like extrusion on one or other side. The species now known are—*E. Campbelli*, Baker, slopes of Roraima, British Guiana; and *E. Fawcettii*, Jenm., Rose Hill, Jamaica. It is remarkable that this genus should have been discovered so late in the day in two well-explored countries, whose flora, fauna, and geology are so different, and which are so wide apart, much about the same time. Both species resemble in form closely *Polypodium trifurcatum*, L., which also grows in both countries, for which, without close examination, they would at once be mistaken. *G. S. Jenman, Demerara.*

HEMEROCALLIS AURANTIACA VAR. MAJOR, Baker.

This botanically comes close to the plant which I described in the *Gardeners' Chronicle*, 1890, vol. viii., p. 94, from the Royal Gardens, Kew, under the name of *Hemerocallis aurantiaca*, but it is larger in all its parts, and is the finest *Hemerocallis* I have seen. It has the firm, bright orange perianth-segments of the type, and like it, flowers later than *flava*, *Middendorffii*, and *Dumortieri*. The leaves are an inch or an inch-and-a-half broad, firm, and strongly ribbed. The perianth-tube is three-quarters of an inch, and the limb 4 inches long. The inner segments are 18 to 20 lines broad, and the expanded flower is 5 to 6 inches in diameter. It was imported from Japan by Meese. Wallace & Son of Colchester, and was exhibited at the Drill Hall on the 9th inst., where it obtained a Certificate. *J. G. Baker. (See fig. 14, p. 71.)*

ORCHID NOTES AND GLEANINGS.

ORCHIDS AT ROUNDHAY MOUNT, LEEDS.

The Orchid-house in Dr. Jessop's pretty garden near the fine Roundhay Park, are well situated, and their occupants have in Mr. Tyson, the gardener at Roundhay Mount, a careful and diligent cultivator. Seeing therefore, that Dr. Jessop himself takes a personal interest in his Orchids, it is not surprising that the collection affords a good example of successful cultivation. *Odontoglossum*, *Cattleyas*, *Lælias*, and *Dendrobiums*, are the species chiefly found, and in each department, uniform vigour, health, and freedom to flower are remarked. In the *Dendrobium*-house, the base of which is in part planted with foliage plants, *Palms*, *Begonias*, &c., the specimens of *Dendrobium Dalhousieanum* have made a grand show, one plant having nearly one hundred flowers. In addition, there were some beautiful plants of *D. transparens*, covered with their pretty blue-white and purple flowers; *D. Parishii*, and several of the 150 or so plants of *D. Phalaenopsis Schroderianum* which are here grown, were in flower. Some fine specimens of *D. thyrsoiflorum* and others of that class; together with a few *Phalaenopsis* added to the display.

In the block of span-roofed houses we found fine *Cattleyas* and *Lælias*, among the former being a large number of flowers on excellent varieties of *Cattleya Mceasia*; among these *C. M. marmorata* is a noble form of flower, with very large lip, that is marbled with rose and purple; *C. Schroderæ* is one of the most delicately-tinted and fragrant of *Cattleyas*; *C. intermedia* and other species were noted. Among the *Lælias*, *L. cinnabarina* was in flower, also a dark scarlet-coloured form of *L. flava*—a distinct and pretty variety. In the same house a fine plant of *Miltonia spectabilis radians*, and other *Miltonias* were remarked, a small stage being raised near the glass for *M. Roezii* and *M. Phalaenopsis*, both of which are in fine condition.

Passing to the group of *Lælia purpurata*, we found a good show of fine and dissimilar flowers—one

having enormous blooms. So beautiful are these forms of *L. purpurata* that they cause one to ask, when we shall get a new Orchid, either species or hybrid, which will be their equal? Another house had specimens in flower of *Cattleya Skinneri*, another old favourite difficult to excel; *Sobralia macrantha*, and the fine yellow *S. xantholeuca*; *Cattleya Aclandiae*, and a healthy collection of *Cypripediums*, among which *C. Rothchildianum*, *C. hirsutissimum*, some splendid *C. bellatulum*, *C. Godefroyæ*, *C. niveum*, *C. caudatum*, *C. Chamberlainum*, *C. Curtisi*, &c., were in flower.

The next house was occupied chiefly with *Cattleya Triandri* and other of the *C. labiata* class, some good *C. Mendelii* and *C. Schroderæ* being in bloom. An *Anguloa Clowesii* was carrying twelve flowers, a plant of *A. Ruckerii sanguinea* was very handsome, and specimens of *Dendrobium infundibulum* formed pretty objects. Overhead were sprays of *Odontoglossum citrosanum*, and some good plants of *Dendrobium Hildebrandi*, whose soft primrose-yellow flowers are always pleasing; *Saccolabium curvifolium*, a pair of *Rodriguesia venusta*, and some vigorous examples of *Vanda cœrulea*.

In the cool house a few fine spikes of *Odontoglossum crispum* and other *Odontoglossums* were noted, also some *Masdevallia Harryana* and *M. ignea*, *M. simula*, *M. bella*, *M. × Heathii*, and *Ada aurantiaca*; and in a slightly warmer house a fine display of orange-scarlet flowers on several strong specimens of *Epidendrum vitellinum majus*; *Oncidium concolor asperum*, with flowers as large as *O. splendidum*; a densely-flowered *O. cornigerum*, with six spikes; *Odontoglossum hastilabium*, and other *Odontoglossums*, and *Oncidium*s, and a healthy batch of *Miltonia vexillaria*. The conservatory was gay with *Lilies*, *Calceolarias*, *Pelargoniums*, &c.; and in the open garden, herbaceous and alpine plants fill the borders, and furnish the rockeries outdoors.

LUDDEMANNIA PESCATOREI.

We understand that the plant exhibited by Sir Trevor Lawrence under this name has since been determined to be a new species, and has been named by Mr. Rolfe—*Luddemannia triloba*.

TOMATO FRUITS NOT SWELLING.

In reply to the inquiry of "Nurseryman" regarding the above subject, vide p. 51 of the last issue of the *Gardeners' Chronicle*, I may say that continued observation in the cultivation of Tomatos has led me to the belief that no one cause in particular may be given for the non-swelling of the earlier fruits; but on the other hand that a variety of causes and circumstances combined, conduce to the same end. I believe one of the most prolific causes to be insufficient strength in the plants themselves, a circumstance in all probability due to the warm temperature necessary early in the year for the growth of these plants. Very frequently in the early stages the plants are allowed to become crowded, or a warmer closer temperature than is really needful or beneficial is afforded, and in either case the early trusses are generally of little use. But because the trusses are really put forth and the flowers expand, it does not follow that the wood is sufficiently mature to bring about the best results. In "Nurseryman's" case it is also in the "three earliest houses" that the non-swelling is most noticeable, a fact which appears to give weight to my view; while in the "later houses the bottom trusses are swelling off all right." Thus it would appear that the later-raised plants, with presumably less fire-heat and more sunlight and sunheat, have produced firmer, and therefore more fruitful, wood. Any foreign matter in the manure which would cause the plants to "turn black" in a few days after being planted would undoubtedly prove highly detrimental to the plants; but apart from this it is by no means uncommon for the two earliest produced trusses, when very low down, to be puny and small, while the third may prove of prodigious weight.

Light, again, is a most important factor, and all important so far as setting the fruits is concerned. For some eight or nine years past I have planted a row on each side of a wide house to go up the roof, trained near the glass. I have prepared the plants in various ways, sometimes planting from 4-inch and sometimes from 8-inch pots, with the first bunch already set, and some swelling the fruit. But at the side of the house there are 18 inches of brickwork before the wall-plate is reached, so that the first-set bunch will be about 9 inches below the wall-plate, and therefore in obscured light. Whether planted with plants out of large or small pots, this bottom truss is invariably a failure, but the first truss which receives full light is generally a large one. I have this season many notable instances of this. In the first 2-foot run of stem three trusses of flowers have appeared, the two first by reason of their position being always shaded, producing only puny worthless fruits; the third in full light, bearing from a

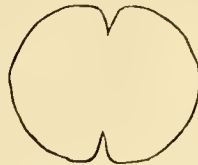


FIG. 10.—LEAF SECTION OF *C. MACROCARPA*. × 20. (SEE P. 62.)

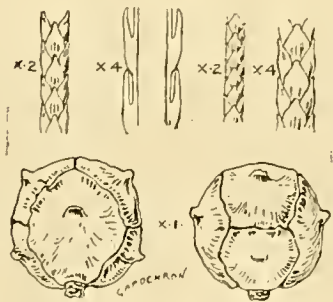


FIG. 11.—*C. ARIZONICA*: SHOWING FOLIAGE AND CONES.



FIG. 12.—LEAF SECTION OF *C. ARIZONICA*. × 20.

dozen to eighteen fine fruits, weighing between three and four to the pound. This is not an isolated instance, but the invariable result noticed for some years past, and with different varieties. It demonstrates the great value of full light in obtaining a good set to begin with, and the fullest development afterwards. Wide houses, again, with several rows of plants across, are not conducive to a good set early in the season, unless abundance of space be given each plant; and a stinting of space is, I fear, the rule, involving loss of weight, and its consequent excess of growth of shoots.

Too much and too rich a soil, and too much moisture, are common causes of failure with Tomatos. One of the heaviest crops I have grown was planted in a cube of 6 inches of soil, on a greenhouse stage, with a thin layer of cow-manure on the bottom, the soil being beaten down firmly after the plants were put in. The stage was of corrugated-iron, and 3 feet 6 inches from the ground. The resultant growth was very firm, and abort-jointed, and fine bunches occurred in about every

7 inches of stem. The variety was *Chemin Rouge*, a splendid variety, that sets freely, and has fine bunches of fruit of a useful and uniform size. "Nurseryman's" plants, judging by their height at this early date, could scarcely have carried a good crop. But it will certainly not assist matters to stop the plants at 4 feet high, although such a proceeding would be quite right with a late batch, which may only have time to finish fruit at 4 feet high; but with a full season in view it is another matter. The extreme point of the growth is full of embryo bunches of flower-buds, and to remove the point at 4 feet high would only result in axillary growth, and such growths would attain a considerable length before they become fruitful again.

For some years past I have planted my earliest Tomato plants in January, the first batch rarely doing much good; they appear to set well, but seldom swell of a useful size, owing to lack of sunlight at this early date. I am satisfied if I get a good bunch on the stem at 18 inches from the ground, for if a bunch of rapidly-swelling fruit is got at that height, it tends to check growth usefully later on. Some growers bury a part of a rather tall stem by laying it on its side in planting, which I think is a mistake, since the Tomato, being a rampant grower naturally, is rendered more so by furnishing it with a greater number of roots in its early stages. A shallow narrow bed of rather poor and firm soil conduces greatly to a good early set; but the plants must not be neglected in any way, and once a good set is obtained, the plants benefit by liberal waterings, liquid manure, and a surfacing of fairly rich soil. Tomatos for planting in January should be sown at the end of September, and grown steadily on in as cool a temperature as is consistent with healthy growth, a long season of steady growth being an important factor in very early fruiting. J.

ROUND GHENT.

In the houses of M. L. De Smet-Davivier we noted recently *Anthurium M. Georges Montefiore*, raised from *A. Rothchildianum × sanguineum*. The spathe is rounded, the form charming, with blood-red spots beautifully shaded. The upper surface is covered with a cloud of dots, mixed here and there with spots. The lower surface is much more beautiful and distinct than the other, and bears large spots which almost entirely cover the whole surface. This is a very distinct *Anthurium*.

A fine specimen of *Aralia monstrosa*, which is becoming very rare, grows in the same house with a hundred pretty plants of *Livistona rotundifolia*, whose valuable decorative properties are well displayed. Few things are more charming than are these miniature Palms used for table decorations, baskets, &c. A very fine seedling *Croton* from *C. Disraeli × Hanburyanus* surprised me agreeably; the young leaves are very bright yellow in colour, exceedingly delicate, the end of the leaves and half the length of the borders of them are a pretty tone of green; the adult leaves are dark green, verging upon black, with the midrib and other veinings yellow, the petioles a fine shade of red. I noted a flowering specimen of *Tapeinotes carolina*, a fine old plant which deserves to be more widely grown.

M. L. De Smet-Davivier's garden suggested Italy, owing to the large numbers of *Bambusa aurea* there growing; these Bamboos should certainly take a more important place as plants for parks and gardens; they are also suited for indoor decoration.

At M. Jos. Boelen's establishment I admired a fine specimen of *Mitraria coccinea*, unfortunately much neglected now-a-days, and a good example of a variegated *Rhododendron*, the green centre of the foliage being surrounded by a yellow edge.

M. Ch. Vuylsteke has now some fine Orchids in bloom. I would mention *Mitroa vexillaria Empress Augusta Victoria*, of fine colouring; *Odontoglossum Harryanum*, with large flowers, the lips of which are of considerable size. The upper half is wide, and of an unusually pure white colour, the purple part of it veined with white, the yellow of the lower section of remarkable brightness.

The seedling *Odontoglossums* mentioned by me continue to grow well; they require special care, and dislike drought as much as they do excessive dampness. After seeing a fine *Cattleya gigas* I was shown a *C. Gaskelliana nobilis* with several flowers of a very delicate tint.

A plant of *Cyripedium Chamberlainianum*, which I have mentioned as flowering in the beginning of May, 1894, still bears two fine blooms on the same raceme, and there are buds promising future flowers. A specimen of *Odontoglossum Lindleyanum* deserves notice. It has twenty flower-stems with about six blooms on each; these 120 flowers are very bright in colour. Three fine samples of *O. minus* covered with flowers; *O. minus Holfordianum leriopertum*, an excellent variety with flowers of a very clear ground colour; *O. ornatum*, *O. elegantiae*, with a fine branching spike bearing flowers whose ground colour is greenish yellow, with a large spot on the sepals, and on each of the petals two small spots; and *O. macranthum* with very large flowers, complete my list of the Orchids now in bloom. *Ch. De B.*

FLORISTS' FLOWERS.

SOME NOTES ON TAKING THE BUDS OF CHRYSANTHEMUMS.

DOUBTLESS locality makes a great difference as to the best date for this operation, and the seasons make a great difference in results, so that the best calculations are liable to be upset in some particular. I like to get a good free growth for exhibition flowers, and allow the plants, with very few exceptions, to break naturally. As a rule, I have no trouble with the plants showing their crown-buds too soon; in fact, many of the incurved varieties are often too late, and this in a season like that of this year.

The best flowers of Queen of England I ever had were taken on August 4, 1891; the plants had grown very strong owing to having been kept indoors longer than usual during the very cold and late spring, but were not stopped in any way. In 1893 several of this class were cut back in May because they persisted in flowering instead of growing; they grew much weaker afterwards, as might have been expected.

I never find Lord Wolseley and Prince Arthur show too soon; in fact, the difficulty with these two varieties is to get them to show early enough. The best flower of Lord Wolseley I have had was from a bud taken August 23, 1892, and I find from my note-book three more buds were taken on August 30, and five on September 12 in that year; the latter, of course, were quite useless for exhibition. Last year five were taken on August 31, and did well; in 1890 the first three were taken August 26, and were good flowers.

The Princess of Wales family, in which I include Mrs. Heale, Violet Tomlin, Mrs. Coleman, and Miss Haggas, is very similar to the above in the matter of showing buds, &c.; many of the shoots during 1893 were not showing on August 31, and the flowers that set after that date are of no use for exhibition.

In 1893, I stopped Hero of Stoke, and such varieties early in May, and got a few very fine flowers in good time. I had not tried stopping before, and never got this family up to time previously, so that I am quite favourable to stopping these in any season; the best flowers I had were taken on August 31, some taken much earlier were quite useless, and I find them quite large enough for the centre row on the stands occasionally.

Lady Hardinge grew stronger and did better in 1893 than ever before, and the same may be said of Alf Lyne (buds taken August 7).

Madame Carrière showed bloom at every point in May, and had to be cut back like many of the Queen family. I afterwards got some fair blooms, but they were much inferior to those of the previous year when they were not cut down or stopped in any way.

The Japanese varieties in some instances show too soon, but as a rule they may be left to make a natural break. This section is not easily divided into families, and I will mention a few of the principal varieties.

Avalanche and Sunflower are classed together by some growers for stopping. I never find them show too early; my best flower of Avalanche in 1894 was taken July 29 with five others, and all of them did well; those taken later were much smaller.

Bouquet de Dame, taken on July 20, also August 9, were first-rate; Crystal Queen, taken on August 9 and August 22, were poor; Etoile de Lyon, taken on July 29, were almost white, but of good form; those taken August 22 and 31 were also good flowers, and perfect as regards colour—liberal feeding has much to do with the latter point in this variety.

E. Molyneux has almost failed this season. The plants were very healthy, and buds were taken on July 29, August 9, 22, 31; those on August 22 were the best, but were not full in the centre; in 1891, those taken on August 14 were first-class.

Florence Davis, taken on July 20, were very fine. L'Enfant des deux Mondes and its parent Louis Boehmer, should not be taken too early. Those taken on August 22 were the best here this season.

Mr. A. H. Neve, taken on July 20, was of no use whatever; others, taken on August 7, 15, 24, and 31, were all good, the latter having the most colour.

Viviani Morel had to be cut back early in May, owing to premature flowering; buds taken on July 20 and 28, gave fine large flowers, but without colour; others, taken on August 15, were perfect, but not so large as usual, owing to having been cut down.

W. H. Lincoln, taken on July 20 and 28, gave good large flowers, but pale in colour; and on August 15 proved the best date for this variety in 1893. *W. H. Divers.*

GERMANY.

AND THEY WERE NOT MISSED!—We read in Moller's *Deutsche Gärtner Zeitung* that the Darmstadt nurserymen and florists declined, to the number of thirty-eight out of forty firms there established, to take any part in a recent exhibition held by the horticultural society of that town; and, curious to relate, says the reporter, "nobody missed them." No one knew the reason for this wholesale non-participation on the part of the trade. Perhaps it was to show the Society that they were indispensable, and that without their assistance the show would be a failure. However, one good result of their refusal to show was a very lively participation of the nurserymen from a distance, and the show was rendered a much more interesting one than would otherwise have been the case.

A red *Maréchal Niel* Rose was shown. It is one of numerous seedlings raised by Dr. Müller, and is the result of a cross between *Maréchal Niel* and General Jacqueminot, a fact that is readily discoverable in the foliage and in the bloom, which is exactly similar to that of *Maréchal Niel*, excepting in colour—a beautiful deep red. Of all the seedlings from the selfsame seed-capsule, only this one possessed these striking attributes, the rest having a more or less resemblance to General Jacqueminot. This red *Maréchal* is not yet named; and may never receive a name from the raiser, who is no business man, but an amateur who finds his chief delight in the raising of new varieties; taking pleasure in them for a time, and then discarding them for a new favourite. He has the advantage over all others, in being in the sole possession of certain crosses of Roses which he can employ in obtaining still more remarkable results.

A YELLOW-COLOURED KAISERIN AUGUSTE VICTORIA ROSE.

We read that Mr. Peter Lambert, of Trèves, asserts that he has the above variety, but as yet it has not been exhibited.

A WHITE SPORT OF PAPA GONTIER ROSE.

Papa Gontier is essentially a variety for cutting for market, an almost perpetual flowerer, and very early in season. The sport possesses all the good properties of the type, and is likely therefore to be of great value to trade growers. It was found in the garden of a Frankfort-on-Maine nurseryman, and shown by Mr. C. P. Strassheim, of that city.

Papa Gontier is a vivid pink flower, centre buff, reverse of the petals reddish-purple. Raised by Nabonnand in 1882.

OLEANDERS.

These rarely cultivated plants, which are such excellent subjects for the decoration of apartments, were well shown in flower at Darmstadt by F. Classmann, Mayence. The vigorous healthy plants were abundantly flowered.

MARKET GROWERS AND SALESMEN.

THE memorable saying, "Something is rotten in the State of Denmark," has a manifest application to the fruit-growing community in Worcestershire. I have for some days been making an excursion through the rural districts of Worcestershire, and naturally I came in extensive contact with that industrious class known as the market gardeners. It is impossible to view without admiration the well-conditioned allotments which they hold, nor can you contemplate their energy without admitting that they are justly entitled to the practical sympathy and support of the British public. Strange to say, this, the season of "hope realised," is invariably acclaimed a season of dismay. They have watched the maturing process of their crops with glowing pride. Heaven for its bounty has been praised; but, alas! there remains a sting which warps and blunts their sense and enjoyment of human ecstacy. During the season these men despatch prodigious quantities of their produce to Manchester and other important northern markets. Here they come into the hands of commission agents, whose duty it is to sell to the general purchasing public. A few days later a return is forwarded to the sender, and it is this document, together with the accompanying pecuniary contents, that causes the grower the depression and heart-sickness to which I have referred. In almost countless instances the "proceeds" fail to meet the cost of gathering; in numberless others a balance remains against the grower, which he is expected to remit. These disappointments, together with sundry others of a like kind, are responsible for numerous and serious embarrassments which the market-gardening fraternity is perforce made to endure. Grievances of this character have so multiplied of late years that a serious problem confronts us. We must either kill the patient, long-suffering gardener, which would mean a huge national calamity, or we must cure the disease. It is deep-seated, some say, and on the surface ineradicable; but despite this the obstacles are not altogether insuperable. Let growers take heart of grace, show true manly confidence, and here, to a great extent, a solution of these disappointing experiences will be found. It has been suggested to me that the Government should be invited to appoint salesmen, who should be guaranteed a yearly stipend according and in proportion to their capacities. This stipend should be paid by the grant of a reasonable commission, together with payment of reasonable incidentals. I confess I do not like the principle. State interference would be cumbersome, and before it had been in operation long, it would be discarded as too costly and impracticable. Others suggest that the produce should be sold in the immediate home counties, but this contention is too absurd to be for one moment entertained. Large fruit-growing counties invariably have a yield tremendously in excess of local requirements; hence, it is apparent that a hard-and-fast rule of this nature would soon be regarded as infinitely worse than the present disease. The custom would be more honoured in the breach than the observance, and in the end, general demoralisation of the system would follow. The only effectual solution that the writer can discover in this: Let market-gardeners organise and form a sound association. Select from its membership honourable and capable men, and to these entrust your future success as growers. The difficulties that would at the outset bestrew their paths as salesmen would vanish entirely as time went on; mutual confidence, forbearance, and collective in-

terest would inspire them to succeed, and, that object attained, past miseries and disaffection would become effaced.—Yours, &c, INVE-STITATOR.

Powick, Worcestershire, June 29, 1895. *Manchester Guardian*, July 14, 1895.

AZALEAS AT WALTON LEA, WARRINGTON.

Our illustration (fig. 13) represents a profuse floral display in the conservatory at Walton Lea, and was taken from a photograph obligingly

There are some thirty varieties, among which were fine pyramidal plants of Duc de Nassau, 7½ feet high and 3½ feet in diameter, in perfect condition; Souvenir du Prince Albert, Stella, Duc de Brabant, Model, Flag of Truce, and Baronne de Vriere. The smaller plants consisted of Roi d'Hollande, Mdlle. Marie Planchon, Balsaminiflora, Illuminator, and others, all densely covered with bloom. The effect of such a display of plants, arranged as they were with good taste, was one calculated to leave a lasting impression on all who saw it. The conservatory was not the only house available to the public. They were allowed to walk

SPYE PARK.

WHILE on a visit last week to Mr. Perry, the gardener at this place, I was struck by the beauty of an extensive herbaceous border he had made and planted in the centre of the kitchen garden. This border runs east and west, and is about 130 yards long, and 8 feet wide. Choice Apples and Pears line both sides. This border forms a useful reserve of plants for cutting from, and there is nearly always something to be found in it of interest to the lover of plants. I noticed flowering profusely the lovely *Funkia grandiflora*, the odour of whose flower is very refreshing; *Achillea Ptarmica*, fl.-pl., so useful for



FIG. 13.—AZALEA-HOUSE AT WALTON LEA, WARRINGTON.

furnished by Mr. P. Wilkinson, Cliff View, Walton, Warrington. The following letter accompanied the photograph:—"For a number of years John Crossfield, Esq., of Walton Lea, has, at different seasons of the year, generously opened his gardens to the Warrington public, for the inspection of his varied collections of plants. On May 5 and 6 of the present year the public were so admitted to view the Azaleas, and some 5000 persons availed themselves of the privilege, myself amongst the number. The plants were arranged in the conservatory, a splendid span-roofed house 40 feet in length, 25 feet in width, and 20 feet in height, a temporary entrance being arranged to meet the necessities of the occasion. The plants were arranged in one large group in the centre and on borders about 4 feet wide, which run along each side of the house.

through the long range of plant and fruit-houses, one of them the famous Camellia-house 100 feet in length, and 15 feet 6 inches in breadth, containing splendid specimen plants of choice varieties. A good display of Orchids was likewise in bloom at the same time, and an admirable batch of herbaceous Calceolarias. Great credit is due to Mr. W. Kipps, the head-gardener at Walton Lea, who has for many years conducted the work in these gardens. It is impossible to visit these beautiful gardens without a feeling of indebtedness to Mr. Crossfield for his consideration of the Warrington townpeople, and I think in admitting them to his place he sets an example which many other possessors of fine gardens in the neighbourhood of large towns might follow with advantage to all engaged in horticultural pursuits.

cutting; *Chrysanthemum maximum*, growing wonderfully strong, with numerous flowers, which were of unusual size; *Henckera sanguinea*, *Bocconia cordata*, a tall *Cephalaria*, with straw-coloured flowers; *Epilobium*, flowering profusely; *Campanulas*, of various species; *Carnations*, *Mignonette*, *Dahlia*, &c. All the plants were growing with amazing vigour, and flowering profusely.

Choice Lilies, *Gladiolus*, which were showing flower very strongly, fill the spaces between the herbaceous plants.

Mr. Perry finds Cole's Blood-manure very beneficial to these subjects, and he uses it as a top-dressing for beds of Lily of the Valley, *Deutzias*, and *Spiræas*.

There is a good show of fruit generally; and the houses afforded a rare show of Grapes, Peaches, and Figs. *W. A. C., Compton Bassett.*

BOOK NOTICE.

PFLANZEN KRANKHEITEN DURCH KRYPTOGAMISCHE PARASITEN VERURSACHT. By Dr. Carl Freiherr von Tubenb. (Berlin, 1895.)

A work of nearly 600 pages of closely-printed matter on the subject of plant-diseases caused by parasitic fungi, may appear to many as, of necessity, either encyclopædic and too full of details, or superficial, and abounding in wordy treatment; as a matter of fact, whatever the faults of Von Tubenb's book, it avoids both the extremes mentioned. It is a very soberly written and fair digest of the voluminous literature which has appeared in Germany since De Bary's fine treatise on fungi started the series of works, of which Brefeld, Zopf, Hartig, Frank, and Sorauer are the most important, in a domain in which Berkeley was one of the best pioneers, as well as one of the hardest workers and clearest thinkers. Berkeley's chief work in vegetable pathology appeared in these columns.

It is a very common plan in German text-books to deal with subjects of this kind in two parts—"General" and "Special," and such is the case here. In the first part (*Allgemeiner Theil*) an attempt has been made to re-cast the usually-accepted classifications of the mode of life of fungi under the headings Parasitism, Mutualism, and Nutricism (for only by this barbarous equivalent can we consistently render the word chosen), and, we think, with but scanty success, for the efforts to draw sharp lines between the various stages of parasitism displayed by fungi of different species, or by the same species under different conditions, can rarely be maintained.

For instance, Von Tubenb substitutes for De Bary's classification of parasites and saprophytes into (1) Obligatæ Saprophytes; (2), facultative parasites; (3), obligate parasites; and (4), facultative saprophytes, the following (1), Pure Saprophytes; (2), Hemi-saprophytes; (3), pure parasites, and (4), semi-parasites, without in any substantial degree improving the classificatory value of the substituted terms. Indeed, his own account shows that the new terms break down as hopelessly as the old ones before cases like *Mucor* and *Penicillium*, which behave as if they were parasites on ripened fruits, or *Botrytis* forms which can penetrate young tissues when the mycelium has attained a certain degree of vigour, and accumulated sufficient poison or enzymes to start an entrance by nestling in the first few cells it is enabled to kill.

Nothing is gained here by calling the fungus a half-parasite instead of a facultative parasite; and indeed the latter term is the better, for it expresses more nearly the real state of the case. The further discussion of the mode of life of parasitic fungi is happier, and the author has brought together an interesting series of new facts, published since the treatment of these phenomena along similar lines by Zopf.

In the section on mutualism, again, we are driven to the conclusion that Tubeuf is striving after a refinement of terminology, which obscures rather than illuminates his subject. He regards the classical case of the symbiosis of Lichens as met by the term individualism, because the result is a living being "which in its form, life-requirements, and mode of living is completely new, and differs entirely from the two components." But this savours of a mere playing with words, and, we think, with words singularly ill-chosen to play with.

That the author is right in distinguishing such cases of symbiosis as those of the Lichens, Witches' Brooms, and so forth, from the cases of Mycorrhiza and the leguminous tubercles, may be at once conceded. He does this by laying stress on the view that in the latter one of the symbiotic organisms serves especially for the nutrition of its host—a.g., the fungus of Mycorrhiza is regarded as bringing organic food-materials to the root it dwells on or in, and the organism of the leguminous nodules is digested by the host plant.

The sections most interesting to the "practical man" will, no doubt, be the chapters v. to vii., dealing

with prediagnosis to infection, methods of combating the diseases, and the practical significance of fungoid diseases. The author insists on the hopelessness of individual efforts to combat diseases which are widespread over areas where apathy or ignorance prevent co-operation; and urges, with considerable force, the necessity for experimental stations, museums, and means for educating the public in the technical matters here concerned. He then enters into the prophylactic and therapeutic aspects of remedies and measures; and, among other illustrations of the efficacy of treatment thoroughly carried out, quotes the following, without, however, discussing the secondary effects. Of two parks in Munich, there is one where the leaves are always removed, whereas they are left on the ground in the other: as a consequence, *Rhytisma acerinum* never appears in the former, but is spread all over in the latter, a fact easily explained by the habits of the fungus. The treatment of wounds in trees, based chiefly on Hartig's results, also comes in for lengthy discussion.

The agriculturist and horticulturist will probably be disappointed to find so little said about spraying of foliage with powders and liquids, but the three pages or so devoted to the subject abound in good sense. Possibly, over-caution is noticeable about details, or it may be, the author has not fully considered the voluminous literature from America and elsewhere, or has not been able to make up his mind about the results. Rumm's experiments with Bordeaux Mixture, and his idea that the action is due to the copper and is electric in nature [so says the author; but Rumm concluded the action is probably chemotactic] are mentioned, and further on in the book, reference is also made to Frank and Kruger's recent attempts to show that some mysterious chemotactic action occurs to account for the decidedly beneficial action on Potatoes.

Our own opinion is, that much remains to be done along this line of investigation, but one piece of advice is perfectly sound, namely, that spraying must be done with the fullest knowledge possible of the habits of the fungus to be fought, and no mere dates or general directions for the application of these mixtures will suffice.

We may interpolate here what is not sufficiently dwelt upon in the book, namely, that what Rumm and Frank and Kruger find is that the copper-salts affect the host plant, apart from any action on the fungi, by increasing the chlorophyll and the manufacture of starch, by accelerating the maturity and weight of the fruit (Vine) and tubers (Potato), and by diminishing the rate of transpiration. On the other hand, experience alone can decide as to the effect of accumulating copper in the soil, and there is probably no question of greater importance for agricultural and horticultural committees who have experimental grounds and expert advice at their disposal, to investigate further.

In the special part, which comprises all but 120 pp. of the whole, the plan followed is the simple and effective one of taking the principal groups of fungi, and treating of their parasitic representatives. In the main, Brefeld's classification is followed. An interesting section on the Chytridiaceæ, in which fully acknowledged advantage has been taken of Fischer's and Schröter's recent monographs, opens the work, and then follow the Oomycetes, in which the far too short paragraph on the Potato disease will prove the most interesting. The fungus has no oospores, but the mycelium passes the winter in the tubers, a view combated by Böhm, who maintained that we are completely ignorant of the way it winters. This fungus has been found on *Solanum muricatum* in Ecuador, and has been infected into *Solanum caribense* and *Petunia hybrida*. It also occurs on the Tomato. The use of Bordeaux Mixture is recommended and defended.

Passing to the higher fungi, the Ascomycetes first receive attention, and a very complete account of the Exoascæ and Witches' Brooms, pockets, &c. produced by them is given; Sadebeck's recent work being laid under full contribution. The mildews (*Erysiphææ*) and Nectrias and other Pyrenomycetes

follow, including interesting but abort paragraphs on *Epichloë* and *Claviceps*. Under the Discomycetes, a considerable share of attention is given to Woronin's *Sclerotinia*; and Hartig's account of the Larch disease is accepted in its entirety. The advice given is, Larches in the low lands (i.e., as contrasted with its native alpine heights) should be planted only in airy situations, not in close plantations, and never in the neighbourhood of already-diseased trees.

The Ustilaginæ receive a very full treatment, based on Brefeld's work, and the section on Uredinæ is very interesting, owing to the large amount of attention this group has attracted lately at the hands of Erikson, Klebahn, Plowright, Tubeuf himself, and others.

The different varieties of *Puccinia graminis* are fully given according to Erikson & Henning's recent work (1894), which affords a new glimpse of the complexity of the problems of heterocism among these fungi. Similarly with the Gymnoangium forms, to which also a good deal of attention has been directed of late. Tubeuf has himself worked specially at these forms, and he here gives a very full account of the group, with lists of the varied results which different authors have obtained by sowing them on the various Pomaceæ on which they are heterocisms. This section is both interesting and important, and again serves to open up wide vistas in this difficult domain of mycology. Of course, the Witches' Broom on Silver Fir, &c., due to the well-known *Æcidium abietinum* receive attention; as do all the principal fungi which attack Conifers and other trees. Many of these latter, especially those which destroy timber, are Basidiomycetes, and Tubeuf has introduced photographic reproductions here—as elsewhere in the book—with marked success.

The systematic or "special" part ends with a short categorical treatment of the "fungi imperfecti," and phytopathogenic schizomycetes and Algæ.

On the whole, the author is to be congratulated on having produced a book which is decidedly in advance of any of its predecessors, and which must be regarded as the most complete compilation we possess on the subject. The style is clear, and the print excellent. Fault may perhaps be found with the inequality of the discussions; for instance, the Potato disease is disposed of in two pages, while more than twenty are devoted to *Gymnoangium*; but such a matter depends on the point of view, and it is not difficult to conclude that the author is especially interested in morphological questions. Be this as it may, however, there can be no doubt that the work is a useful and valuable contribution to science, and will be welcome in all botanical libraries. *H. Marshall Ward.*

THE HERBACEOUS BORDER.

SINGLE AND DOUBLE-FLOWERED PYRETHRUMS.

A USEFUL hint in regard to the above popular and free-flowering group of plants is that given by the Messrs. Kelway—now is the time to plant. Indeed, it is more than useful, it is valuable, and especially so to those who would have fine flowers for the year that follows. But the planting of such things in Midsummer, with the soil dust-dry in some districts, 2 or 3 inches deep, involves a certain amount of risk, and probable losses. The latter, however, may be reduced to a minimum by only planting well-established pot-plants, not starvelings, that have no vigour remaining, but such as have been specially prepared during the past spring for planting during the present season. There are many, I am aware, who adopt the rough-and-ready practice of dividing these Pyrethrums with a spade at any convenient time. My own experience goes to prove that there is nothing to be gained by planting large clumps of these plants, or even by cutting them in halves; on the contrary, such a practice invariably results in blossoms inferior in size, and these by no means represent the flowers in their best form. I have

tried several ways and different seasons, but find none so equal that of dividing the plants into small pieces of, say, three or four crowns each, and potting them into pots of large 60 size; then place them in a cold, close, well-shaded frame for a short season till new roots and fresh growth are both apparent. In a month, all being well, they will be ready for planting out again. This operation is best performed in the early spring, when about 4 inches of new foliage has been made, and when the dividing has been carefully done, the losses are very few indeed. Following this practice, I have propagated many thousands of these plants. In precisely the same manner these plants may be increased in summer-time after flowering is completed. At the latter date the plants should be cut down to within 6 inches of the ground, and when new leaves spring from the tufts, lift and divide them in the way recommended above. The plants resulting will be ready by the middle or end of August, and should be planted out without delay. Such plants, of course, will not be capable of producing results in the ensuing year equal to those earlier planted, and for this reason, and the saving of a season's bloom, the spring-propagated plants are much the best all round. If possible, get these into their permanent positions by the end of May or early in June. Autumn-planting for these Pyrethrums cannot be generally recommended, and on cold or clayey soils they frequently dwindle and die; and, singularly enough, on heavy soils, the plants frequently become a prey to a small black slug, that demolishes every leaf as soon as it appears. In this manner I have known whole beds to be wrecked during winter-time, the slugs working unobserved in the tufts, in defiance of the usual preventive measures taken to keep slugs in general in check. It is a good practice to surround the plants with coal-ashes, as a preventive of the ravages of slugs. When planting at whatever season, the soil must be deeply worked and heavily manured; and to secure the best results and finest flowers, divide and replant every two years. J.

THE ROSARY.

THE COUBERT DOUBLE WHITE ROSE.

We had occasion recently to mention this Rose as growing at Kew. It is a form of *Rosa rugosa*, of relatively dwarf stature, and large double flowers of great substance and snow-white lustre. From an article in the *Journal des Roses* by M. Grosdemange (November, 1894), it appears that this Rose was raised by M. Cochet-Cochet at Coubert, hence the Rose has been called "Blanc double de Coubert." It is a most desirable introduction, well suited for beds, shrubberies, or corners.

VARIORUM.

FLOWERS OF THE NORTH-WEST PRAIRIE.—

On this vast, this seemingly interminable prairie of the Great North-west Territory of Canada, the flowers are truly beautiful and various, and to the true lover of Nature are things of beauty and joys for five months of the year, from the time (May) when that sweet harbinger of spring, Anemone patens, puts forth its light blue cups, not sparingly but by thousands, till September, when the lovely *Gentiana acaulis* (?) and stately Sunflower are in full glory; the colour of the former being blue as the heavens above it, and the latter brilliant as the yellow sky round the setting sun. The season of these Anemones—here erroneously called Crocuses—is somewhat short, as the flowering is over, and the fluffy heads of seed ripen by the beginning of June. But this rapid maturity is not peculiar only to the Anemone, for all vegetation in this land of extreme heat and cold is the same; its appearance is sudden, and the growth to the ripening stage simply prodigious. As the Anemones fade away they are followed in rapid succession by several kinds of Ranunculus, all being

of a dwarf habit, none so tall as the familiar Buttercup of the meadows of the Old Country. Then appears, mostly on high ground, in compact clumps, a very low-growing plant, which bears a profusion of pure white, almost square-shaped flowers, which are evanescent, however, for they last but a week or so. At the same time may be found, growing in more humid soil, the yellow Lupin, its bright flowers being conspicuous from quite a distance. Where the land has been "broken" (ploughed), this plant is almost sure to appear, and continues flowering for several weeks; it produces seed freely. Never shall I forget the delight and surprise I experienced when I first came during a botanical ramble upon a fine clump of *Cypripedium*, bearing ten fully-developed flowers, and as I looked with admiration upon this lovely wildling, with its Orchid-like beauty, it seemed to me to be hardly possible, knowing that but a few weeks before the ground under its roots was frozen solid for several feet down, that it could retain its vitality in such trying circumstances—of such are truly the wonders of Nature.

Just now (June 25) the Roses and Lilies—of which latter, however, I have only met with one variety—are the most conspicuously beautiful; of the former, there are some so dwarf that they almost rest upon the ground, while others are several feet high, their natural growth having almost the appearance of trained standards. The colours of these Roses vary from the purest white to a dark rich red; some are variegated, like the old York and Lancaster, but all have about them a most delicious perfume. The fruit, which is produced in abundance, and of several shapes, from perfectly round to very long oval, while some of them are round, with the exception of the top, which is perfectly flat, somewhat like a Medlar. All of them become the food of the prairie chick, and the bluff partridge. The large oval fruit, when fully ripe, can be made into a very nice preserve; this I know from practical experience. The flowers are from 1 to 2 inches in diameter, the petals lying wide apart, so that when fully expanded they are quite flat. As I have said, I have met with but one variety of Lily, which in shape, size, and colour, though somewhat brighter and lighter, with brown spots at the base of the petals, much resembles the *Vallota purpurea*, but unlike that handsome plant, the leaves are all produced on the flower-stem, like most other Lilies.

Of Vetches, there are several varieties to be met with on the prairie, all bearing purple flowers, with one exception, which is white, and much larger; they grow from 1½ to 2 feet high. Then there is the "Fairy Flax," which, however, does not "open" till the month of May, for it does not come to us till June is half over, when its delicate, fragile flowers expand in great profusion. Of Violets, we have two varieties, the white and the purple, the flowers and foliage being much larger than those of the Old Country; but, alas! they have no fragrance to waste on the desert air, or awaken fond recollections in the heart of the lonely settler, for they have not even a suspicion of perfume. Then come the bold-looking, erect, handsome *Harpaliums*, their rich yellow and brown flowers forming a strong contrast to the elegant, lightly-poised flowers of the ethereal *Harebell*, which may generally be seen growing in close proximity to its more robust sisters. Two varieties of *Aquilegia* are to be met with here, a dwarf and a giant; the foliage of the former is simply exquisite, being quite as beautiful as Maidenhair Fern; but the flowers are insignificant. The tall giant variety is to be met with only in the "bluffs" (woods or bush), where it grows to the height of 4 and 5 feet; the foliage, though like that of its little sister just mentioned, is very much larger, and of greater substance, and although handsome, is comparatively coarse; its flowers, also, are no great attraction. The Daisy we have—not the "wee crimson-tipped flower," but a pure white, with several flowers on each stem, which is sometimes 4 or 5 inches long. Of elegant Meadow-sweet there is an abundance, scenting the air with its fragrance. *Pyrolas* abound in moist shady places, their round, broad, firm leaves, and charming Lily-of-the-Valley-like

flowers frequently covering the ground to the exclusion of all other plants. Auriculas, also, where the ground is humid, but exposed to the full sun, are to be seen by hundreds in one place; the foliage and flowers, the latter of a light purple with yellow centre, are smaller than the varieties in cultivation, but they have the characteristic of their petted sisters of being powdered. There are to be seen wide patches, extending several yards across, of a beautiful miniature white Everlasting-flower, which when gathered when just in full bloom, will remain fresh and firm for years. I have some such which I gathered four years ago, and they are as white and perfect as when first taken from the prairie. T. S. J.

PLANT NOTES.

HEUCHERA SANGUINEA.

In this very droughty season, the above pretty herbaceous perennial is exceptionally free in flowering. I recently observed a nice healthy batch of it growing with great freedom amongst the many useful things to be found at St. Clare Gardens, Kemsing, the seat of Sir Mark Collet which gave me a more favourable impression of the plant than heretofore. Its deep-red flowers on stems 1¼ to 1½ feet high had a quite charming effect in the mass. The gardener at St. Clare's spoke highly of it as a pot plant for the conservatory and greenhouse, and of his intention to grow a good number in pots another season. The plant is readily increased by taking the side-shoots and dibbling them into a sandy compost under a handlight, or by severing the young rooted shoots and planting them on a north border at about 1¼ feet apart, to be lifted and potted at a later date. A native of northern Mexico, introduced in 1832. H. Markham.

NURSERY NOTES.

ALLINGTON NURSERIES, MAIDSTONE.

For many years, with unwavering determination, Messrs. G. Banyard & Co. have been adding to their already extensive fruit nurseries, till at the present time it may be safely said to contain one of the finest collections of fruit trees in the world. The thousands of young trees, clean, healthy, and free of growth, found in the Allington Nurseries of the firm must be seen for their general excellence to be comprehended. The area under fruit trees is upwards of 100 acres, and the 20 acres recently added have been trenced two spits deep, and are well filled at the present time with healthy planting stuff. The trained Peach and Nectarine trees are examples of good management, and being worked on a free-growing variety of stock, any of them would, with due attention, quickly cover a large space on high walls or trellises. There are 50,000 trained trees in the nurseries, exclusive of cordons. Almost every known variety is kept in stock, but only the most approved varieties are extensively cultivated.

Apples were remarked as planted in "drifts," ranging from 30,000 to 70,000 in a drift, and the wood is vigorous, the foliage ample and of good colour, and in many instances well studded with flower-buds. In one square I observed 38,000 dwarfs worked three years ago, which were in most cases carrying a capital lot of fruit that promises to grow to a fair size. It is a matter of surprise how well these miniature trees fruit, and how bright the colour of the fruits, more so indeed than from some trees that are cultivated in pots. Plums and Pears are extensively grown, but the latter not in such large numbers as Apples and Plums.

One might reasonably have imagined that the drought would have crippled the growth of many of the young trees, but this is not so, the numerous fibrous roots penetrating the soil in every direction, enabling the plants to grow unchecked. Owing to

the regularity of the planting, a horse-hoe can be used between the lines of trees, and, as a fact, it is constantly at work, keeping a crumbly surface and killing weeds. This fine tilth preserves the moisture in the soil.

A fine plantation of Roses, consisting of some 10,000, was noted, which, as regards the Hybrid Perpetuals, passed through the winter without a plant being any the worse for the hard and long frost. The Teas suffered severely, especially those budded as standards, dwarfs escaping largely where covered with snow. Many new varieties of fruits from all parts are being grown for trial. H. M.

TREES AND SHRUBS.

HEDYSARUM MULTIJUGUM.

This plant has naturally a loose straggling habit. The leaves scarcely exceed 5 inches in length. The racemes are erect, loose, with fifteen to seventeen flowers, generally fewer; each flower is about $\frac{3}{4}$ inch long, violet or rosy-lilac, becoming blueish as it withers. The pod divides into three or four, flattened, orbicular disc-like segments thickened at the margins, and with tooth-like projections from the sutures, and from the centre of the valve of the carpel. We have now seen specimens from Messrs. Barbier, of Orleans, the Royal Gardens, Kew, and the Botanic Garden, Cambridge, all substantially alike, and in accordance with Regel's figure.

COLONIAL NOTES.

THE GOLD COAST.

We learn from the *Kew Bulletin* that Mr. C. H. Humphries has been appointed to succeed the late Mr. W. Crowther as Curator of the Botanic Garden at Aburi. Mr. Humphries has had three years experience in the tropical department at Kew, and had previously been with Messrs. Kelway & Sons for nine years.

SAINT LUCIA.

Mr. J. C. Moore has received the appointment of Curator of the Botanic Station, St. Lucia, West Indies. Mr. Moore was employed before entering at Kew at the gardens, Broadlands.

THE WEEK'S WORK.

THE HARDY FRUIT GARDEN.

By W. POPE, Gardener, Highclere Castle, Newbury.

FIG TREES: THINNING THE FRUITS.—It will be necessary where the fruits are numerous to thin them, so as to obtain good size and fine quality. First, those which are mis-shapen from any cause should be removed, then all undersized and late ones. Continue to remove superfluous shoots, so as to admit sunshine to the fruits, and to the shoots reserved for fruiting next year. All foreright shoots should also be cut away, and short-jointed, sturdy growth laid-in in sufficient number to duly cover the wall-space without crowding.

THE BUDDING OF STOCKS.—At this season budding may be performed if a number of suitable stocks have been prepared. The best buds will be found on half-ripened shoots of middle size, wood-buds, that is, such as will produce a shoot only, being taken. Such buds are readily distinguished from bloom-buds by their more elongated and pointed in shape. Be careful to choose healthy, free-growing shoots, and not to take them sooner than they are wanted for inserting in the stocks. Of course, if they have to be sent to a distance, the shoots should be bundled up in damp moss or the like, and when unpacked, they should be immersed in water for a few hours before making use of them. The budder must be provided with a pail or watering-can in which to place the shoots, standing the butt-ends in the water, having first cut off the blade of every leaf, but retaining the stalk. This latter will serve to protect the bud a little, and is useful as a handle wherewith the bud-shield may be pushed

into place. Having cotton, soft rafia, or Russian bast, cut into suitable—say, of $1\frac{1}{2}$ feet—lengths, one or two knives, and a bone, in readiness, select a suitable bud, and, commencing at its lower end, cut a slice of bark and wood about $1\frac{1}{2}$ inch, or slightly less, in length, with the bud occupying the middle point; then carefully remove the small portion of wood left in the bark by inserting the end of the knife-handle at the proper upper end of the bark, bend back the slip of wood, which, if the shoot be in a suitable condition, will readily separate, leaving no depression or pit beneath the bud. If a pit be left, the bud is useless. Having made the bud, cut a slit lengthwise in the bark of the stock about 1 inch in length, and at any desired height from the ground; make a cross-cut at the top of the slit, raise the bark a little on both sides with the knife-handle, insert the bud at the point where the cross-cut is made, and push it gently but firmly to the bottom of the slit, cutting off any of the shield which may overlap the cross-cut, and bind-in the bud firmly with bast or budding-cotton. The ligature will require to be loosened in about one month afterwards. The stock should not be cut back till the autumn or winter, when it may be removed all but about 6 inches above the bud; and in the following summer, when 10 or 12 inches of growth have been made, this snag may be cut off close to the young shoot.

PLANTS UNDER GLASS.

By W. H. SMITH, Gardener, West Dean Park, Chichester.

FERNS.—These plants should now be afforded water in abundance, it being almost impossible to afford too much if the pots are filled with roots, and the plants growing strongly. Weak manure-water, applied twice a week, will do them good; and some much diluted soot-water, now and again, will be found to keep the fronds of a good green colour, especially if applied to such as have not been repotted this year. When there is a large call for the fronds of *Adiantum consutum*, a good number of the plants should be placed in a frame facing the north, choosing those which have nearly finished their growth. This cooler treatment will tend to harden the fronds, and they will last much longer when cut than those not so manipulated. Tree Ferns should be examined occasionally for thrips, or the fronds will soon be spoiled. Sponging them with weak tobacco-water is one of the best and most effectual means of ridding the plants of this pest. [Vaporising with XL All is likewise safe, and a great saving of labour. En.]

ORANGE TREES.—Those trees which have set their crop of fruits may be freely syringed overhead, afforded liquid-manure occasionally, and ventilated freely. All rank shoots, and such as if left would tend to spoil the symmetry of the crown, may be cut-in. Any trees infested with aphid should be well fumigated, and the leaves cleaned by sponging with soapy-water; afterwards, occasional syringings will keep them clean. Scale is sometimes very disfiguring to the trees, and must be got rid of by washes. Trees that were not repotted or retubbed should be examined as regards the drainage, and top-dressed with rich sandy loam after removing the old soil. It will do the trees no harm, but rather good, if they are stood out-of-doors till the end of August. If they have been growing in shaded houses, it will be advisable not to put them at first in full sunshine, although they will be able to bear it after a week or two of exposure.

BAMBOOS.—If these are grown in pots, they may, if space be required in the conservatory for other things, be put out-of-doors, as for instance, in the sub-tropical garden, plunging the pots in the beds or in the turf, but finer growths will be made if they are left indoors. Bamboos require plenty of water at the root, and a top-dressing afforded every fortnight of Clay's Fertiliser and soot. Bamboos make good-sized bushes when grown in comparatively small pots; but if large plants are wanted, they must have good-sized pots, and the present is a good time for repotting. A suitable compost is made of fibrous loam, peat, leaf-soil, $\frac{1}{2}$ -inch bones, and charcoal. A few suitable species for pot culture are *B. arundinacea*, *B. mitis*, *B. striata*, *B. violascens*, *B. Simonis*, and *B. nana*.

SCENTED-LEAVED PELARGONIUMS.—These plants are general favourites, and very useful for conservatory and other uses. Small young plants may be potted into 48's and 32's and stood outside, and when the pots get filled with roots, stop the shoots by nipping off the points to give the plants bushiness.

FANCY, SHOW PELARGONIUMS, &C.—Put in cuttings of these, choosing for the purpose shoots that are half-ripened. In the cutting-pots use sandy loam and leaf-soil, and place them in a cold frame close to the glass, keeping the frame close until roots are made. The old plants, after the cuttings have been taken, should be stood in a sunny place out-of-doors, and kept somewhat dry at the root for a time, pruning them hard back towards the end of next month. A number of Ivy-leaved Pelargoniums may now be potted, and have three or four stakes put to each, around which the shoots may be trained. Keep the flowers pinched off till within a few weeks of the time that they are required to flower.

THE ORCHID HOUSES.

By W. H. WHITE, Orchid Grower, Burford, Dorking.

CATLEYAS AND LÆLIAS.—In a representative collection of *Catleyas* and *Lælias*, there is scarcely a week in the whole year in which there is not some species or hybrid in flower. At the present time the *C. Eldorado* in variety is attractive. The flower-sheath he come up together with the new growth, and by the time the pseudo-bulbs are quite formed, the flowers have pushed up out of the sheath. The blooms, when open, have a delicious fragrance, and in a dryish atmosphere they will last in beauty for several weeks. While the plant is flowering it needs careful watering, as too much moisture afforded at this time causes the fleshy, half-matured growth to decay; and this not seldom ends in the loss of the plant. On the other hand, the plant should not be kept dry at the root, but should receive just as much water as will keep the compost slightly moist, and much less moist when the blooms are cut, and the new pseudo-bulbs fully made up. *C. Eldorado* and its varieties, *splendens*, *crocata*, and *Wallisii* have often been imported, but artificial cultivation does not agree with them for many years together. For several years past our plants have been grown with the Mexican *Lælia*, but their progress has not been quite satisfactory. When they began to grow last April they were experimentally placed in a warmer-house, where an even atmosphere is maintained, and kept more closely shaded than before. The result was that every plant, even those that were fast deteriorating, greatly improved, and scarcely a growth failed to produce flowers, the majority of which carried from two to four good-sized ones. On the completion of growth they will be placed at the least warm part of the *Catleya*-house. New roots will push out from the base of the flowering-bulb in a few weeks time, and the old roots subsequently throw out a quantity of short rootlets. It is at this time that repotting should be performed if any of the plants stand in need of it. *Catleya gigas*, *C. Dowiana*, *C. D. aurea* and *C. rex* may also be repotted soon after the flowers fade. After repotting any of these plants, water should be very sparingly applied, just enough to encourage the roots to grow and to preserve the old ones in health. When re-established gradual exposure to the sun's rays is necessary to mature the growth, and prepare the plants for their long rest, and unless they are properly ripened premature growth may result.

ARPOPHYLLUM GIGANTEUM AND SPICATUM.—Among Orchids that are not generally cultivated are these two species, which are attractive enough when seen with a dozen or more strong bloom-spikes. Both succeed in well-drained pots in a mixture of peat and sphagnum-moss, if accommodated in a light part of the intermediate-house and plentifully supplied with water.

MISCELLANEOUS.—A charming miniature botanical species now flowering is *Polycynis Lehmannii*. Its flowers have some resemblance to the Swan-neck Orchid (*Cynoches*), and its lip is prettily spotted. At the present time it is kept in the intermediate-house, growing in a hanging shallow pan with the ordinary Orchid compost to root in. In the cool-house, plants of *Epidendrum vitellinum* are starting into growth, and will be afforded fresh materials to root into without delay. They grow the best in small pots, in a mixture of peat and sphagnum-moss, the crown of the root being kept above the rim of the pot, the new growths turning black if they are in contact with the soil. *Lælia herpophylla* may also be repotted, keeping it with the *Odontoglossums* for the present. This and the preceding species grow best standing down upon the stage amongst other plants; when hung up, the dry currents of air which reach them through the top ventilators seem to act injuriously on them. An extremely beautiful

Orchid now in flower, is *Paaius Humboldtii*. Although coming from Madagascar, it does not always grow as satisfactorily under the treatment given to plants from that country, most of which like stove treatment. This species, on the contrary, succeeds in a shady part of the Cattleya-house. When in full growth, much water should be afforded, but no overhead syringing, or the young breaks become spotted, soon decaying. Yellow-coloured thrips infest the growths, doing much injury, and being minute, are not readily seen. It is good practice to dust tobacco-powder into the growths occasionally, or place the plants in a house which is being vaporised. Some growers prefer to use tobacco-paper for the destruction of thrips, but the tender leaves of the plant in question are sometimes injured by strong fumigation. Others occasionally dip the plants into some safe insecticide, taking care to shade them from the sun's rays for a few days afterwards.

THE FLOWER GARDEN.

By BAILEY WADDS, *Gardener, Birdsall Gardens, York.*

BULBS FOR THE SPRING GARDEN.—The time for ordering bulbs of the florist is now at hand. Single-flowered varieties of Hyacinth are the best for bedding purposes. Good reds and crimson of these are—Amy, La Reine des Jacinthes, Lord Macaulay, Veronica, and Robert Steiger. White: Grand Vainqueur, La Grandesse, Voltaire, and Grand Vedette. Blue: Baron Van Tuyll, Bleu Mourant, Charles Dickens, Marie, King of the Blues, and Uncle Tom. Yellows: Fleur d'Or, Heroine, and Ida. Porcelain-blue: Czar Peter, Grand Lilac, La Peyrouse, and Regulus. Double-flowered varieties for bedding are—Whites: Anna Maria, Jenny Lind, La Desesee, and La Souvenir d'Anvergne. Red, rose, or crimson: Alida Catharina, Bouquet Royal, Charles Prince of Sweden, Groot Vorst, Princess Louise, and Regina Victoria. Blue: Garrick, General Antic, and Oshello. Yellow: Goethe. Double and single-flowered Tulips for a bright display of colour are more satisfactory in the spring-garden than any other kinds of bulbs for beds, or for planting in patches of six or eight together in the herbaceous or shrubby borders. A few good early single varieties are Duc Van Thol various, and Artze scarlet; Brutus, orange-crimson; yellows, Canary-bird and Chrysochlora; reds, &c., Crimson King, Cramoisie superbe and Duchesse de Parme, red and gold; yellow and orange, Golden Prince; La Grandeur vermilion-coloured. Of Pottebakker there are several beautiful varieties. Proserpine, is beautiful dark rose; Queen of the Netherlands, rose; Queen Victoria, white and crimson, Royal Standard, white and cerise; La Reine, white; Thomas Moore, orange. Early double-flowered varieties are Agnes, scarlet; Arabella, carmine; Duke of York, dark rose with white border; Gloria Solis, reddish-brown with yellow edge; Grenadier, scarlet and gold; Imperator rubrum, scarlet-crimson; La Candeur, white; Lady Grandison, vermilion; Premier Gladstone, red; Purple Crown, blood-red; Queen Victoria, red and white; Rex rubrum, scarlet; Rose Blanch, white; Tournesol, scarlet and yellow varieties; Velvet Gem, crimson and yellow. Good late double varieties are alba maxima, white; Marriage de ma Fille, white flaked with red; Peony, gold-striped; Rosa mundi, rose; Yellow Rose, yellow, sweet-scented. Tulip Geaneriana should be largely planted for mixed borders.

CROCUSES.—In continuation of my list of last week, I now give a list of autumn, winter, and spring-flowering Crocuses. The flowers are attractive always, and especially those of the early spring, which appear at a time when flowers of other genera are few. If planted in the borders of herbaceous plants, or in the foreground of shrubberies, they may stand in clumps of twelve or twenty; for edgings of flowerbeds alone, or in conjunction with edgings of *Arabis alpina*, Ivy, &c., they always give a lively appearance. Good varieties of *Crocus versicolor* are, whites, Queen Victoria, Mont Blanc, Caroline Chisholm, Reine Blanche, Grand Conqueror; blue and purple, Margot, Prince Albert, David Rizzio, Baron von Brunn, Lord Derby, Lord Palmerston, Sir John Franklin, L'Unique, Oshello; yellow, Giant Golden Yellow, Old Golden Yellow, Cloth of Gold, Albion, Belle Lisette, Lady Stanhope, Miss Patte, President Grant, N° Plus Ultra, and Sir Walter Scott. Other species of Crocus are aureus, vernus, striatus, suaveolens, Imperati, odoratus, albiflorus, flowering at the end of winter, and onwards to March

and April. The autumn-flowering species are sativus, scrotinus, Pallatii, nudiflorus, and speciosus.

GALANTHUS NIVALIS AND NIVALIS FL.-PL., the double and single varieties of the common Snowdrop, should be largely planted in clumps by woodland paths, or under the shade of trees near drives. Choice varieties for planting in borders in the garden proper are *G. caucasicus*, *G. Elwesii*, *G. Imperati*, *G. latifolius Redoutei*, *G. robustus*, and *G. plicatus*.

ERANTHIS HYEMALIS.—The winter Aconite, the hardiest and earliest spring flower, is a useful plant for covering the soil under the shade of trees, and it is effective as an edging to flower beds. It is a plant of lowly growth that looks best when planted in masses together. It will grow in any kind of soil.

DAFFODILS.—No bulbous plants better repay the care and attention bestowed on it than Daffodils and Narcissus. The plants look well either as masses in beds, clumps in the borders, or in other ways, and they never fail to give satisfaction. The soil for Narcissus may be the ordinary soil of the garden, or it may be made up of loam and leaf-mould with quite rotten manure. The drainage should be thorough, or they will do no good. The land should be deeply stirred, and in manuring it, the manure should be put deep enough, not to be brought into contact with the bulbs; and before the latter are planted, it should be made quite firm. Planting may be done at depths varying from 4 to 6 inches, according to size of bulb. A few good trumpet Daffodils are bicolor, Horsfieldi, Empress, Grandis, Dean Herbert, cambrius, Colleen Bawn, Fred Moore, Johnstone, Madame de Graaf, princeps, Pseudo-Narcissus (the Lent Lily), Shirley Hibberd, Incomparabilis in numerous varieties, both single and double-flowered. Many other species and varieties are to be found in the bulb dealer's lists.

JONQUILS.—If these sweet-scented flowers are planted, it should be only in sheltered parts of the garden in beds of good rich soil. The best are the double and single-flowered Olorus, Campernelli major and O. C. minor.

FRUITS UNDER GLASS.

By RICHARD PARKER, *Gardener, Goodwood, Chichester.*

MUSCAT VINES.—Vineries in which are ripe Grapes, will require to be very carefully ventilated, otherwise the berries may be affected by rust, and this is likely to occur if they are cooled by air being allowed to circulate rapidly through the houses. If the borders where the berries commenced to colour were efficiently watered, and covered afterwards with straw, the Vines will require no more water till the crop is cut, but as the present season is a particularly hot and dry one, it would be well to examine the border occasionally, to ascertain if the soil is approaching dryness, a dry soil soon causing shrivelling of the fruit, and hindering the development of the young wood. As a shade to the Vines, a Strawberry-net may be fixed on to the roof to mitigate the fierceness of the sun's rays. If but a few bunches remain on the Vines, it will be advisable to cut these with several inches of wood, and bottle them; then theinery may be thrown open, and the foliage syringed daily. Later crops of Muscats should be assisted with abundant supplies of water at the roots. The borders should be mulched with cowshed manure, and afterwards afforded tepid water in quantity. Where the roots are in both outside and inside borders, the former should be lightly forked over, and manure and water applied as advised for the latter. Afford supports to the shoulders of bunches when necessary, using broad strips of matting for the purpose, and where necessary remove a berry or two to prevent a too great degree of compactness.

OTHER VINES.—The Madresfield Court Vines have, so far, given no trouble this season, the fine weather enabling us to afford ample ventilation. Continue to keep a gentle warmth in the pipes during the night, with a little ventilation on the top-lights.

LATE VINERIES.—The fruit of Lady Downes and Gros Colmar which has to be kept throughout the winter should be freely thinned. In many gardens the first-named variety will be at that stage when scalding is apt to take place. So far, I have not seen a trace of it yet; but theinery is freely ventilated during the day, and no water is made use of in theinery after 3 P.M., at which time the borders and walls are copiously syringed. A slight circulation is kept up in the pipes during the night, while at the same time a fair amount of top-ventilation is

afforded, which prevents moisture from settling on the berries. Keep all lateral growths pinched back, and treat the borders as advised for Muscats.

GENERAL WORK.—All fruit-houses from which the crops have been gathered should be thrown open, and the roof-lights removed where portable. Syringe the foliage copiously morning and evening, and see that the roots are well supplied with moisture.

THE KITCHEN GARDEN.

By JOHN LAMBERT, *Gardener, Powis Castle, Welshpool.*

GHERKINS, VEGETABLE MARROWS, AND GOURDS.

—The soil between the plants should be forked up as the bine grows, and the latter should be thinned out whenever it becomes crowded. Ornamental Gourds and Pumpkins should have a piece of slate placed under the fruits, so that they may be kept clean. Remove the leaves shading the fruits of Pumpkins and Gourds, so as to afford them the full benefit of sunlight to give colour to the skin and ripen them perfectly. Afford heavy applications of manure-water occasionally when the fruit is swelling.

CARDOONS should not be planted in exposed situations, or the wind will break and injure the tall leaf-stalks. The plant will now require abundance of water at the roots, and syringings in the evening.

SALADS.—The seeds of Lettuces must be sown at intervals of a week or ten days, and batches of plants pricked out weekly. The land selected for the crops at this season should be such as does not get the whole day's sun, and which is in good heart. Radishes, Endive, and Mustard and Cress should be sown at short intervals. Radishes do very well on east or west borders, and in very light soils on situations facing north. Endive will grow almost anywhere, if care be taken not to spoil it by crowding the young plants together.

PARSLEY.—Continue to transplant Parsley whenever the weather is favourable for the job, remembering that one can hardly have too much of it. Transplanted in the present month, Parsley makes strong growth before the winter; and transplanted Parsley is, I think, better for withstanding frost than intransplanted. Plant 6 to 8 inches apart, and in some convenient place, where it may be readily covered in case of need.

CABBAGES.—If a bed of strong stocky plants be planted at about this date, they will afford heads for late autumn cutting. The planting should consist of early-heading, compact-growing varieties, and it should be frequently hoed to keep a loose surface, and afforded copious waterings in dry weather. Towards the end of the present month the first sowing of seeds of red Cabbage may be made broadcast in beds thinly, or in lines 1 foot apart, thinning the seedlings betimes, so as to obtain stocky short-stemmed plants.

SEAKALE.—The beds may be occasionally dressed with agricultural salt, applying it lightly just before rain. Do not let flower-heads develop, but cut them off at the ground-level when observed.

MISCELLANEOUS.—Clear off the remains of exhausted crops of all kinds, thus preserving a tidy appearance in the garden, and the land from unnecessary impoverishment. Wherever time admits of it being done, such land should be manured and dug in readiness for cropping.

GROWING AQUATICS.—Once upon a time the writer of this paragraph was invited to a nursery celebrated for its large business in connection with the growing of water-plants, or, as they are commonly called, aquatics. As the locality was far away from lakes or ponds, much curiosity was felt as to how the large quantity of plants was cared for. It was found that nearly everything was being raised in old kegs or barrels, sunk deep into the earth, and where water could be led into them by a hose or other methods. The hint may be taken advantage of by those who read of the beauty of aquatics, but do not have lakes or ponds of their own to grow them in. Old paint-kegs, or any vessels that will hold water, can be buried partly in the earth, filled with water, and seeds sown; or young plants planted in mud placed at the bottom of the water. Many of the smaller kinds of water-plants can be grown in this way without any serious difficulty. The vessels need not be water-tight. "*Mechan's Monthly*" for July.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER. Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETING.

TUESDAY, JULY 23 { Royal Horticultural Society's Committee, at the Drill Hall, Westminster.

SHOWS.

SATURDAY, JULY 20 { Rose Show at the Manchester Royal Botanic Gardens.

TUESDAY, JULY 23—Tibshelf Horticultural.

WEDNESDAY, JULY 24 { National Carnation and Picotee Society, at the Crystal Palace. Chesterfield Rose, Newcastle-on-Tyne Horticultural (three days).

THURSDAY, JULY 25 { Caterham Horticultural, Reckenham Horticultural. Surrey Horticultural, at Brockwell Park (two days).

FRIDAY, JULY 26 { Trentham and Hanford Horticultural and Rose.

FRIDAY, JULY 26 { Wellingborough Floral and Horticultural.

SALES.

TUESDAY, JULY 23 { Three direct importations of Orchids, for Unreserved Sale. Also a grand importation of Cattleya aurea, from Messrs. H. Low & Co.; and a fine lot of Orchids, from Messrs. F. Horsman & Co., at half-past 12 o'clock. Also, at 4 o'clock precisely, a splendid lot of Palm Seeds, Cannas, Freesias, &c.—at Protheroe & Morris' Rooms.

FRIDAY, JULY 26 { A grand selection of Orchids, from Messrs. F. Sander & Co.; together with Orchids in flower and bud, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—63°.4

Examination in Horticulture.

The class lists of the last examination by the Royal Horticultural Society have been issued, and from them and the examiners' report we cull the following particulars. It may be mentioned that the candidates came from widely different parts of England and Scotland, a centre being established wherever a magistrate, or clergyman, or schoolmaster, or other responsible person accustomed to examinations, would consent to superintend one on the Society's behalf, and in accordance with the rules laid down for its conduct. No limits as to the age, or position, or previous training of the candidates were imposed, and the examination was open to both sexes.

' EXAMINERS' REPORT.

To the Council of the Royal Horticultural Society.

Gentlemen,—We beg leave to report that we have examined the papers of the candidates who offered themselves for examination in Horticulture in May, 1895. There were 169 candidates in all, varying greatly, as usual, in age, occupation, and in the means of instruction at their disposal.

Three hundred marks were allotted as a maximum, and all candidates who obtained 200 marks and upwards were placed in the first class. Those who received between 150 and 200 marks were placed in the second class; and those to whom 100 marks and upwards were adjudged were ranked in the third class. The remainder, who obtained fewer than 100 marks, were not classed.

In this way 12 candidates were adjudged worthy to be placed in the first class, 37 in the second, and 73 in the third class. The highest number of marks obtained was 260, by Miss A. U. GULVIN, of the Horticultural College, Swanley.

Considering the opportunities at the disposal of the candidates, the results may be considered satis-

factory. The effect of continuous systematic training is well exemplified in the class lists. On the other hand, many young gardeners and mechanics, who cultivate small gardens and allotments, but who have not had the opportunity of regular tuition and systematic study, have taken a lower place than they otherwise would have done, because they have failed to grasp the significance of the questions.

We have the honour to be, gentlemen, your obedient servants,
MAXWELL T. MASTERS,
JAS. DOUGLAS."
June 15, 1895.

We can only find room for the names of those candidates who were placed in the first class, but we may add that the full list will be published in the *Journal* of the Society.

Maximum number of Marks obtainable, 300. No. of Marks gained.

First Class.		No. of Marks gained.
1. Miss A. U. Gulvin, Horticultural College, Swanley	...	260
2. Mr. Geo. Butcher, gardener, 188, Wellfield Road, Streatham	...	240
3. Miss F. M. G. Moklethwait, Horticultural College, Swanley	...	220
4. Mr. Brown, Horticultural College, Swanley, Kent	...	215
4. Miss Alice Hutchings, Horticultural College, Swanley	...	215
4. Mr. J. Warner, School House, West Street, Dorking	...	215
4. Miss Madeline Agar, Horticultural College, Swanley	...	215
8. Mr. G. H. Cave, 16, Gloucester Road, Kew, Surrey	...	210
8. Mr. W. Bell, Knighton Road, Leicester	...	210
10. Mr. Edward Dumper, The Gardens, High Ashurst, Dorking	...	205
11. Mr. J. K. F. Jack, Horticultural College, Swanley	...	200
11. Mr. H. W. Gunston, Fressingfield, near Harleston, Norfolk	...	200

The questions put were as follows:—

Eight questions only had to be answered: four from Division A, including No. 5, which had to be answered by every candidate, and four from division B.

DIVISION A.—ELEMENTARY PRINCIPLES.

1.—(a). What substances do plants absorb by means of their roots? Explain the process of absorption by the root.

(b) What elements do plants obtain from the air, and by what agency do they obtain them?

2.—Explain the effect on flowering plants of an adequate, a deficient, or of an excessive, amount of heat.

3.—How are "cuttings" made? Describe the changes that occur during the process of "striking."

4.—What are the objects sought to be obtained in digging the soil?

5.—Write as full and orderly a description as you can of any plant in common cultivation, through all stages of its growth, from the germination of the embryo to the formation of the seed.

6.—What organs of the plant are represented respectively by an Onion, a Cabbage, a Potato, Beet, Turnip, and a Pea-pod?

7.—Describe the mode of growth of the common Mushroom.

8.—What is meant by "greenfly"? What is the best application to rid plants growing out-of-doors of this pest?

DIVISION B.—HORTICULTURAL PRACTICE.

9.—Name six of the best species of hothouse flowering plants, and give some of the general details of culture. Name some of the insect pests that infest such plants, and state the best method to be adopted for their destruction.

10.—Give general details for growing Peas, and the method of culture, time of sowing, &c., to give a supply for as long a period as possible. What is the use of the nodules on the roots?

11.—What is an alpine plant, as the name is generally understood in gardens? Describe the cultural

requirements of such plants, and the best way to propagate them.

12.—What is the original parentage of Cauliflower and Broccoli? Give the method of culture, and the best varieties to obtain a succession all the year round.

13.—Give some details of the culture of Grapevines under glass. Describe the diseases to which they are subject, and the insect pests which attack them, and their cure.

14.—What kinds of fruit trees and bushes are best adapted for culture in small gardens? Briefly describe the best method of culture, and arrangement of the trees and bushes.

15.—In a walled garden, what kind of fruit trees would you recommend to be planted on the four aspects—south, north, east, and west? What distance apart should the trees be? Suggest the best width of the borders and height of the walls.

16.—(a). What do you consider the best class of soil for fruit trees, and how ought it to be prepared for them?

(b). Is there any method of culture likely to prevent canker in Apple trees or gumming in Apricots, Cherries, and Plums?

A glance at the above extract from the class list is sufficient to show the great advantage afforded by training and systematic study. Even when candidates are approximately equal in their natural abilities, and knowledge of the subject, those that have been specially trained, as at Swanley, have the great advantage of being able to utilise their knowledge. We believe that many candidates fail, not so much from actual lack of knowledge as from want of care in reading the questions set. For the last two or three years candidates have, we learn, been asked to describe in their own way any plant they pleased, or sometimes a particular plant has been specified, such as a Potato or an Onion, the plant selected being always one with which candidates might fairly be expected to be familiar from constant handling or observation. Now this question is in many cases either shirked entirely, or the candidate gives the details of cultivation concerning which nothing is asked. This seems to show that candidates trust too much to knowledge derived from books or lectures, and that they do not use their own eyes or trust to their own powers of observation and inference.

OUR FRUIT REPORT.—Our tabular report on the condition of the fruit crop in Great Britain and Ireland, will appear in our issue for August 3. The remarks on the crops kindly furnished by our correspondents, will appear in subsequent numbers.

HAND LIST OF HERBACEOUS PLANTS CULTIVATED IN THE ROYAL GARDENS, KEW (sold at the Royal Gardens, Kew).—A useful list of alpine and herbaceous plants cultivated at Kew, and numbering about 6000 species. For the convenience of cultivators the list is printed on one side of the page only, leaving the other free for the addition of further entries or remarks. We notice nearly ninety entries of Lily names—itsself a refutation of the once-held opinion that Lilies could not be grown at Kew. Now, even other bulbous plants used for decorative purposes are grown at Kew by following the same plan that is adopted in Holland. The value of these hand-lists as furnishing a common nomenclature is very great. Moreover, the list necessarily includes the best kinds up to date, and thus supersedes the bulky catalogues which include all sorts, good, bad, or indifferent, in or often out of cultivation.

"THE KEW BULLETIN" for June and July, contains a variety of interesting matter. In addition to notes on more or less well known subjects, there are technical descriptions of newly-found plants in the Solomon Islands, the Transvaal, Natal,

Lagos, Somaliland, and southern Arabia. In an article on the Sugar Maple and its products, we are glad to see the editor retains the best known name, *A. saccharinum*. The "saccharinum" of LINNÆUS was, it appears, the species now better known as *A. dasycarpum*, Sir Charles Wager's Maple. *Gossypium Stocksii*, Masters, considered to be the origin

Street, Victoria Street, London. At 3 o'clock a paper by Mr. P. BROTHENSTON on "The Carnation in Scotland," will be read.

CANNAS.—We recommend all interested in these gorgeous plants to visit the collection now in bloom at the Royal Horticultural Society's garden at Chiswick;

ground—very fine. Some of the newer kinds sent out by Messrs. PAUL & SON are equal to those distributed by CROZY.

EPPING FOREST.—The Report from the Epping Forest Committee to the Court of Common Council has been published. It deals with the alleged undue



FIG. 14.—HEMEROCALLIS AURANTIACUS VAR. MAJOR. (SEE P. 62.)

of the cultivated forms of *G. herbaceum*, and previously only known from Sindh, has been discovered by Mr. BENT in southern Arabia. *Saranga sinuosa*, Hemsley, is the name of a very extraordinary Pandanus from the Solomon Islands.

THE ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Royal Horticultural Society will be held on Tuesday, July 23, in the Drill Hall, James

they will be well repaid for their trouble. Among the best varieties now in bloom are Séateur Montefiore, orange-bronze, edged with yellow; Paul Siegrist, rich crimson, thin yellow edge; P. Marquart, orange-pink self; Guillaume II., crimson self; Phœbus, orange-pink self; Comte Horace de Choiseul, glowing crimson self; Alphonse Bouvier, scarlet-crimson self, very fine; Star of 1891, orange-red; Antoine Barton, with red spots on a yellow

and unnecessary cutting of timber in the forest. "We fail to find," say the Committee, "justification for the attack that has been made; on the contrary, we discovered many instances of gross exaggeration." Attached to the report are reproductions of drawings which appeared in one of the daily papers on May 4, purporting to represent the state of certain spots in the forest on that day, together with photographs of the same spots two days later, May 6. Judging

from these photographs, "grosa exaggeration" is much too mild an expression. Another report from the Committee of Experts is expected shortly, so that it will be well to withhold further expressions of opinion.

THE BLACK RASPBERRY.—Specimens of this were shown by Mr. FARINI at the last meeting of the Royal Horticultural Society, and some were kindly supplied to us, and enabled us to identify the plant as *Rubus occidentalis*, Linn.* The species is very common in Canada and the northern United States, and has been in cultivation here since 1696. Mr. FARINI'S specimens are the result of selection and "interbreeding," [with which species is not mentioned, but probably cross-fertilisation, not true hybridisation, is intended]. Owing to the drought, the fruits which are now about the size of marrow-fat peas, are much smaller than usual. The canes are scandent, rooting freely at the tips, when in the early autumn, they bend over and touch the soil. The plants yield a prolific, but not a continuous crop. Fruiting laterals are formed at short intervals all along the stem. Cooked or raw, the fruit is said to be good eating, but it will have to be improved still more before it is likely to find favour with epicures uninterested in the history and evolution of fruits.

TOTTENHAM CHRYSANTHEMUM SOCIETY.—By the kind permission of Baron SCHRODER, the members of the above Society, to the number of fifty, paid a visit of inspection to the beautiful residence and gardens of The Dell, Eaglefield Green, on July 9. Many thanks are due to Mr. H. BALLANTYNE and members of the staff for kindness and courtesy in conducting the party through the extensive range of houses and grounds, and in doing all they possibly could to make the visit an enjoyable one. An excellent dinner and tea were provided at the "Sun Inn," Eaglefield Green. The first meal was presided over by H. HENDERSON, Esq., who proved a genial chairman. Drives were afterwards taken into the surrounding country.

ACADEMY OF SCIENCES.—Baron Sir FERDINAND VON MUELLER has been elected a correspondent in the botanical section.

NEWCASTLE AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.—The monthly meeting of this society was held at 25, Westgate Road, on Tuesday, July 9, Mr. MURRAY, gardener at Oakwood, Wylam-on-Tyne, presiding at an excellent attendance of the members. Most of the evening was spent in naming species and varieties, and discussing the various merits of hardy herbaceous plants, several collections of which were brought in by the members. Towards the close of the meeting, the members had an opportunity of viewing a facsimile of the "Magna Charta," provided by W. BRANDFORD, from which the secretary read extracts; also the warrant for the execution of Mary, Queen of Scots, and several other items of historic interest, which proved highly instructive.

NATIONAL CARNATION AND PICOTEE SOCIETY (SOUTHERN SECTION).—I beg leave to remind your readers, writes Mr. JAS. DOUGLAS, Hon. Secretary, that the annual show of the above Society will be held at the Crystal Palace on Wednesday, the 24th inst. Upwards of £150 are offered in prizes. Amongst special prizes may be mentioned the Martin Smith prize for Border Carnations; the flowers "to be cut from plants which have been wintered without protection in the open border, and staged exactly as they are cut without dressing." The Turner Memorial Trustees give a handsome Silver Cup, value £5, for the best stand of twelve Carnations, bizarres, and flakes, distinct, and twelve Picotees

distinct—amateurs only. Another special prize (not in the schedule of prizes) will be given by Mr. ERNST BENARY, Erfurt, Germany, "The Ernst Benary Memorial Prize." A large Silver-gilt Medal is given by the firm in memory of the late much-regretted founder of the firm, Mr. ERNST BENARY, for the most meritorious exhibit, either of plants or cut flowers, by an amateur.

HORTICULTURAL CLUB.—The annual excursion of the members and their friends, to which ladies are specially invited, will take place on Tuesday, July 30. The members will meet at King's Cross, Great Northern Railway (Suburban), at 9.30, and proceed by 9.45 train to Finchley, to view Mr. PETER KAY'S graperies. Buses will be ready to convey the party, at 1.15, through Barnet to Hatfield, where the gardens, &c., will be open to the inspection of the members, under the guidance of Mr. NORMAN, the Marquis of SALISBURY'S head-gardener. Members will return by 8.45 P.M. train from Hatfield to King's Cross.

TEIGNMOUTH GARDENERS' MUTUAL IMPROVEMENT SOCIETY.—A party to the number of thirty-six proceeded on Tuesday, the 9th inst., to Bicton, the seat of the Hon. MARK ROLLE, thence to Exmouth, visiting Bystock on the return journey. Arrangements had been made for viewing the groves and glasshouses of Bicton, but owing to some unforeseen obstacles the party after going out of their way about a mile and waiting about 1 hour, had to go away without having seen the object of their visit. Dinner was partaken of at Exmouth, Mr. F. HANNAF ORD taking the chair, being faced by Mr. SWAN, the gardener at Bystock. After a considerable amount of speechmaking, the party re-assembled, and drove to Bystock, the residence of J. P. BRUCE, Esq., which lies 2 miles from Exmouth. Here they were kindly entertained by Mr. BRUCE, after having inspected the various sights of the place.

CARNATION DISEASES.—Professor BYRON HALSTED, at the annual meeting of the American Carnation Society, indicated five diseases of the Carnation:—1, Rust; 2, Leaf-spot; 3, Black-spot; 4, Ring-mould; 5, Bacteriosis. Number 1 is produced by a fungus, *Uromyces caryophyllinus*; 2, by *Septoria dianthi*; 3 is not named; 4 is the *Heteroaportium echinulatum*; 5 is caused by a bacterium. We are familiar here with all these troubles, and also, quite as frequently, with eel-worm disease, caused by nematode worms, which is not mentioned in Professor HALSTED'S enumeration.

THE LATE M. DUCHARTRE.—Professor CLOS has published, from the *Bulletin of the Botanical Society of France*, his exhaustive note on the life and works of this distinguished and amiable botanist. The extent and diversity of his work as here indicated are very remarkable. His career was one of great difficulty at first; but he was never discouraged, and always seemed to place the interests of science before personal considerations. His work at the National Horticultural Society of France is known to some of our readers, and he discharged the duties of his secretarial and editorial office up to the day of his death. It is characteristic of the man, that when Paris was invested by the German army, DUCHARTRE was in the country. His course of lectures at the Sorbonne was announced to open on March 17. Entry into Paris was, as we know, almost impossible; nevertheless, DUCHARTRE succeeded in gaining entrance, and delivered his lecture as usual! The next day the Commune was proclaimed, but even this did not check the Professor's sense of duty. He continued till his work was stopped by ministerial decree.

GLADIOLUS FROM OFFSETS.—M. CROZY, sen., mentions, in the *Moniteur de l'Horticulture* for May 10, and on p. 112, a method of multiplying Gladioli which is little known. It consists in raising, under glass, Gladiolus bulbs, and, when the stems have attained a height of from 15 to 20 centimètres (5½ to 7¾ inches), in cutting these off quite near the starting-point without interfering with the base,

which, after the suppression of the principal stem will give birth to two, three, or even four new shoots, weaker than the first one, but which will, nevertheless, furnish bulbs to flower the following year. As to the detached shoot, it roots perfectly on a hot-bed, and by autumn forms a nice bulb of medium size. M. CROZY has, he says, practised this method of multiplication for many years, and has never had a mishap. *Journal de la Société Nationale d'Horticulture de France, May, 1895.*

HOOKE'S "ICONES PLANTARUM."—This publication, consisting of lithographic illustrations of plants, is mainly intended for systematic botanists, but frequently contains matter of interest to horticulturists also. In the June number we find figures of *Argostemma concinnum* noticeable, because it furnishes an instance of an annual plant terminating in a solitary flower—an occurrence so rare that but few instances are known, of course excepting those which are the obvious result of defective nutrition. *Rhododendron Hancockii*, Hemsley, t. 2381, is a native of Yunnan, and has large white funnel-shaped flowers, of such beauty that it is to be hoped it will soon be introduced to our gardens. *Brandia racemosa*, Hemsley, a Scrophularineous shrub, also from Yunnan, with rich red flowers, is also said to be a very desirable plant for introduction. The same remark applies to *Jasminum primulinum*, Hemsley, which looks like an enlarged variety of *J. nudicaule*. Like the preceding, it is a native of Yunnan.

"THE NATURAL HISTORY OF PLANTS."—This comprehensive work of KERNER, published in an English translation under the editorship of Prof. F. OLIVER, by Messrs. BLACKIE & SON, has now reached its fourteenth part. Nothing so comprehensive has been published since LINDLEY'S *Vegetable Kingdom*. But while classification was the leading, though by no means the exclusive feature of LINDLEY'S work, KERNER'S biology and physiology take a prominent but not an exclusive position. The book is beautifully illustrated, and as a cyclopædic book of reference is excellent. Perhaps it may be found convenient to give not only an index and an analytical table of contents, but also a reference to the principal authorities on the subjects on which the book treats. At present these references are wanting, and the student is not informed what or where is the authority for particular statements. As the work is so much more than a mere popular exposition, such an addition would be acceptable.

THE WEATHER AND THE CROPS OF 1894.—Mr. EDWARD MAWLEY'S report on the "phenology" of 1894 has been reprinted from the *Journal of the Royal Meteorological Society*. It will be remembered the winter of 1893-4 was not uniformly severe; the spring of 1894 was mild till the occurrence of severe frosts on May 21, 22. These ruined the fruit crops excepting Pears. The summer was generally cold, but the hay crop was good and well harvested. The autumn, as a whole, was mild and wet; corn ripened slowly, but the yield of both grain and straw was large. Oats furnished a larger crop than any on record. Potatoes were below average; fruit crops, as before said, deficient, except in the case of Pears. The returns upon which Mr. MAWLEY bases his conclusions number 113, from all parts of the country. New observers are wanted in south Ireland, and in north and east Scotland.

DR. SCHLICH'S "MANUAL OF FORESTRY."—The fourth volume of this excellent treatise is written by Prof. FISHER, and is devoted to the protection of forests against the incursions of man or his mismanagement. A second portion is devoted to the protection of forests against animals, birds, insects, weeds, frosts, winds, floods, shifting sands, acid fumes, and the like. The work is stated to be an adaptation of Dr. HESS'S work, *Der Forstschutz*, to the conditions and necessities of our country. The book, which is published by Messrs. BARNARDY, AGNEW & Co., demands a more extended notice at our hands in a future issue.

* "*Rubus occidentalis*, Linn., Black Raspberry, Thimbleberry. Glaucescous all over; stems recurved, armed like the stalks with hooked prickles, not bristly; leaflets three (rarely five), ovate, coarsely doubly serrate, whiteoak-downy underneath, the lateral ones somewhat stalked; petals shorter than the sepals; fruit purple-black (rarely a whitish variety), ripe early in July. Common, especially northward." *Asa Gray, Manual Bot. North United States, ed. 6, 1890, p. 155.*

THE SUMMER SCHOOL OF HORTICULTURE IN ESSEX.—The School of Horticulture, the particulars of which were given in some recent numbers of the *Gardeners' Chronicle*, is now in full swing, fifteen scholarships having been given by the County Council of Essex. Among the various places of interest visited by the students last week was Mr. SEABROOKE'S seed-farm at Chelmsford. The effect of the present drought on the size of many plants was most marked, and Mr. SEABROOKE mentioned that his William Hurst Peas which are usually some 2 feet high, were so short this year that the pods in ripening aprooted the plants which bore them. The Godetias were also stunted, and they were interesting from the manner in which variations and the difficulties of keeping varieties true were exemplified—matters previously noted in the case of Peas at Mr. CULLEN'S trial plots at Wittam. With reference to the trouble experienced in separating flower-seeds from the plants which bore them, it was learned that when threshing sweet-scented Stocks, veils of many thicknesses of material had to be used, as the dust given off had such a choking effect that the men feeding the machine were incapacitated in a few minutes, if unprotected. This effect is probably due to the short T-shaped hairs, with pointed ends, that cover the surface of these stocks. The party examined a plot of Spinach-beet in fruit which had been self-sown for six years; and also an empty space which had been planted thrice with Cabbages, only for them to fall a prey each time to the Turnip-leaf beetle, though generally speaking the county seems to be fairly free from injurious insects just now. Mr. SEABROOKE then kindly showed his collection of fruit trees, and gave a good deal of valuable information to the students concerning some of the varieties, also dwarfing stocks. Perhaps the most interesting point brought forward was Mr. SEABROOKE'S method, which he had picked up in America, of taking young stocks into the houses in winter-time, and, after grafting them in comfort by the fireside, of putting them carefully away until they could be planted out in the spring.

ANOTHER HORTICULTURIST AS JUSTICE OF THE PEACE.—After conferring with the Lord-Lieutenant of the County, Lord Chancellor HERSCHELL, before giving up his seals of office, appointed Mr. JOHN WATKINS on the Commission of the Peace for the County of Hereford. Mr. JOHN WATKINS is the proprietor of Pomona Farm Nurseries, Withington, near Hereford.

ANTHURIUM.—We have received from M. L. DE SMET-DUVIVIER, of Ghent, a series of interesting specimens of seedling variations of *A. Scherzerianum*. Taking them in the order in which they come, we find:—

A. S. Rosa Rooses.—A form with a cream-coloured spathe 8×4 cent., rosy-crimson at the base, and with a small central stripe of the same colour.

A. S. Madame De Smet-Duvivier.—Spathes about 12×9 cent., deep orange-crimson; spadix robust orange; a very handsome variety.

A. S. var. Duvivierana.—Spathe 10×6 cent., cream-coloured; spadix pale yellow.

A. S. var. Gandavensis.—Spathe 8×5 cent., orange-crimson; spadix slender.

A. S. var. amarantina.—Spathe 8×6 cent.; reddish-crimson; spadix slender.

A. S. var. atrosanguinea.—Spathe 7×4 cent., deep blood-red; spadix coral-red.

A. S. citron.—Spathe 7×5 cent., light orange-crimson; spadix citron-yellow.

SERIES WITH DOUBLE SPATHES.

A. S. var. bispatha.—Spathe 7×3 cent., rich red crimson; the second spathe somewhat smaller.

A. S. Prince Albert.—Spathe 6×3 cent., secondary spathe somewhat smaller, both dull crimson.

SERIES WITH MULTIPLE SPATHES.

These are forms wherein, in addition to the primary spathe, each flower, or a large proportion of them, is

subtended by a much smaller concave "spathella" (see fig. 15). These are the varieties now called "pomponate." We do not find this word in the Latin dictionary, but it is doubtless derived from the French "pomponner," pompon being an ornament worn on a soldier's cap. LITTRÉ tells us of a French saying "Avoir le pompon," which he interprets as "being in the first rank." The term pompon is applied to miniature Dahlias, Chrysanthemums, &c., but the application of the adjectival form pomponate is new to us.

A. S. pomponatum rubrum has a reddish-crimson spathe, 7×4 cent., and very numerous spathellæ of the same colour.

A. S. pomponatum album has a primary spathe, 8×5 cent., cream-coloured, with numerous spathellæ of the same colour; spadix yellow.



FIG. 15.—DRACATE FORM OF ANTHURIUM SCHERZERIANUM.

We are glad to see M. DE SMET acting on a recommendation often made in these columns when we have received these and other monstrous variations. Of *Anthurium Scherzerianum* we have now—1, simple-spathed forms (normal); 2, duplex-spathed forms with two or three spathes; 3, multiple-spathed or "pomponate" forms, with numerous secondary small spathes. As to colour, there are "self-coloured," "albedo," "spotted," and "striped" forms.

PUBLICATIONS RECEIVED.—Contributions to the *Queensland Flora*, by F. M. BAILEY, F.L.S., forming *Botany Bulletin*, No. 10, from the Department of Agriculture, Brisbane, Queensland, May, 1895, contains numerous descriptions of plants lately added to the flora of the colony; also, from the same department, *Bulletin* No. 5 (second series), devoted to *A Half Century of Notes for the Guidance of Amateur*

Fruit Growers, by F. M. BAILEY, F.L.S.—From the Cornell University Agricultural Experiment Station, Horticultural Division, *Bulletin* 84 (January), on *The Recent Apple Failures of Western New York*, by L. H. BAILEY.—*Bulletin* 86 (March), on *The Spraying of Orchards*, by E. G. LODGMAN.—*Bulletin* 87 (April), *The Dwarf Lima Beans*, by L. H. BAILEY.—And from the Entomological Division, *Bulletin* 93 (May), on *The Cigar-case Bearer*, by M. V. SLINGERLAND.—*Frutta Minora*, del Prof. A. PUCCI, Milano Ulrico Hoepli.—H. CORREYON, *Les Plantes Alpines et des Rocailles* (Paris, Octave Doin).—*Handbuch für Botanische Bestimmungsübungen*, von Dr. FRANZ NIEBENZU (Leipzig, ENGLMANN, *Plant Diagnosis*).—*Traité de Culture Potagère*, par J. DYBOWSKI (Paris, Masson).—*Petit Atlas de Poche des Champignons Comestibles et Veneneux*, par PAUL DEMÉE (Paris, PAUL KLINSIECK).—*Experimental Plant Physiology*, by Dr. WALTER OES, translated by D. T. MACDOUGAL (MOHAI & WILSON, Minneapolis).—*The New England Blossoms and their Insect Visitors*, by CLARENCE MOORE WOOD (Boston and New York: HOUGHTON, MIFFLIN & Co.). To some of these we must refer on another occasion.

MARKET GARDEN NOTES.

MR SHARP'S STRAWBERRY GARDENS AT KNOWLE, NEAR VIRGINIA WATER.—These gardens are famous for their Strawberries, and well known from the fact that they are open to the public, and anyone on payment of one shilling may eat as many as he chooses. A good many varieties are cultivated, including British Queen and Marguerite—the latter standing high in the estimation of visitors, although less firm in the flesh than other varieties. It is also Mr. Sharp's favourite variety, on account of the pickings lasting longer than others. Eugène and Oxonian were in splendid condition on the occasion of my visit; but for excellent cropping nothing could excel Comte de Paris, the crop of which was enormous.

There are one or two points connected with the cultivation of the Strawberry at Knowle I would like to mention, namely, no manure has been used for twenty years, although Strawberries have been grown on the same ground all that time. The soil is light and sandy, which soon falls to dust in dry weather, yet at 3 inches deep it retains a good deal of moisture, even in this dry season. The plants stand 2 feet from row to row, and 18 inches apart in the row, and they are allowed to stand from five to seven years before being renewed, and the plants notwithstanding looked healthy. Yet one could not help noticing the vigour of some Strawberry plants which had been planted on ground on which some weeds and litter had been burned, and the ashes strewed around. These patches were so conspicuous, that Mr. Sharp, jun., remarked on the way the Strawberry seems to revel in ashes and burnt refuse; and said that manure would be of some advantage for a change, and so for the first time for twenty years they have planted a portion of the young plants on manured ground. There is one advantage which plants grown without manure have—they do not throw many runners, and the land is not much infested with weeds. The perfume from these Strawberry gardens was so powerful, you could distinguish it some hundred yards before arriving at them, E. Bennett, Tyne, Chertsey.

HOME CORRESPONDENCE.

ANTHRACITE COAL v. SOOT AS A MANURE.—I have been waiting to see whether any of your readers would reply to the question under this heading, which appeared on p. 747 of the last volume, but I must have overlooked any reply, if such has appeared. I do not quite see how carbon *quâ* carbon in the form of coal-dust can be of so much use as soot, which I take it is used not because it is mainly carbon, but on account of its manurial value (ammonia) for one thing, and chiefly because of its odour, which tends

to disgust many of the insect pests, e.g., the Onion-fly. It would be interesting to learn whether carbon is a manure for plants. In the form of charcoal it is, no doubt, very useful, but then that is not because it is carbon, but on account of its power of attracting oxygen, and so helping to sweeten the soil. It is worth while mentioning, however, that a patented manure, many years old, was stated to be made of stone-coal (anthracite) and sulphate of iron, and it was said in testimonials to be useful. Personally, I do not think "G. S. H." will find anthracite "duff" a substitute for soot, which is valuable in more ways than one. *Saml. Ray*.

— In reply to the above (vol. xvii., p. 747), I do not think "G. S. H." would find "duff" of any value as a manure, unless his land be of a stiff clayey, or light calcareous nature. In these cases the application would have a mechanical effect, opening and lightening the clayey soils so that air could pass into them more freely; and darkening the colour of calcareous soils, which would make them warmer. On sandy soils it would be harmful if used. The value of "duff" as a manure—apart from its mechanical improvement—is not worth mention, there being only about 50 per cent. of nitrogen in an average sample, which is the only plant food it contains. The carbon is present in a mineral form and will resist decomposition; consequently, it would be years before the nitrogen became available for the use of plants. Soot is a good manure, for besides supplying plant food, it will improve the mechanical condition of all—except peaty—soils. The carbon in soot is present as organic matter, and can therefore readily undergo decomposition. An average sample of soot contains 4 per cent. of nitrogen, chiefly present as sulphate of ammonia, from 10 to 14 per cent. of sulphate, carbonate, and phosphate of lime, about 7 per cent. of chloride of sodium and potassium, and 25 per cent. of silicates of lime and magnesia, all of these being substances required by plants in their nutrition. *W. Dyke, Turnford, Herts.*

CARNATION DUKE OF YORK AND OTHERS.—When Mr. H. B. May sent out from Dyson's Lane Nursery this fine variety, he earned the thanks of all admirers of Carnations. When at its best the colour may be described as a brilliant shaded crimson, large, full, and finely formed; a good grower, which does not split its calyx. It wants but one more quality, that of fragrance, and then it would be perfect. In respect of the possession of this quality, the maroon-coloured Uriah Pike has a great advantage over it, and probably the latter is rather more free in blooming. But both are invaluable to any one who grows for cutting purposes. When are we to have a fragrant yellow self? I have never yet met with one that possessed fragrance. It may be coming, but it does not appear to have made itself known as yet. Germania would be perfect as a yellow self had it the clove scent of Uriah Pike. It is sometimes said that Germania is not a good grower, but I recently saw at the Royal Nursery, Slough, a number of two-year-old plants in pots, large in size, vigorous and free branching in growth, and remarkably free. Mr. Harry Turner said much finer flowers could be cut from such two-year-old plants than from yearling ones. *R. D.*

CHOICE HARDY RHODODENDRONS.—It is a pity that Messrs. Anthony Waterer & Son of the Woking Nurseries did not name some at least of the newer varieties they exhibited at the Drill Hall on June 11. Some of them, and especially the delicately-tinted pink and pale rose varieties, have yellow and orange blotches and spottings on the upper segments, which of late years have become considerably deepened in colour. One of the most striking of this type is Mrs. Pryce Lade, bluish or delicate pink, with a central bunch of rosy stamens, and orange blotch and markings on the upper segments. Lady Grimston is also very fine, and a good grower; it is flaked with carmine on a pale ground, and has striking top petals. A. B. Mitford is a large and finely-formed deep bright rosy-crimson variety, with dark spots on the upper segments. One of the most striking is picturatum, pink shaded with rose, the upper segments marked with large dark blotches, giving it the appearance of a Pelargonium. Some of the unnamed seedlings are also of fine character. *R., Ealing.*

EARLY PEAS.—I have read with interest the notes on early Peas by "A. H.," in your issue of the 13th inst. To gardeners, the new first early wrinkled varieties of Peas are of great value, being of superior flavour to those Peas which have round seeds. I have grown most of the wrinkled Peas, and find that

Harbinger, a variety sent out by Dicksons, Chester, last year, to be superior to any other that I know of, it being quite as early as Exonian; and although the pods are not of such a deep green colour as that variety, they are larger, which is a valuable point in an early Pea, and the Peas are of excellent flavour. The variety Gradus is a valuable second early wrinkled Pea, and when growers can depend upon getting it true to name, it will become a general favourite. The introduction of these fine Peas should lead to the extinction of inferior varieties. *M. G.*

PYRAMIDAL SWEET CHERRY TREES.—It is seldom that sweet Cherries are grown as pyramids in private gardens, a fact probably due to the unsatisfactory way in which they fruit, and to their liability to suffer from gumming. In gardens where wall space is abundant, and a western aspect can be devoted to these fruits, truly fine crops are obtained annually, and pyramids are not needed; but where wall space is not at hand, other methods have to be adopted for the production of sweet Cherries, and to my thinking, the pyramid seems the right sort of tree. It is, however, evident that the let-alone method will not do, and something more is needed than simply pruning and dressing to bring the trees into good fruiting. There exists in a garden not far from Maidstone a very fine lot of well-grown trees, which for the past four or more years have produced exceptionally heavy crops of large luscious fruit. The trees in question are planted moderately close together, so that in the fruiting season a wooden framework is easily placed over them, and over these some fish netting. This keeps the birds from the fruit. These trees are growing on the Mahaleb and Cherry-stock, and they are moderately pruned annually, so as to prevent a too free growth of the shoots. At these prunings some of the stronger roots are severed at a distance of 3 feet, measured from the stem, and as a consequence there is a mass of healthy fleshy roots at a short distance around the stems. During the growing season the young shoots are constantly pinched to assist in the formation of fruit-buds, &c., so that both at top and bottom the trees are much restricted—a practice some gardeners might regard as too severe. However that may be, a better and more fruitful lot of trees could not be wished for than these; and the pinching and root-pruning will be persisted in so long as the trees bear as freely as at present. Of the early varieties I may mention Frogmore Bigarreau, Early Rivers, Black Eagle, Kentish Bigarreau, Napoleon Bigarreau, and Elton; later ripening ones are Florence, Bedford Prolific, Black, and Tartarian. All of the Duke Cherries are well deserving attention of the gardener. *H. Markham.*

TOMATOS NOT SWELLING OFF.—The cause of "Nurseryman's" Tomato fruits not swelling, is either owing to imperfect fertilisation of the blooms, or to the plants, at an earlier stage, having received a check. As the fruit is swelling well further up the stem, and if there is plenty of light between the plants, and these are vigorous, I would advise the removal of all, or a large proportion, of the lower leaves of the plants, encouraging a shoot to grow from the base. This would soon clothe the bare stem, and if the variety is a free-setting one, fruit would in due course put in an appearance. This shoot could be stopped after showing three or four trusses. A similar case came under my notice a few days since, when visiting a friend's Tomato-houses; and, in this case, the plants were planted prior to the continued frost in February. The site is very low, and the soil, being cold, checked the proper extension of the roots; while the tops, being in a well-heated house, had, at the time, apparently not suffered. At present, the roots must be active indeed, as evinced by the vigorous shoots above, and a good crop will doubtless ensue. *P. F. Le Sueur, Grand Vale, Jersey, July 13.*

ARAUCARIA IMBRICATA.—On the terrace-garden opposite the south front of Alderbury Vicarage, Salisbury, is growing a remarkably good specimen of the Chili Pine (*Araucaria imbricata*). It was only 9 inches high when planted by the Rev. Canon Hatchings' gardener in 1851, now it is about 40 feet high, straight, and of handsome outline, and having a stem 3½ feet in circumference a few inches from the green sward, which is brushed by its branches. And when I say that the tree is bearing about thirty-five large flowers near the top, readers of the *Gardeners' Chronicle* will understand that it is in robust health, though one or two of the branches close to the ground show slight signs of distress—probably caused by the combined influence of the

unusually dry summer of 1893, and the equally exceptionally severe frosts experienced in January and February last, followed by the prevailing tropical weather of the last eight or ten weeks. Canon Hatchings, however, is of opinion that the distress referred to is owing to the fact of the roots having penetrated the sandy sub-soil—the natural surface soil being light, inclining to peat. This circumstance reminds me of an avenue of fairly good examples of *Araucaria imbricata* which I saw seven or eight years ago at Branksome Dean Park, Lord Wimborne's place at Bournemouth, which were then exhibiting proofs of declining vigour, and the natural soil and sub-soil at Alderbury Vicarage and Branksome Dean Park are, judging by appearances, very much alike. This being so, what practical inference are we to arrive at other than that the Chili Pine delights in a soil inclining to be peaty rather than otherwise, and which is well drained, and that so long as the roots are retained in this, and the tree being protected from the effects of north and east winds, so long will it make satisfactory growth. *H. W. Ward.*

VINE PERONOSPORA.—I send you a few mildewed Vine leaves and immature Grapes of the kind known as San Gioveto (the best quality used in making Chianti), as it may interest you to see the progress of the disease, and the effect of the Bordeaux Mixture upon it. They came from the *podere* attached to this villa, in which the Vines have been carefully medicated every year with the above mixture, since its introduction as a remedy. Nevertheless, this year the mildew made its appearance with the opening of the leaves quite early in May, and although the remedy has been applied three times already, and in doses of more than double the usual strength (that is, 2 kilogrammes instead of 1 of sulphate of copper to a quintal of water), the disease is by no means subdued. Of the four leaves sent, the top-most is one which opened early in the season, received its dose, and is cured. In the second one, the disease has been permanently arrested, but has not disappeared. The third leaf has been twice medicated, but the disease is still spreading. The fourth is a leaf of recent growth which has not yet been treated, which the fungus has attacked with extreme severity, and which would certainly wither. The effect on the fruit is such as I had not hitherto seen. As a rule the disease has appeared with us much later in the season, and its effect has been to prevent the Grapes maturing, leaving them light in colour and acid to the taste. Owing, I suppose, to the extreme humidity of the year, up to the end of June, the disease began early, with the result on the Grapes that you see. The Vines presented a great promise of fruit, but at least half of it did not flower, rotted at the stem, and withered. Thousands of fine bunches have gone that way even in this well-tended vineyard. My neighbours who have been less careful in this and previous years, have no fruit left at all. The Bordeaux Mixture proves itself to be a palliative of this, the most formidable enemy of the Vines which has ever yet appeared, I think, but far from being the complete cure too often claimed for it. That has yet to be discovered, and if it be not, the art of Vine-growing as a profitable industry may some day be as extinct as the Dodo. *Thomas C. Hayler, Florence.*

MONA'S PRIDE POTATO.—My experience with Mona's Pride has not been a very favourable one, and I have grown it three years in all sorts of ways. Better ones are as follows:—Star of Reading, which was sent to me for trial two years since, is a nice-looking tuber, early, a good cooker, and an abundant cropper. We have found fifty tubers at one root, the average number being thirty, an extraordinary number for such a small plant; the height of the haulm is about 1 foot. Myatt's Ashleaf is very good on our land. Daniele's Table King is a good variety, and I always cultivate a good lot of it, as it comes in so well after the above, and before white Beauty of Hebron. It is a good tuber, and much to be preferred to the pink variety, with the exception of white Beauty of Hebron. The others are all dug up, and done early. They were planted on March 12, and we began to dig them on May 23. I have about twenty more varieties, most of them new for trial, which I hope to report upon in a few months. *G. Howes, Merton Hall Gardens, Thetford.*

THE ROUND LEAFED SUNDEW.—It may not be generally known that the round-leafed Sandew (*Drosera rotundifolia*) occurs in the greatest profusion near the source of Brony Barn, Cullen, Banff-

POTATOS.

BOROUGH: July 16.—Quotations: Old, 40s. to 60s. per ton; New, 80s. to 120s. per ton. SPITALFIELDS: July 16.—Quotations:—Hebrons, 80s. to 100s.; Puritans, 90s. to 100s.; Snowdrops, 80s. to 100s.; Kidneys, 100s. to 120s. per ton. STRATFORD: July 16.—Quotations:—Old: 25s. to 40s. per ton. New: Beauty of Hebron, 80s. to 90s.; Kidneys, 90s. to 100s.; White Hebron, 85s. to 90s. per ton. FARRINODON: July 16.—Quotations:—New: White Hebrons, 5s. to 5s. 6d. per cwt.; Red do., 4s. 6d. to 5s. do.; Early Monarch, 5s. to 6s.; Puritans, do.; Jersey, 4s. to 5s. per cwt. LONDON AVERAGES: July 17.—New: Hebrons, 80s. to 100s.; Snowdrops, 80r. to 100s.; Early Regents, 80s. to 80s.; Early Rose, 75s. to 85s.; Jersey, 70r. to 90s.; Oberbourg, 65s. to 75s. per ton. Old: Mngnams, 30s. to 40s. per ton.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Table with columns: DISTRICTS, TEMPERATURE (ACCOMULATED), RAINFALL, BRIGHT SUN. Rows include data for various districts like O, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, and *.

The districts indicated by number in the first column are the following:— 0, Scotland, N. Principal Wheat-producing Districts— 1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending July 13, is furnished from the Meteorological Office:—"The weather was unsettled and rainy in the extreme western and northern parts of the kingdom, but generally fair in all other localities, although some rain was experienced in nearly all places on Thursday or Friday. "The temperature was rather high during the earlier days of the period, but fell considerably towards its close, and the average for the week did not differ materially from the normal value. The highest of the maxima were recorded either on the 7th or 8th, and ranged from 80° to 82° over the greater part of England, to 72° in Ireland, and to 71° in the north and west of Scotland. The lowest of the minima were recorded, as a rule, during the latter part of the week, and ranged from 41° in 'England, N. and E.', 42° in 'England, S.W.', and 43° in 'England, E.', to 51° in the 'Channel Islands.' "The rainfall exceeded the mean in 'Scotland, N. and W.', and also in 'Ireland, N.', and just equalled it in 'England, N.W.'; but in all other districts there was again a deficiency. "The bright sunshine was in excess over the whole of England, as well as in 'Scotland, E.'; but in Ireland and the west and north of Scotland, the amount recorded was less than the mean for the time of year. The percentage of the possible duration ranged from 62 in 'England, S.', and 61 in the 'Midland Counties,' and from between 46 and 59 in the other English districts, to 20 in 'Ireland, N.', and 12 in 'Scotland, N.'"

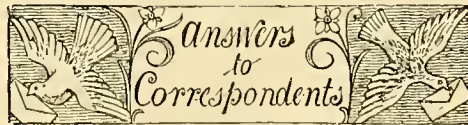
TO A MINOR BARD.

Poet, who long hast tuned thy song In praise of Roses and of Lilies, And wreathed each line with Eglantine To please the lovely Amaryllis, The taste in flowers those lines embody Is just a little bit dèmodè. If thou wouldst write for our delight (And that of her whom thou adorest), No longer wait, but celebrate The latest triumphs of the florist! Why obstinately shut thine eyes To horticultural novelties? They flaunt themselves on hot-house shelves, With petals spangled, twisted, forked;— Surely the Muse will not refuse To recognise the modern Orchid! Should gazing on their glories tire thee, Their names alone must needs inspire thee. How sweet, my friend, to seize and spend The wealth these noble names supply us;— To sing of Masdevallias Of Zygopetalum, and Phaius, And, seeking for a rhyme to "blossom," To find it in "Odontoglossum"! Then there's Cymbidium and Oncidium, Lycaste with the purple lip, Calanthe, too, of gorgeous hue. . . . Then haste!—The vacant laureateship— (I've shown the way)—'tis thine to win it, So set to work this very minute! —Pall Mall Gazette.

ENQUIRY.

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

BRITISH WINES.—"C. H. I." wishes for some receipts for making wine from Currants, Raspberries, Gooseberries, and Plums.



"* Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday."

"* PLANTS, FRUITS, ETC., TO BE NAMED.—Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists varieties cannot, as a rule, be named."

ANNUALS FOR STANDING THE WINTER: W. Agrostemma cœli-rosea fimbriata, 3/4 foot; Alysum maritimum, 3/4 foot; Bartonia aurea, 1 1/2 foot; Calceola coccinea, 1 foot; Calliopsis Drummondii, 2 feet; C. coronata, 1 foot; Candytuft, white, lilac, and crimson, 1 foot; Chrysanthemum Burdigeum, 1 1/2 foot; Clarkia elegans, in variety, 1 1/2 foot; Collinsia, in variety, 1 foot; Erysimum Peroffskianum, 1 1/2 foot; Eschscholtzia californica, 1 foot; Gilia, in variety, 1 1/2 foot; Leptosiphon densiflorus, 1 foot; L. aureus, 1/2 foot; Lupinus nanus and others, 3/4 to 2 1/2 feet; Nemophila varieties, 3/4 foot; Shirley, Oriental, and Iceland Poppies; Sanvitalia procumbens, 1/2 foot; Silene pendula, 3/4 foot; Sweet Peas, 5 feet; Venus' Looking-glass, 3/4 foot; Virginian Stock, in variety, 3/4 foot. The above is an ample list for any but large gardens, and contains many very pretty plants. To make quite sure of having a display, it is prudent to make sowings in September in small 60-pots, and thin the seedlings to five or six in a pot. They should be wintered in cold pits or banked-up frames close to the glass, and protected from hard frosts, and well aired at other times. These may be planted out in March.

BOOKS: C. M. T. The Landscape Gardener, by JON. NEWTON, published by Hardwick & Bogue, 192, Piccadilly. Milner's Landscape Gardening, published by Simpkin, Marshall, Kent & Co., Stationers' Hall Court, London, E.C.—F. C. Heinemann, Erfurt. The American Florist Company's Directory. Price, 2 dollars. Chicago: Published by the American Florists' Co. It contains a list of Florists, Nurserymen, and Seedsmen in the United States of America, besides other useful matter.

CARNATION FAILING TO BLOOM: J. H. Caused by over-watering, probably. There is no disease visible. CARNATIONS: J. A. The appearances are probably due to the presence of eel-worms. They are derived from the soil, so that they are difficult to get rid of. CHRYSANTHEMUM BUDS: X. The crown-bud is the terminal bud of the main stem, and therefore is really the terminal bud proper. The terminal bud of the Chrysanthemum fanciers is the terminal bud of the side-shoots. It might be called secondary terminal bud to avoid confusion, the proper terminal bud being called the primary terminal.

EUCHARIS: W. J. They are affected by the bulb-mite, and there being no cure for the malady, you had better burn all the affected bulbs and make a new start with clean plants.

GRAPES: R. D. L. The spots are due to a fungus figured in the Gardener's Chronicle, July 21, 1894. Spraying with Bordeaux Mixture in the very young state would be serviceable.

NAMES OF PLANTS: Correspondents not answered in this issue are requested to consult the next number. S. 1, Leptoapermum ericoideus; 2, Spiraea sorbifolia; 3, Eryngium alpinum; 4, Hierochloa redolens; 5, Lilium monadelphum; 6, Centaurea scabiosa.—C. H. I. 1, Lychnis chalcedonica; 2, Galega officinalis; 3, Josticia carnea; 4, Althæa officinalis; 5, Clarkia elegans; 6, Stenactis speciosa.—W. Over. Cattleya granulosa, var. Dubussonii.—X. 1, Pyrus Sorbus, the true Service; 2, Spiraea callosa.—E. J. N. A very good variety of Stanhopea oculata—W. M. Dendrobium superbiens.—M. 1, Myrsiphyllum asparagoides, often called Smilax; 2, Phyllanthus niveus; 3, Cyrtomium (Aspidium) falcatum, a cold greenhouse or conservatory Fern; 4, Lastrea aristata variegata.—G. M., France. The flowers of Epidendrum were quite dried up on arrival, but they appear to be of the variable E. fragrans. The abnormal flower is very singular.—W. V. T. Gnevinia avellana, Proteaceæ, figured in the Gardener's Chronicle, July 12, 1884, p. 41.—H. Henkel. Dendrobium gratiotissimum, the other probably Phlox maculata var. candida.—Amateur. Lavatera trimestris.

PEACHES: R. G. H. Without seeing the trees we are unable to do more than make a guess at the cause of the evils complained of. We know how severely the sulphurous fumes of coke-ovens and burning pit-heaps affect the fruit trees at Lambton Castle; and it does not seem improbable that the proximity of the smoky district of Byker and the surrounding factories and collieries may have exercised a baneful influence on the trees.

ROSES: J. C. S. We do not undertake to name Roses.

SULPHIDE OF POTASSIUM: E. H. Kept by most chemists.

TOMATOS: W. J. The fruits have the "black spot," a disease caused by a fungus, Peronospora lycopersici. Cut off forthwith, and burn all affected fruits, and dress the plants with the Bordeaux Mixture.

VEGETABLE MARROWS DISEASED: J. L. We cannot tell from your description of the case what it is that causes the loss of the plants. Kindly send an entire plant, or, at least, leaves, shoots, and roots, for our inspection. In the meanwhile, employ the Bordeaux Mixture against it; of course taking care to wash all fruits before cooking them.

COMMUNICATIONS RECEIVED.—W. E. G.—T. H. C.—R. D.—J. R.—N. R.—G. N.—E. L. J.—N. S. S., Dresden.—M. Max Corbu, Paris.—J. C.—R. J. L.—F. H.—A. D.—T. F.—W. P.—T. W. Turvey.—D. T. F.—A. P.—J. J. W.—A. C. F.—C. W. D.—K. P.—T. F.—H. C. F.—J. L.—J. A.—G. W.—G. V.

PHOT. GRAPHS, SPECIMENS, &C. RECEIVED WITH THANKS.—Sander & Co.—E. Koder, Tomatos (next week).—F. W. O. (next week).—G. Mautin, Paris—G. W. (next week). We cannot reply by post.—G. W. W.—H. G. H. (next week).—W. H. D.—H. J. R.—G. W. W.—G. H.—J. W. O.—G. W.—W. T.

THE GARDENERS' CHRONICLE

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SPECIALLY SELECTED ORCHID PEAT.

LIGHT BROWN FIBROUS PEAT, 5s. 6d. per sack; 5 sacks, 25s.; sacks, 4d. each.

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YELLOW FIBROUS LOAM, PEAT-MOULD, and LEAF-MOULD, 1s. per bushel.

SPHAGNUM MOSS, 8s. 6d. per sack.

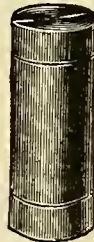
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WOOD-WOOL.—WOOD-WOOL.

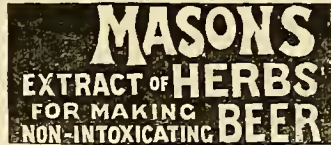
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CROWN WHARF, DEPTFORD, LONDON, S.E. The Largest Manufacturers in the Kingdom. Large Stock of Standard Qualities. Prompt Delivery. Samples and Prices upon application.

STAND WIDE!

Don't allow yourself to be led into the notion that any amount of beer you may swallow will restore your jaded energy so quickly and completely as the invigorating beverage made from

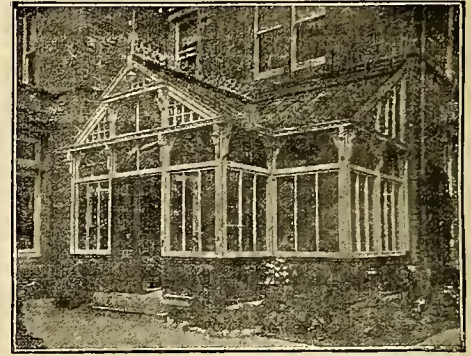


And if you wish to be a friend to yourself and anyone should ask you to doubt the accuracy and expediency of this advice, you will be consulting your own interest by telling them to Stand Wide!

For every RAILWAY MAN and all workers everywhere. It is the finest beverage obtainable. One 6d. bottle makes 8 gallons. Of all Chemists and Stores. SAMPLE BOT. FREE 9 STAMPS. NEWBALL & MASON Nottingham.



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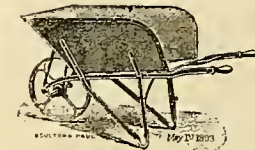
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The top can be taken off, making an excellent Leaf and Garden Barrow.

CASH PRICE. Painted 30/- Body galvanized, extra 6/-



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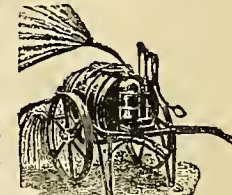
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Suction pipe at 1/3 per ft.

If fitted with extra powerful pump, two delivery hose jets and sprayers, for spraying fruit trees, &c.; also dashers, for keeping the solution mixed whilst in use, 2s.



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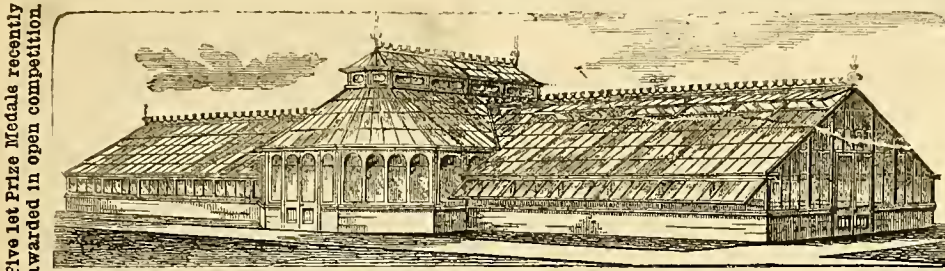
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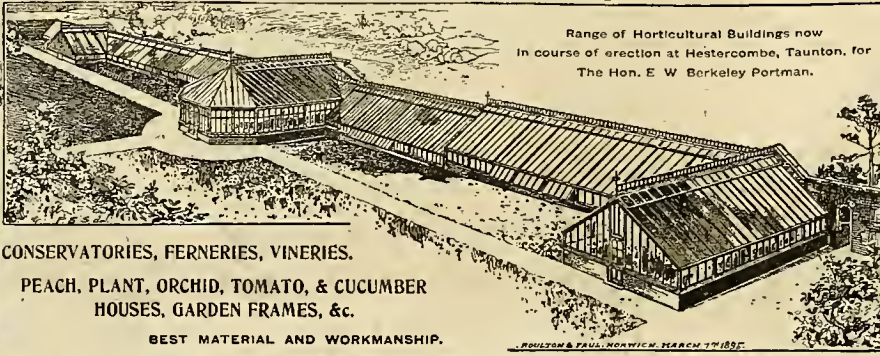
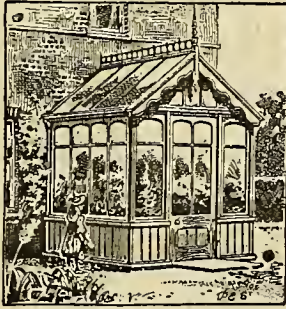
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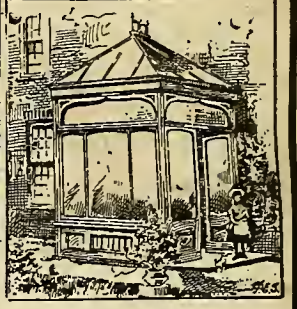
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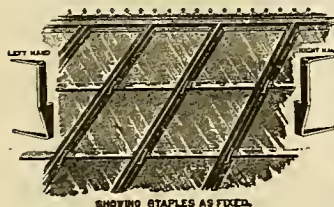
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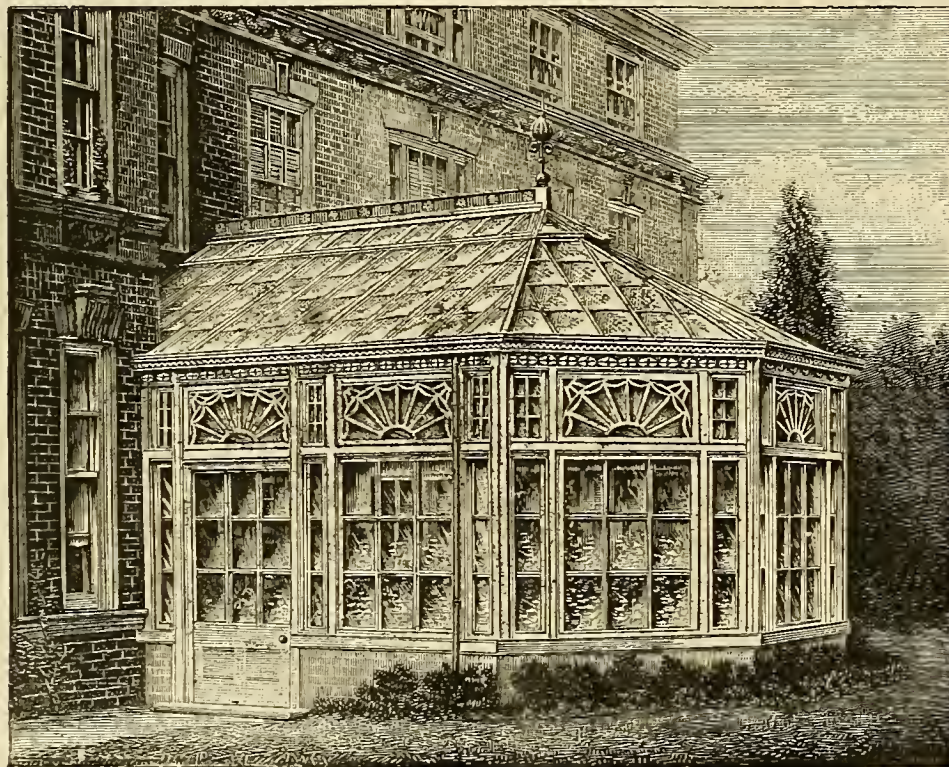
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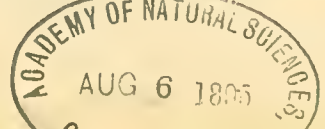
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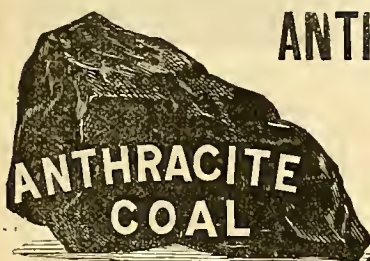
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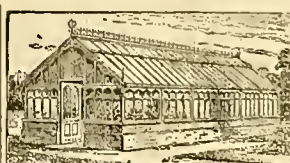
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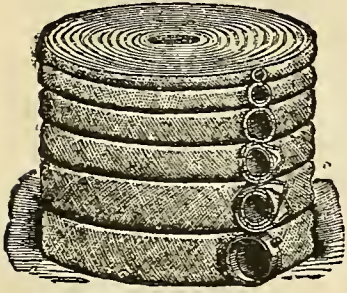


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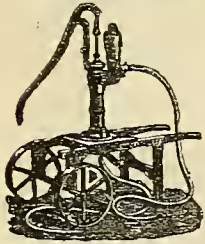
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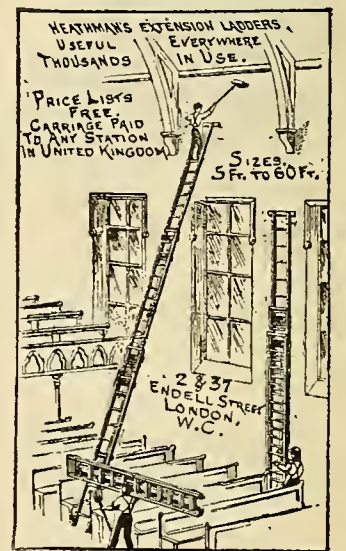
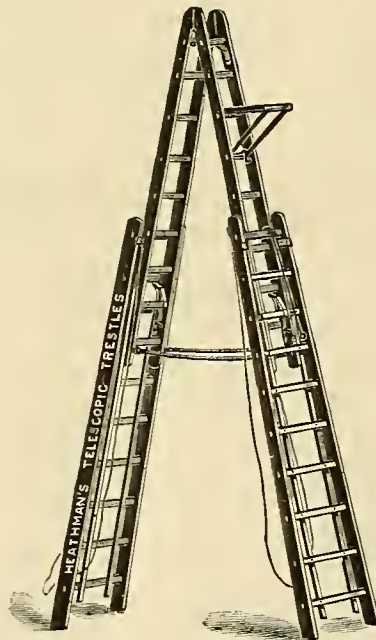
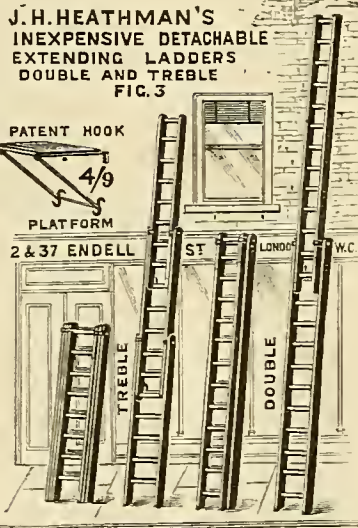
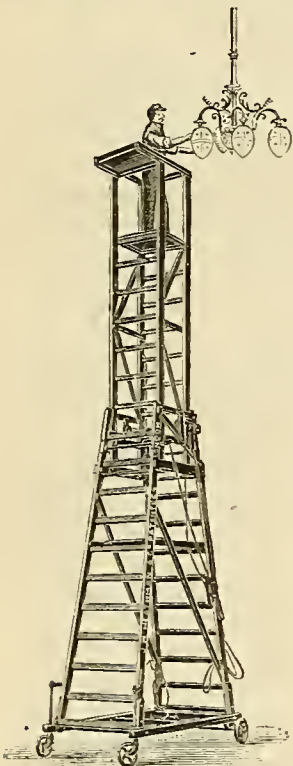
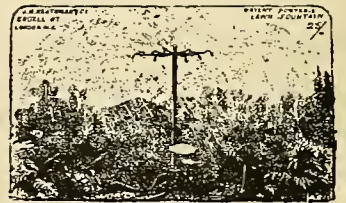


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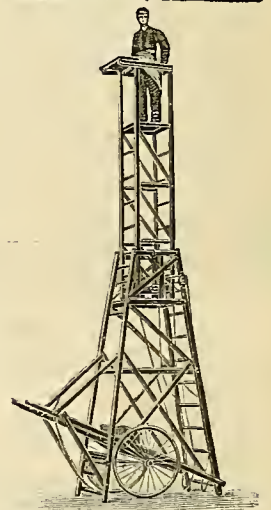


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THE **Gardeners' Chronicle.**

SATURDAY, JULY 27, 1895.

THE GARDEN CINERARIA.

ADDITIONAL evidence has now to be recorded which may be of importance in relation to the question as to the origin of the garden varieties of Cineraria (see pp. 588 and 655 of our last volume). At any rate, it has value independently of any specific application. In the first place, we have the positive testimony of Mr. Kelway in the *Gardeners' Magazine* for June 29. Mr. Kelway claims that the garden Cineraria originated with him in 1837. In that year he raised seeds from Cineraria oruenta, and amongst the seedlings observed several having a distinct ring of white round the disc (a feature, we may add, much more characteristic, so far as we have observed, of *S. Heritieri* than of *S. cruentus*). From these Mr. Kelway selected two, and from these two he raised other seedlings much improved in habit and in the shape of the bloom, and handed them over to Messrs. Webber & Pearce, of Merriott. Mr. Kelway, however, retained some himself, and their descendants now occupy several large houses. Mr. Kelway's plants then, are, in his opinion, pure uncrossed descendants from *S. cruentus*.

But nearly thirty years previously hybrid Cinerarias were in existence in Germany, to say nothing of others, which it is alleged were raised in 1824, and in subsequent years.

It may then be taken as established that there were in the early part of the century seedling variations from *S. cruentus*, and also that there were crossed variations in which some other species than *cruentus* was concerned. These facts suggest an enquiry as to the cause of the seedling variations; and secondly, an enquiry whether the Cinerarias as now grown originated exclusively from one or from the other category. The first subject is too vast and too recondite to be entered upon within the limits of a note, particularly as there is no direct evidence to be adduced. As a conjecture, we should think it very likely that seedling variations are the result of the dissociation of previously-mixed characters, the mixture having taken place perhaps ages since.

That the Cineraria, as we now know it, may have had a hybrid origin within comparatively recent times, is a hypothesis, which the facts now to be recorded show, is not to be summarily dismissed as unworthy of credence.

We have to thank Mr. Lynch, the Curator of the Cambridge Botanic Garden for specimens of a remarkable Cineraria which made its appearance in that establishment. Some plants of *Seneio Heritieri*, DC. (= *Cineraria lanata*, L'Herit.), were received, as Mr. Lynch informs us, from Kew, and, as it was desired to perpetuate the species, seeds were collected and sown in the ordinary way. Only one seedling came up, however, but this one showed a marked deviation from the type, and the colour of its flowers proved to be a red-purple self, with, in some particulars, much of the appearance of a poor-flowered common Cine-

aria, although quite different in other respects. Mr. Lynch was naturally much struck with these peculiarities, and knowing that the only allied plants in the house were some garden Cinerarias, which flowered at the same time, he naturally concluded that the seedling was a chance hybrid, in which the garden Cineraria, or male parent, strongly predominated; and this seems highly probable from an inspection of the specimens. It is, however, possible that the new comer may have been a seedling variation from a common Cineraria.

The Cineraria is too well known to require description, and it will suffice to mention its stout herbaceous stems, very large basal leaves, and auricled upper ones, in order to contrast it with those of the *Senecio Heritieri*, or supposed seed-parent, a figure of which will be found at plate 3987 of the *Botanical Magazine*. This latter is a half-shrubby plant, with slender white branches and cordate lobed leaves, ranging from about 1 to 3 inches in breadth, green above, densely white tomentose beneath, and the petioles without basal auricles. The corymbs are lax, the flower-heads over an inch across, and the ray-florets white, tipped with light red-purple, and somewhat stellate. The hybrid shows evidence of its descent from *Senecio Heritieri* in its white stems, and the dense tomentum of the under-side of the leaves. The stem, however, has become nearly herbaceous, and more than twice as broad as in the seed-parent, and the area of the basal leaves is four times as great. Some of the upper leaves are also auricled at the base, and the tomentum of the under surface of all the leaves is strongly suffused with that peculiar shade of red-purple to which the original *Senecio orientus* owes its name. The flowers have already been described. Thus, if this is, as seems to be the case, a seedling from *Senecio Heritieri*, a distinct advance has been made in the direction of the garden Cineraria, and as the circumstances are fully known, it seems clear that the pollen was derived from the latter—probably carried by bees, whose exploits in this direction will be familiar to every gardener.

Shortly after the receipt of Mr. Lynch's specimens, we were privileged to see another specimen, presumably also of hybrid origin. This came from J. T. Bennett Poë, Esq., who tells us that in his garden in the south of Ireland, as in the Cambridge garden, a Cineraria came up fortuitously in a flower-pot in a house where *C. Heritieri* was growing, together with sundry garden Cinerarias. The plant has been since cultivated by Mr. Poë, and is of dwarf habit, with long-stalked, cordate, irregularly lobed, roundish leaves, destitute of auricles, and thinly clothed with white down on the under surface. The inflorescence and lilac flower-heads with a white ring are like those of *C. Heritieri*, intermediate between those of that species and those of a garden Cineraria. Here, then, is presumptive evidence of the existence of two hybrid plants in the origination of neither of which did *S. orientus* directly take part, and both of which had a white ring, which is less visible in *cruentus*.

The plants are interesting and very instructive. They do not prove that our garden Cinerarias are of hybrid origin, but at all events they show, as we have already suggested, how easily a very few experiments might be made which would go far to settle the disputed points. As the true *Senecio cruentus* is now in cultivation, we would suggest that the authorities at Kew, as well as Mr. Lynch or others should, another season, endeavour to cross

it with *S. Heritieri* both ways, and carefully note the characters of the resulting hybrids, if such were obtained. A note by Willdenow is instructive in this connection. In 1809 he briefly described a Cineraria hybrida (*Enum. Pl. Hort. Berol.*, p. 893), which he stated was cultivated in the Berlin garden as *Cineraria cruenta*, but which differed abundantly in having flowers nearly as in *C. lanata* (i.e., *Senecio Heritieri*). The cross we have just suggested would probably yield this *C. hybrida*, and should certainly be attempted. We do not know if a dried specimen of this plant exists at Berlin, but if so we hope our Berlin friends will let us know what it is like.

Another important cross should be attempted, namely, one between *S. orientus* and *S. populifolius*—the latter species being also in cultivation. This might demonstrate the origin of *Cineraria lactea*, otherwise called *Senecio orientata* var. *lactea* (*Jacq. Ecl. Pl. Rar.*, t. 105), which De Candolle believed was a hybrid between *S. cruentus* and *S. populifolius*. It originated in the Jardin des Plantes at Paris, we believe, prior to 1813. We have had the good fortune to see a dried specimen of this plant, and having compared the plate cited with the two supposed species, we believe that De Candolle's judgment to be perfectly correct. The resemblance to *Senecio orientus* is unmistakable, yet it is evidently not a variety of that plant, for it is nearer to *S. populifolius*, and instead of the basal auricles of the former, has a few small appendages near the apex of the petiole, as in the latter. Two or three well-conducted experiments might prove the origin of these plants, which are believed to be in the direct line of descent of the garden Cineraria of to-day—we use the term in its ordinary sense, for, botanically speaking, the plant is not a Cineraria, but a *Senecio*.

Incidentally we may add, that seedling plants of *Cineraria cruenta* differ markedly in appearance from those of a garden Cineraria. We need not, at present, trouble the reader with a detailed account of these differences, hoping eventually to be able to examine seedling plants of *C. Heritieri* and other species.

Nor need we go further now into the vexed question of the origin of the garden plant; but in reference to a remark made at p. 588, it is only justice to our contributor, Mr. Rolfe, to state that his article was not written with any special reference to the question of hybridity, and that the figures and notes respecting the garden-plants were added by us after the manuscript had left his hands. It was a matter of current opinion that the plant then flowering at Kew was the wild original of the garden Cineraria. Mr. Rolfe accepted the current version, as we did ourselves, without critically examining the evidence in support of it or otherwise.

Reverting for a moment to the interesting plant sent us by Mr. Lynch, we may remark that it shows how quickly the characters of one parent may be partially obliterated, and we should not be surprised to find that a course of selection would complete the process without further crossing. Selection has made the garden-plant almost an annual—in actual practice at least, and this would tend to eliminate the shrubby character, and retain the herbaceous one. Mere superficial comparison of wild and garden plants is not absolutely conclusive of the matter. Who, for instance, ignorant of the history of the tuberous *Begonias*, could trace in many of them any sign of *B. boliviensis* or other species, well known to have taken part in the genesis of the race?

NEW OR NOTEWORTHY PLANTS.

ROSA WICHURAIANA.

ALTHOUGH this species was only introduced to Britain about three years ago, it already affords promise of being a valuable addition to the wild types of *Rosa* in cultivation. It is distinct from any other species, and is easily recognised by the perfectly prostrate habit, and by the peculiarly bright, almost glassy appearance of the leaves. A recent figure of it has been published in the *Botanical Magazine*, under the name of *R. Lucia*, but the typical *R. Wichuriana* is sufficiently distinct for the name to be retained in gardens. M. Crépin, a leading continental authority on Roses, and the author of the present name, still regards it, I believe, as being specifically distinct. It is a native of Japan, and belongs to the polyantha group. The leaves are quite smooth on both surfaces, the leaflets of elliptical outline, serrated, from $\frac{3}{8}$ to $\frac{1}{2}$ in. long, and varying in number from five to nine on each leaf. The stipules are not fringed, as in *R. multiflora*, but slightly toothed, and a pair of short decurved spines guard the base of each leaf. The flowers are pure white, and stand up above the foliage, which forms a dense covering, completely hiding the ground. The species flowered at Kew for the first time in 1893, and has proved a free-flowering and luxuriant grower. I measured a shoot made last year which was more than 12 feet in length. In the United States (from which country it reached us) it is highly spoken of, flowering so profusely as to give, at a distance, the effect of snow. It is well adapted for covering sunny slopes, mounds, &c., and may be commended to the notice of all who take an interest in the original types of *Rosa*. W. J. Bean.

ORCHID NOTES AND GLEANINGS.

CATTLEYA LABIATA MOSSIÆ.

A CORRESPONDENT kindly furnishes us with a flower in which, as not unfrequently happens, the floral parts are in two, thus the two outer sepals are crossed by two inner sepals, followed by four petals in a single whorl, two of the petals being of the form of the lateral petals, the other two being lips. The column is normal, but no ovary is formed.

From the Horticulture Internationale, Brussels, comes a flower of the same variety in which the lip is inseparable from the column, and greatly reduced in size.

CYPRIPEDIUM LEBAUDIANUM X.

A cross from *C. lævigatum* by *C. Haynaldianum*, raised by Mr. Page, gardener to Robert Lebaudy of Bongival. The influence of the pollen-parent is very perceptible. The description is given in the last number of the *Journal de la Société Nationale de France*.

ODONTOGLOSSUMS AT BANKFIELD, BRADFORD.

Henry Mason, Esq., in his pretty gardens in the Bingley suburb of Bradford, does not attempt to grow a collection of Orchids, but he grows a household of *Odontoglossums*, and his gardener, Mr. Midgley, perfectly understands their culture, and obtains satisfactory results. At the time of our visit, probably no other Orchid-house of equal size could have possessed a finer display of flower-spikes of the best varieties of *Odontoglossum crispum*, and, in a lesser degree, of other species. Many of the plants have been cultivated in this house for several years, and the progressive stages marked on their large plump pseudo-bulbs bespeak good culture. The house in which the plants are cultivated is a span-roof of rather low pitch, a path of moisture-holding York stone runs up the middle, and beneath the staging on each side rain-water tanks occupy the greater part of the floor. The staging is of iron, the lower one being constructed close, so as to hold water, and the ascending stage above it is of trellis woodwork, in order to elevate the plants at the point farthest from the path, and

inverted pots are also used for this purpose where found necessary. The shading is on the outside of the roof, and it is arranged to run on supports, which keep it well above the glass, so that in the hottest weather the house is kept at a comfortably cool temperature. These are points which are invariably to be found in any cool Orchid-house in which the plants thrive, and in spite of occasional attempts to improve on it, it is still the best pattern of a cool-house—the abundant tankage, which some Orchid-growers decri, being still one of the healthiest features in such house.

Among the large-flowered *O. crispum* at Bankfield not a single indifferent form appeared, while some were remarkable for their spotting. Among these were the handsome *Odontoglossum crispum Stevenii*, a fine form of the *O. Jenningsianum* class, with rose-tinted flowers blotched with purple; and several very handsome varieties of *O. Andersonianum*. Also in bloom were a few good plants of *O. polyanthum*, *O. triumphans*, *Cymbidium Lowianum*, and *Oncidium macranthum*, the whole making a fine display, and pointing to the advisability of growing one class of Orchids well, rather than a general collection in an indifferent condition.

In the Cucumber-house a bank of *Cœlogyne cristata* was remarked in fine condition, with a large plant of *C. c. alba* in the centre.

The Vineries and Peach-houses were bright with tuberos Begonias, Pelargoniums, &c.; and the conservatory was chiefly filled with large plants of Camellia and greenhouse Rhododendrons, with *Odontoglossum citrosanum* displayed on the roof. Mr. Midgley prides himself on his kitchen garden, which he keeps in perfect order; and in the flower garden the Roses were very fine, notwithstanding the severity of the past winter.

DENDROBIUM CRUENTUM.

This fine *Dendrobium* was originally discovered by Messrs. F. Sander & Co., on the West Coast of the Malay peninsula, and described by the late Professor Reichenbach in the *Gardeners' Chronicle* xxi. (1854), p. 604. It has always been scarce in gardens, and not until a recent importation by the same firm have good healthy specimens been obtainable. Its flowers, which are thick and wax-like in substance, are of ivory white tinged with green, the distinct keels at the back of the sepals being often of an emerald green colour. The lip is handsomely marked with crimson. As may be inferred from the locality in which the plant is found, its proper place is a warm and moist house; the only difference between the resting and the growing season being marked by withholding water for a time after the growths are fully made up. Now that good specimens are in the country (fig. 17) it proves a good grower, which had formerly been doubted.

THE ROSARY.

NOTES UPON NEW ROSES.

MUCH interest is felt by rosarians in the question whether certain new varieties of Roses are really acquisitions in the true sense, or merely possess some slight distinctive quality without sufficient merit to warrant their cultivation in the future. We never have too many really good new Roses, and it is all the more pleasing to find our home-raisers again so well in front of our Continental friends.

Without the least hesitation, the palm must go to the Messrs. Dicksons of Newtownards, Ireland. Many of us who saw their box of twelve distinct new Roses, which won at the National Rose Society's Show at the Crystal Palace, were much struck with the beauty of the flowers thereof. Usually one finds one or two fairly good flowers, the remainder being indifferent. But in this dozen there was good quality and pleasing variety. Our most experienced growers were loud in their praise; and I may also mention as an interesting fact, that

no fewer than ten of the twelve are of Messrs. Dicksons' own raising. But to get a little closer to our notes. Muriel Grahame, this is, as I adjudged it, a sport from Catherine Mermet, and no Tea-scented Rose of greater promise has been sent out for many years. We know of the fine qualities possessed by one of its parents and by its sister sport *The Bride*. Messrs. Dicksons told me that it is in every way a counterpart of Catherine Mermet excepting in the colour, which is a pale creamy-white, delicately flushed with very soft rose. The 600 miles journey that this variety had endured in trying weather for any cut Rose, impressed me very favourably, seeing that the bloom was staged in such a fresh condition, and I have little doubt that the card of Commendation will be replaced by the coveted Gold Medal upon its next appearance.

Countess of Caledon is a hybrid Tea, and a great addition to this class of Roses. It is a grand grower, of a perfectly distinct shade of colour, namely a pink and soft shade of rose combined, and as a decorative plant it is sure to be in good demand. A card of Commendation was also awarded here. Tom Wood is a Rose of a very pleasing colour, being of a deeper tint, and I should judge it to be also a much fuller



FIG. 17.—DENDROBIUM CRUENTUM

Rose than Madame Cusin. Lady Moyra Beanclore gave me the impression of Ernest Metz and Madame de Watteville combined. But the best and most consistent of all the new varieties, was Mrs. R. G. Sharman Crawford, a H. P. of extra merit. Whenever shown it has been a great attraction, not only because of its deep rosy-pink colour, which is distinct, but on account of the bold manner in which the blooms are borne, the base of the petals being much lighter than the tips, while on the outside they are shaded with pale flesh pink. The form is perfect, size good, and with me it has kept a certain freshness of shading that few other Roses could retain during the late sultry weather. This is a Gold Medal Rose, while the first prize and First-class Certificates it has won are very numerous. A box of twelve blooms was decidedly among the very best staged at the Crystal Palace. Like Mrs. John Laing, it has no fault, and will be equally indispensable in collections. Helen Keller (H.P.) has not yet won the Gold Medal, but it has secured almost a dozen First-class Certificates; it is a splendid grower and bloomer, after the style of Mrs. John Laing, but distinct from that variety. Mavourneen (H.P.) I have only seen twice, and it gave me the impression of resembling Helen Keller

and Mrs. R. G. Sharman Crawford combined; colour a silvery-flesh, with rose shading. I am told that its growth and freedom in blooming is remarkable.

Avoca (Tea) is somewhat like Ernest Metz for size and form, but it was still considerably brighter, after a long journey which necessitated its being cut upwards of thirty hours.

Marchioness of Downshire (H.P.), one of last year's Gold Medal roses, I did not think so much of as before, but the season has been against a Rose of this class. The colour is a satiny-pink, of great clearness, and with delicate rose pink shading. This is one of the most distinct Roses we have, and will yet be shown in grand form by those who possess it.

Marquise de Litta (H.T.) is a very peculiarly shaded form of La France (H.T.). It is a good grower and free bloomer; carmine-rose with a vermilion centre, the two shades blending in a unique and pleasing way. A treble at Gloucester, and several good singles at the Crystal Palace, stamp this as a promising H. Tea.

Clio, Sylph, Alistair, Stella Gray, Lorna Doone, Corinna, Duke of Fife, Shamrock, Captain Haywood, and Robin Lyth have pleased me most among the remainder. At Gloucester, Richmond, and the Crystal Palace by far the best of the new Penzance Briars was Jeannie Deane, a semi-double flower with very showy stamens. Its colour is brighter than that of the others, and the flowers are far less fleeting. A. P.

PLANT NOTES.

ALSTRÆMERIAS.

THE large clumps of these growing in the border on either side of the entrance to the Black Hamburgh-house at Gunnersbury Park came through the severe winter unharmed, the only protection afforded being a mulch of manure and leaves placed over the ground to the depth of about 6 inches. The position is sunny and hot, and, being on a slight slope, is perhaps favourable to the well-being of the tuberous roots. It would be interesting to know when the roots were first planted on this particular spot, and how many varieties were originally placed there. One thing is quite certain—that the original clumps have enormously increased, the tubers being pushed further and further afield as the seasons pass. They are never disturbed, but have reached the extreme edge of the border.

It has been remarked, that "Alstræmerias were at one time much more largely grown than they are at present, and the genus was represented in every garden." This, it is to be feared, is generally true; and yet many inferior subjects are grown in borders that do not possess a tithe of the beauty of the Alstræmeria. Exposure to the full blaze of the sun appears to be immaterial, so long as there is good cultivation, as is conclusively shown in the experience of the plant at Gunnersbury, where it occupies a spot quite shadeless during the hottest part of the day. Water is rarely given; the much economises the moisture in the soil, and the plants rarely suffer for lack of it.

It is not because any difficulty is experienced in obtaining plants that the area of cultivation has become so circumscribed. There are certain species and their varieties that are readily procurable, such as aurantiaca, orange-yellow, streaked and spotted with red, which is found to vary under cultivation, but all are very showy; aurea, golden-yellow, probably a variety of the foregoing; chilensis and its varieties, varying in colour from delicate rose to deep orange or red; oculata, a doubtful species, colour rose-purple; Pelegrina, purple and white, and its white variety, alba—perhaps one of the tenderest; paitacina, crimson and purple; and pulchra (tricolor), white, cream, and yellow. When planted, a compost of peat, leaf-mould, and sandy loam should be employed.

There appears to be no common name for the Alstræmeria, though one or two forms are known as St. Martin's flower; and the white form of Pelegrina

bears the name of the Lily of the Incas. This should have a specially warm spot if planted in the open, or, failing that, the protection of glass. *R. D.*

HYDRANGEA HORTENSIA VAR. LINDLEYI.

In Cornwall and Devon *Hydrangea Hortensia* is one of the showiest of hardy flowering shrubs; in Mr. Rashleigh's garden at Menabilly especially, it is used in great numbers and with admirable effect in partially shaded positions in the vicinity of walks and carriage-drives. Further north it is seen in great beauty, but only in favoured localities, or after unusually mild winters. Near London it rarely flowers outside, the winters being usually so severe as to destroy the terminal bud. The variety *Lindleyi* possesses this advantage, however; no matter how badly hit by frost, it pushes up shoots freely from the axillary buds on the previous season's growth, and as these (unlike the common *Hydrangea*) flower the same season, the loss of the terminal bud is of little account. The flowers of this variety are of a pale rose colour, appearing in flat corymbs, which measure 3 to 5 inches across, the outer row consisting of large-petalled, sterile flowers. The variety is abundantly represented in the collection at Kew, and is now in bloom there. Other hardy species that flower well are *H. paniculata*, *H. radiata*, *H. pekinensis*, and *H. arborescens*; but with the possible exception of *H. paniculata*, the plant under notice may be considered the best of the genus for outdoor planting. It is known also under the names of *H. rosea-alba* and *H. japonica*.

SYRINGA JAPONICA.

This Japanese Lilac has been described in glowing terms by horticulturists in the United States, and by visitors who have seen it in flower in that country. In England it has not been cultivated long enough for anyone to say with certainty what rank it will eventually take among hardy trees and shrubs, for it has not flowered above two or three times, and many Japanese deciduous things succeed much better in the United States than they do under our duller skies. It is, at any rate, perfectly hardy, and two small bushes were in flower at Kew during the early part of July.

Syringa japonica is a small tree of vigorous habit, which forms a distinct trunk. Its leaves are broadly ovate, very slightly downy, and pale green in colour on the lower surface, dark green and glabrous above. On the small specimens at Kew their texture and size resemble the common Lilac. The small white, slightly fragrant, flowers (about $\frac{1}{4}$ inch in diameter) are produced in large compound panicles; of about 1 foot in length at Kew, but on full-grown plants they are described as at least twice as large. The general appearance of this plant when in flower suggests a connecting-link between the Lilac and the Privet. The species is a native of the Northern Island of Japan, and was introduced to the Arnold Arboretum in 1876.

ROSA SETIGERA.

Although the wild types of *Rosa* are generally past their flowering season at this date, *R. setigera* is now at its best. It is a North American shrub, and is known there and here as the Prairie Rose. It differs from all other native species in its semi-candent habit. About a dozen plants arranged in a group are now making a pretty display in the Rose collection at Kew. In habit it possesses the vigour and grace usually associated with rambling Roses. The shoots are long and arching, and the luxuriant leafage, of a rich bright green, makes an admirable setting to the flowers. The leaflets number from three to five, and are remarkable for their large size, some being 3 inches long by $1\frac{1}{2}$ inches wide; the under surface and the petioles are covered with fine down. The flowers single, of a very bright shade of rose, measure 3 inches across, are devoid of fragrance, and come in dense clusters amid the foliage. The beauty of this species of Rose, and its valuable property of flowering late in the season, do not appear to be fully appreciated even in the United States, and still less in this country. *W. J. Bean.*

PRESERVING FRUIT.

CONSIDERING the increase that has taken place in fruit production within the last few years, and recognising that the preserving of fruit, so that it may come out perfect at the end of several months, must be of immense benefit to growers, who at the time the fruit is ripe often have to accept prices for it which do not pay the cost of gathering, we give the following extract from an excellent lecture upon the subject of the "Preserving of Fruit," given by Miss Maria Parloe, teacher of cooking, Boston, and delivered in connection with the Massachusetts Horticultural Society.

There are two ways, said Miss Parloe, of interpreting the word "preserving," as applied to fruit, the general understanding among housekeepers being that the fruit is cooked with a generous amount of sugar, the product being a rich compound of good-keeping quality. In its broadest sense, "preserving," when applied to food, means to save from decay by drying, canning, combining with a preservative substance, &c. It is the latter sense with which the lecture deals.

The most primitive method of preserving foods was by drying the raw article in the sun and air, and this is still practised to a great extent. Artificial methods are now used, but the sun develops in some fruits a flavour which is lacking when artificial heat is used.

Although nearly every Raisin grower in California has a drying-house, he resorts to it only when the sun fails him. In the case of Peaches, Apples, and Apricots, the fruit has a fresher and more appetising appearance when dried in the evaporators, and its commercial value is, therefore, greater. When drying fruit, it is important not only that it shall be sound and of good quality, but also that it shall be prepared quickly and dried rapidly. When all moisture is expelled, it will keep for years in a dry place.

The second method of drying is to cook the fruit a long time, reducing it as nearly as possible to a paste, spreading this in thin sheets, and drying in the sun or by evaporation. When free from moisture, this fruit can be packed in boxes and will keep indefinitely, and is suitable for transporting long distances, as for the use of armies or emigrants. When fruit dried by either of these two methods is to be used, it must be softened by the addition of water and cooking.

A third process of drying is to cook the fruit for a long time with sugar and water, and then partially dry it. In this case the sugar is largely the preservative agent, and the drying goes on only until no syrup drips from the fruit. With close packing in boxes or jars the fruit will keep well in any climate; hardening, of course, when exposed to the air for a considerable period. This fruit is ready for use at any time, but is more of a confection than a sauce.

These three methods enable all to have the Figs, Dates, Prunes, Apricots, Apples, Peaches, &c. of the world. In New England, where most of the fruits are preserved by canning, they are apt to lose sight of the enormous amount of wealth, health, and comfort that these methods of preserving represent.

The more modern process for preserving fruits, and by far the most useful and healthful, is that of canning. This seems to have been introduced to the French Government in 1810 by Appert. Since then it has been constantly improved. The destruction of germs, and the exclusion of air, are the principles upon which canning is based. The article to be preserved is cooked for a short time, and is then put in jars from which the air has been expelled by heating them to the boiling-point.

They are then sealed, and when cold, are set in a cool, dark place. If all the conditions be right, the heating of the cans and fruit thorough, and if the cans, covers, &c., be in perfect condition, the fruit will keep for an unlimited number of years, and when opened, will be found to have nearly all the freshness and aroma of newly-gathered fruit. Whilst this is true of the majority of fruits, it is not so of all. The Strawberry subjected to this process

will come out a pale, spongy, insipid thing; whereas the Raspberry seems to have its colour, flavour, and odour intensified. If, however, a generous amount of sugar be added to the Strawberry in the cooking, it will retain its shape, colour, and flavour.

It is an error to attempt to can the Strawberry without sugar, or with only a small amount. Neither can sugar be put to Strawberries and then the fruit allowed to stand, as with Pine-apple. The sugar seems to draw the juice out of the fruit and leave it a spongy mass.

Some fruits can be canned without heat or sugar. The jar should be packed full of the fruit and then placed under a faucet, having the water run in rapidly for a minute, that all the air in the jar shall be displaced; then seal, and put away in a cool, dark place. Perhaps not many kinds of fruit would keep if put up in this manner. Certainly, there can be no expectation of success with juicy fruit of any kind. Miss Parloe has, however, been successful with Rhubarb. Green Gooseberries and some kinds of Plums can be preserved in this manner. It seems to be a question whether the acid in these fruits does not have a good deal to do with the keeping quality. Many kinds of fruit can be mixed with their own weight in sugar, packed in jars, sealed and put away in a dark, cool place. They will keep well, and have the flavour of the fresh fruit. It has been found in the case of small berries put up in this manner that the seeds become harder and more noticeable than in the cooked fruit. Pine-apple should not be put up in any other way than this, as it comes out simply perfect.

The third method of preserving fruit is by cooking it with sugar. In this case sugar is largely the preservative; and where the sugar is added to the fruit, pound for pound, it is not necessary to seal the product. But the "self-sealing" jars are so convenient that most housekeepers prefer to use them rather than the old-fashioned stone jars. The French candied fruits are an example of another method of preserving fruit.

Having glanced at the various methods of preserving, the lecturer turned to consider some of the exact steps necessary to secure the best results. More fruit is preserved by the exclusion of air than by any other method. To be successful in this, certain things are essential. First, the fruit must be perfectly sound; next, every utensil used in the process must be absolutely clean; again, the cans must be perfectly air-tight; finally the cans and fruit must be made free from germs and air before sealing, and the canned fruit must be kept in a dark, cool, dry place.

As to the different modes of treating various kinds of fruit. It is known that when the germs are killed and the air is excluded, sugar is not necessary for the preservation of the fruit. But there are few kinds of fruit that are not improved by some sugar, because it fixes the colour and flavour, and gives much finer results. Some kinds of fruit require but little sugar for this purpose, while others are poor indeed without a generous amount. One has only to contrast the flavour and quality of the canned Peaches that are put up with and without sugar, to realise the great superiority of those with which saccharine matter has been used. Where fruits are too dry to give out enough juice to cover themselves generously, a light syrup should be used. But in the juicy fruits avoid water if possible. A good rule in the case of small berries is to allow one-third of a pound of sugar to each pound of fruit. There are people who would not care for more than half that amount of sugar, while others might like more. The following has been found a capital method for small berries: have twelve quarts of berries picked clean put three quarts into the preserving-kettle and on the fire. Heat slowly, and break up with a wooden vegetable-masher. Then turn the fruit into a piece of cheese-cloth and press out the juice. Wash the preserving-kettle, and put the juice and sugar into it, stirring until the sugar melts. When the syrup boils, skim it, and add the whole berries. Watch the kettle, stirring occasionally, until the preserve

boils, then skim, and cook for ten minutes longer. Fill the jars, and seal.

For fruit like Peaches, Pears, Plums, &c., make a light syrup in this manner:—Put into the preserving kettle 4 quarts of sugar and 2 of water, boil, and then skim well. Have the fruit pared, and cook it gently in this syrup until tender; then can, filling up with syrup. Quinces must first be cooked in clear water until tender.

In paring fruit, use silver-plated knives, and drop each piece as soon as pared into a bowl of cold water which has been made acid by addition of lemon-juice. This prevents the fruit from turning dark. Use earthen bowls and wooden or silver-plated spoons. Avoid any delay while doing this work.

To peel Peaches and Plums, put a little of the fruit into a wire basket, and plunge it into boiling-water for a few minutes. Take the basket from the boiling water, and plunge it into cold water for a few seconds; then turn it into an earthen dish, and peel with a silver knife. Save all the juice that falls into this bowl. When the work is properly done, the skin will peel off perfectly smooth. There is really less waste and less labour in removing the skins of fruit in this way than in the common way.

To fill the jars, have on the stove two pans partially filled with water. Let the water in one be boiling, but in the other not so hot but that the hand cannot be held in it with comfort. Put a few jars and covers in the cooler water, turning them now and then until all parts become warm, then put them in the boiling-water. This does away with all danger of breaking. When the jars have been heated in boiling water, drain, fill, and seal them at once. In filling the jars, be sure that they stand level, that the syrup has filled all the interstices between the fruit, and that it also runs over the top of the jar. Even with this overflowing of the syrup, it will be found that, after cooling, the can is not full; but if the work has been properly done, the fruit will keep all right.

Preserving with sugar, pound for pound, is not very extensively practised now, most people preferring the simpler and more healthful mode of canning with a small quantity of sugar; still, there are some fruits that are better when done in this way. There is probably no fruit more delicious than the Strawberry, either fresh or preserved, yet there is none about which the housekeeper feels more uncertain. It is something that cannot be preserved without plenty of sugar. The following has been found to give the greatest satisfaction. It is true the preserve is very rich, and cannot be eaten in large quantities, but it is better to have a little in perfection than a great deal of an unsatisfactory quality.

Sun-cooked Strawberries.—Use ripe and the finest fruits. Put them in the preserving-kettle with a pound of sugar to each pound of berries; first a layer of fruit, then a layer of sugar, and so on. Do not have the mixture more than 6 inches deep. Place on the fire, and watch. When the preserve begins to boil, skim carefully, and simmer for ten minutes. Now pour the fruit into meat platters, and place in the sun. After an exposure to the sun for twenty-four hours, put them up in jars or tumblers, and cover. It may be said, the sun does not shine twenty-four hours, but the fruit may be placed on tables by the windows in a sunny room, and let remain there for several days, or until it has had its full sun bath.

The Larger Fruits.—All fruits are prepared for preserving in sugar in the same way as for canning. Then a rich syrup is made—4 lb. of sugar to a pint of water—and the fruit is simmered in it until tender and clear. Such fruits as Quinces and hard Pears should be cooked until tender before being put in the syrup.

When the sugar should be added.—Some kinds of fruit are better for having the sugar added to them when partially cooked, while others should always have it added the moment they are placed on the fire. Again, one kind is better for standing for hours in the sugar, while others should not have

the sugar touch them until they are ready to go on the fire. There are a few fruits which are far better without sugar than with it. This is the case with the Prune, with which sugar should never be put, long slow cooking serving to develop a fine rich flavour. Cranberries, on the other hand, should have a pint of sugar to a quart of berries, and the sugar, water, and berries must go on the fire at once and be cooked rapidly for a short time, say twelve to fifteen minutes. No other method will give a satisfactory result.

Jelly-making.—In no department of preserving does the housekeeper feel less sure of the results than in jelly-making, so much depends upon the condition of the fruit. This is more pronounced in the case of small fruits than with the larger kinds.



FIG. 18.—DENDROBIUM HILDEBRANDII.

When Currants are over-ripe, or have been picked after a rain, the result of using them will be uncertain. An understanding of the properties in fruit which form the basis of jellies may help the housekeeper to a better knowledge of the conditions and methods essential to success.

Pectine, which forms the basis of vegetable jellies, is a substance which, in its composition, resembles starch and gum. It gives to the juices of fruits the property of gelatinizing. This property is at its best when the fruit is just ripe—better a little under-ripe than over-ripe. When boiled for a long time it loses its gelatinous property, and becomes of a gummy nature. These facts show the importance of using fruit that is but just ripe and freshly picked, as well as the need of care not to overcook the juice.

Canning Fruit Juice.—One form of preserves which is most useful, convenient, and wholesome should be more generally adopted than it is; namely, the canning of fruit juice for creams, ices, drinks, &c. Certainly every housekeeper ought to preserve enough of the juices of the Strawberry, Raspberry, Peach, Apricot, Grape, &c., for her own use. They can be preserved with or without sugar, although sugar is advocated. Boil for ten minutes, and seal while boiling hot. *J. J. Willis, Harpenden.*

DENDROBIUM HILDEBRANDII.

"This Orchid was first discovered by Mr. Hildebrand, superintendent of the S. Shan States, and some plants were sent to Messrs. Hugh Low & Co. Afterwards my men came across it, and without knowing what it was, I sent some to Messrs. Charlesworth, who identified it, and sold the plants. Its habitat is on the borders of Siam, a good way east of the Salween River, and some 300 miles east of Lake Inle." *R. Moore, in Orchid Review, June, 1895, p. 169.*

Mr. C. Leeson Prince, of the Observatory, Crowborough, Sussex, who kindly sent us the photograph of the plant (fig. 18), remarks as follows:—

"Just a year ago, I purchased of Messrs. Charlesworth & Co. of Bradford, a newly-imported plant of *Dendrobium Hildebrandii*, but the bulbs were in such an exhausted condition that I hesitated at first to buy it; especially as little appeared to be known respecting it. However, my gardener (Mr. Slater) has succeeded in flowering the main bulb, which is 18 inches long, and has produced nineteen blossoms from seven spikes.

"The sepals, five in number, are somewhat crimped, and the two lateral ones measure from $2\frac{3}{4}$ inches to 3 inches across, and are of a creamy-white colour. The lip measures exactly 1 inch at its mouth. When the flowers were fully expanded, now six weeks since, it was removed to an intermediate house, and at this date, June 1, 1895, the flowers are as fresh as at first.

"It has been the admiration of all who have seen it, and I think a large plant would be a fine subject for exhibition purposes, as I feel quite confident that it will prove to be very floriferous."

THE RELATION BETWEEN THE WEIGHT OF THE SEED AND THE GROWTH.

From *Agricultural Science*, the organ of the Society for the Promotion of Agricultural Science, issued in June, 1895, we extract the following passages from an article by Mr. B. T. Galloway, on the growth of Radishes as affected by the size and weight of the seed. The author says that:—"The influence of the size and weight of the seed on the growth of the plant has received considerable attention. While it is claimed by some that the size and weight of seed has no material effect on the product, the majority of those who have studied the subject take the opposite view, and have proved their claims by well-conducted experiments." The results of such enquiries are thus summarised at the end of the paper: "1. The large seed germinated more quickly and with more certainty, and produced marketable plants sooner and more uniformly than the small seed. 2. The small seed gave proportionately larger plants than the large seed, but in practice this does not warrant the use of the former. The practical conclusions that may be deduced from the experiment are:—1. That by the use of large seed from 85 to 90 per cent. of the crop may be brought in at the same time. 2. That practically all the plants thus grown being marketable, no ground is wasted. 3. That enough time is saved by using large seed to grow one additional crop during the season; in other words, if four crops are grown, using mixed seed, and waiting for all the plants to attain sufficient size for market, five crops can be obtained if large seed is planted. 4. That the only additional expense is the extra amount of seed needed, all the smaller ones being sifted out and

thrown away. The extra expense will average about 25 cents per pound of seed, and when it is known that a pound of seed will plant about 1500 square feet, the matter of extra expense becomes trivial."

NURSERY NOTES.

THE FERN NURSERIES, SALE.

THE collection of Ferns grown by W. & J. Birkenhead, is growing in importance every year. The firm, as is well known, make Ferns a specialty, and since the great Fern Conference held in London in 1890, at which they received the Gold Medal of the Royal Horticultural Society, they have been continually in the front at the principal shows in the kingdom. Since the writer last visited the nurseries quantities of houses have been built, and the general condition of the plants has improved greatly. There are now about 1400 varieties assorted in the various divisions, comprising stove, greenhouse, hardy exotic, British, and Filmy. A large portion of the British, hardy exotic, and greenhouse kinds is bedded out into nursery rows out of doors, thus giving one an opportunity of comparing out-door and in-door growth, and selecting the most enduring for outside ferneries, rock-work, and for plantation and garden-work.

Among the most beautiful to look at in the many rows out-of-doors is the division of Lady Ferns, chief among them being the setigerum group, in which the handsome cut pinnules traversing each other are conspicuous in *A. filix-fœmina* *Victoriæ* and the dwarf and striking *f.-f. grandiceps*. *A. f.-f. Vernonæ* and its crested form catch the eye, the pinnae are so wavy, and the pinnules crested, *Victoriæ* itself, apart altogether from the setigerum blood, is a grand variety, from its cross-sword-like pinnules, and it is beautifully dwarf and compact. Another little beauty strikes well among the group, *A. f.-f. digitatum tenue*, and do also the forms of *f.-f. congestum* and its dwarfier, more crested fellow, *congestum cristatum*. *A. f.-f. Kilmoryensis* is a pleasing green, making a stylish plant. These and others have partially suffered from the sharp frost of June 6, but are now recovering. Some more, particularly *Osmonda regalis*, are growing under a batch of standard Apple and Plum trees, but Mr. Birkenhead says they do much better out in the open, because the moisture stolen from them by the fruit-tree roots operates prejudicially; and, moreover, these bedded-out Ferns show to much better advantage in the autumn after the indoor ones are partially giving way.

In a lean-to house, these hardy British Ferns are in great exuberance. We noticed particularly a selected form of *Athyrium f.-f. setigerum* called *grandiceps* (Birkenhead, raiser), with tall upright fronds closely packed together, and much broader in pinnules than the normal form. Another gem is *A. f.-f. plumosum elegans*, so light in the green and arching in the pinnae; *A. f.-f. Todeoides* is like the *Todea* in habit. *A. f.-f. conglomeratum* is very heavily crested, and a capital rockwork Fern. There are one or two promising forms alongside of this of the same breed. *A. f.-f. Edwardsii* is another fine dwarf variety. *A. f.-f. acrocladon* has much-branched fronds, and is very heavily crested—like cockscamb, in fact. *A. f.-f. plumosum superbum* is the chief of its class, the fronds are of a fine lustrous green, and the crested form of *grandiceps* is one of the very finest of the plumose group. For specimen plant purposes these plumosums take front rank. *A. f.-f. Pritchardi* is abundantly distinct from its compeers, having long and narrow fronds, which are aptly likened to a waggoner's whip. The male Fern, *Lastrea filix-mas*, is represented in a good many varieties, probably the choicest being the crispy fronded *fluctuosa*, sometimes called *crispatisima*, abundantly distinct from the type. The pretty dwarfier grower *decora* is noticeable.

Among the Mountain Buckler forms we noted *Oreopteris ramo-coronata*, a much-branched and crested form, as its name shows, as in *Lastrea pseudo-*

mas cristata fimbriata, is much cut and beautifully crested, an admirable companion to the rare *ramo-aesima*. The *Pseudo-mas coronaria* (Birkenhead, raiser), is a striking form of this division. *Lastrea dilatata grandiceps* is a stylish-looking fine crested form of admirable greenery. *Polystichum angulare cristatum* is one of the most striking of its class; *P. a. plumosum*, as its name implies, has spreading feathery fronds, making a fine specimen—a worthy fellow to the beautiful *longipinnulum*. There is a particular form of *P. aculeatum*, whose young fronds are more than usually beautiful. *Woodsia alpina*, one of our rarest natives is doing well on a shelf in this house.

The span-roof houses are about 50 by 10 feet, and are closely shaded in the interior with a kind of scrim, they do duty for British Ferns in quantities. Some of the commoner forms are not to be despised even among varieties, although some of them require glass protection. For instance, *Asplenium lancifolium* was beautiful so grown. The *Scolopendriums* were a grand group, one named *fimbriatum* is deeply frilled and fimbriated, and shoots out to advantage; *cristolatum*, is abundantly crested, and makes a very striking plant. *Moonæ* is fully crested and fimbriated, and Clapham's *ramo-cristatum* is one of the boldest crested and freest growing of this admirable Hart's-tongue division; *Lastrea æmula*, and particularly *L. denæa*, are very compact and distinct, and smell like new-mown hay. *Polystichum congestum polydactylon* make fine ornamental pot plants. What a fine deep green the depending form of *Pteris depauperata* puts on in its maturing fronds, with the tassel-like crests weighing the fronds down!

Among the North American Ferns the Violet-scented Fern (*Lastrea fragrans*) is one of the most prominent, as it is one of the most popular, because of the fronds smelling like Violets. A few plants in a close house dispense abundant fragrance. *Phegopteris hexagonoptera* is a Beech-looking Fern, with captivating greenery, the pinnae deeply cut. The Japanese *Lastrea atrata* is distinct and noteworthy. For a stylish exhibition plant there is nothing to beat *Osmonda Claytoniana*. It grows about the same size as the Royal Fern, but the fronds are of a pure velvety green, the fertile fronds particularly commanding attention. *Oncoclea sensibilis* is another tall grower, with large prominent drooping pinnae, making a telling exhibition plant. *Adiantum pedatum* is such a useful plant for trade purposes, and one of the most beautiful too, that we cannot pass it over, seeing the quantity grown here.

Amongst greenhouse Ferns the British Maiden-hair (*Adiantum capillus veneris*) does best under glass. There is one grand form conspicuous with finely-crested fronds, and having the pinnae larger, named *daphnites*. Among the *cuneatum* batch we noticed the following of the rarer kinds: *grandiceps*, crested; *Ludemannianum*, also crested, and both evidently good growers; the beautiful *rubellum*, with its claret-tinted young fronds, and the stylish-looking *Veitchii*; *Balanium calcitum*, makes a fine specimen plant, and its deep sea-green fronds are telling. *Cheilanthes farinosa* is a very handsome silver Fern that does best in a cool climate; if the least degree coddled, it becomes infested with trips. *Davallia tenuifolia Veitchiana* makes a handsome specimen—so light and feathery. We noted the novel *Lomaria aspera*, rigid in the fronds, and so brittle, yet with pinnae standing erect, which makes it a very attractive plant. Another two novelties struck us, *Mohria thurifraga*, and its variety *achillæfolia*, beautifully cut and quite Achillea-like. The Chinese *Nephrodium* is an admirable Fern, and so is *N. odoratum*.

Amongst stove Ferns, we noted *Adiantum concinnum gracile*, the beautiful *Farleyense* in hundreds doing well, a new desirable-looking one named *Feei*, the white-striped *macrophyllum* remarkable too for its young, pink tinted fronds, an acquisition in its way, and a comparative novelty; and one more than usually telling, named *Weigandii*, a fine crisped form with pinnae overlapping each other, and of a good green shade. Amongst *Davallias*, suspended in cork baskets,

was the charming *fijiensis*, and a selected one, named *elegans*, sent out by Messrs. Birkenhead—a decided acquisition. The golden *Gymnogramma Martensii* is always to the fore; but a new one named *grandiceps* is even richer gold colour than the type, and being beautifully crested, beats it completely; the *Schizophylla gloriosa* makes a good basket Fern, with its fronds depending. *Onychium auratum* is a narrow-fronded species, green and gold, the fertile fronds golden. *Pteris aspericaulis* is distinct, with its red venation, and a pretty Fern to boot; and *tricolor* is grown in quantity, and will grow too. The plants, notwithstanding the heat, are all remarkably clean and well grown.

Filmy Ferns occupy a considerable space in the older houses of the nursery. They are in some cases planted out, in others in pots, all either in frames, or covered with glass with movable panes for occasional evaporation. Mr. Birkenhead says that with study and the proper management the moisture is the main factor towards successful culture. These beautiful gems are not everybody's plants, but the lover of Ferns cannot help peering at them with a longing eye. Chief among those that took our fancy were *Hymenophyllum attenuatum*, and the tapering *caudiculatum*, the dwarf and pretty nidum of the demiesium type; *Forsterianum*, a deep green; and *hirantam*, a woolly-looking subject; *pulcherrimum*, the pendulous *trifidum*, nice pieces of *Tan-bridgense*, and the equally pretty *Wilsoni*. Then in *Todeas* we would place at the very front *grandipinnula*, *Fraseri*, and *Moorei*; of course, *superba* is the best looking of its class, when well done, and the rest of the *Todeas* were going along well here. The *Trichomanes alabamense* is charming to look upon; *auriculatum* is also beautiful, and so is the lofty-looking *alatum*. Among others we noted *T. radicans* multitudinously cut, and deep green; *T. Lyalli*, and *parvulum* of the fan-fronded type; *T. r. dissectum cuneatum*, a fine wedge-looking fronded Killarney Fern; *scandens*, distinct and pretty; the beautiful *trichoidium*, which no collection is complete without, and the small-fronded *venosum*.

There are other things grown to supply the local trade, such as *Rhododendrons*, fruit trees, some alpine, some bedding plants, of sorts; but the chief article of commerce is the Ferns, of which the firm claims to have the most varied and interesting trade collection in the world, consisting of over 1400 different kinds. *Viator*.

CHOICE BULBS AT MESSRS. WALLACE'S, COLCHESTER.

Among other choice bulbs, besides the brilliant *Calochorti*, already noticed, fine collections of *Irisæ*, *Lilies*, *Brodiasæ*, &c., are grown. The *Iris* beds had been sheets of bloom, but were nearly over. Several of the beautiful and all too-seldom-grown *Brodiasæ*, however, which bloom from April to July, were still in flower. The following are among the best of these hardy bulbous plants, easily grown in any warm border, producing large heads of bloom, mostly in umbels, which last a long time in great perfection:—*Brodiasæ volubilis* is one of the most striking. This is a twining plant with very slender stems, reaching to a height of 4 or 5 feet, with beautiful rose-coloured flowers; it has this singular and unique peculiarity—the flowers continue fresh for some time after evergence from the plants. *B. capitata*, as its name implies, is such a striking contrast to *B. volubilis*, that it is difficult to realise that they are of the same genus; it has tall heads of purple flowers. There is also a choice white variety of this, which is very fine. *B. coccinea* grows 3 feet high on a thin wiry stem, and lasts more than a month in bloom. *B. lactea* and *B. lilacina* have mixed coloured flowers of white, green, lilac. *B. laxa*, rich umbels of blue flowers, one of the best. *B. peduncularis* produces fewer flowers on long pedicels, the umbels being over 15 inches across, flowers porcelain-white. *B. rosea*, a new species, with dwarf habit, with many flowers of a pale pink colour. *B. Howelli*, which is one of the earliest, was, I was told, one of the best, with large umbels of beautiful porcelain-white flowers, delicately streaked with blue.

This is hardly the season for a full feast of Lilies. But owing to the great variety grown, special culture and skill, visitors can seldom go away unrewarded. As grown here, *L. canadense* is quite distinct from *L. superbum*. The colour varies from yellow to orange, bell shaped, heavily spotted inside the flower; *L. nitidum* resembles a slender *L. Humboldtii*, a graceful bright golden-yellow Lily, spotted

which nothing more need be said. *L. dalmaticum* is quite distinct from the common though beautiful Martagon in several colours. It grows to a height of from 4 to 6 feet, producing three or more spikes, each spike carrying from one to two dozen of light or dark purple blooms. *L. pardalinum* var. *minor* is a small charming variety of a well-known much-prized species of Lily. It bears numerous

of the type, indeed, it was almost black, which appears to be an acquisition.

Here were to be seen many other bulbs and plants of great interest, one of the most beautiful, as it is sure to become whenever, in vases or bouquets, brilliant colours are desiderated, being the best of all *Heuchera sanguinea*. *D. T. F.*

PLANT PORTRAITS.

- ACACIA OLIVESCENS, Willdenow, *Fl. Pl.*, and *Ferns of N. S. Wales*, t. iv.
- ACTINOTUS HELIANTHI LABILLARDIERE, *Fl. Pl.*, and *Ferns of N. S. Wales*, t. iii. (Flannel-flower).
- EUCALYPTUS CORYMBOSA, Smith, *Fl. Pl.*, and *Ferns of N. S. Wales*, t. ii.
- HELLEBORUS ALTI-FOLIUS, *Garden*, July 8.
- OXALIS VIOLACEA, *Meehans' Monthly*, July.
- PLUM GABRIEL COMBES, *Revue Horticole*, July 16.
- SYRINGA VULGARIS FL.-PL. VAR. MADAME LEMOINE *Revue de l'Hortic. Belge*, July.
- TECOMA SMITHII X, *Garden*, July 13. See *Gard. Chron.*, p. 619, vol. xiv., 1893.
- TELOPEA SPECIOSISSIMA, R. B., *The Waratah Fl. Pl.*, and *Ferns of N. S. Wales*, t. i.
- VERBESINA PINNATIFIDA and V. MAMEANA, *Revue Horticole*, July 16.

"THE KYOTO INDUSTRIAL EXHIBITION OF 1895."

HELD in celebration of the eleven-hundredth anniversary of the city's existence. Written at the request of the Kyoto City Government by F. Brinkley. A very interesting work is the one before us, which, though brought out on the occasion of the Kyoto Exhibition, relates almost wholly to the ancient capital itself, and to its many interests and industries. It therefore forms such a guide as will tell visitors not merely about treasures actually staged for exhibition, but also of the woodrout sights and delightful surroundings of Kyoto; of the palaces, temples, districts, and cunning craftsmen famous for various branches of art: for ceramics, textiles, embroideries, metal-works, cloisonné enamel, and bric-à-brac. This handbook has the fascination associated with all books descriptive of Japan and her wonders, and has the great advantage of being free from the personal and imaginative passages which too often mar the accounts of enthusiastic travellers. Therefore, the praises bestowed upon Kyoto, the natives, and the arts and industries, are the more acceptable and credible. The city wherein seventy-seven emperors have held their court has still a renown of no small importance. "Kyoto," says Mr. Brinkley, "considered under its former aspect," as a centre of art and industry, "as the chief town of a highly civilised nation, is probably the least ostentatious city in the universe. Apart from its Buddhist temples, which are gorgeous and imposing, it may be described as a collection of neat but rustic dwellings, nestling among hills of the softest possible contours, brooded over by a wonderful crystalline atmosphere, and resonant with the gurgle of limpid streams that babble under its bridges and beside its thoroughfares. Its water, indeed, is one of the gentle city's richest possessions. For these rivulets possess bleaching and dyeing properties unequalled elsewhere throughout the empire, so that whoever desires a robe of pure white or of brilliant hue must go to seek it in the Western Capital (Saikyo). Kyoto is a city of gardens. The humblest dwelling has its tiny park, with miniature waterfalls, toy hills, and dwarf forests. Even to-day, although the tide of a ruder civilisation has disturbed the quiet current of old-time life, you may find the potter or enameller decorating his vases or building up his subtle tracery of many-hued designs, while the flowers and leaves which he copies look in at him through the windows of his workshop." This passage contains an explanation of the very essence of Japanese art. It is essentially a native gift, inspiration coming not from foreign sources, but from the every-day surroundings of those who have the eye to appreciate and the skill to reproduce them in all their picturesqueness. This Guide to the Kyoto Exhibition, while dealing avowedly with the city itself and the chief features of it, yet gives an excellent idea of some of the characteristics of Japan in general, which, however over-written or



FIG. 19.—CAMPANULA VIDALLI: FLOWERS WHITE.

(Shown at the Royal Horticultural Society's meeting, July 23. See report, p. 102, col. 2.)

with red, the same as *L. columbianum*. *L. Henryi*, the orange-yellow specimen, this is one of the tallest and most striking Lilies, growing under cultivation to a height of from 5 to 8 feet in good soil, and bearing from twelve to twenty richly-coloured flowers. *L. Krameri* is remarkable in character and colour, the latter being a beautiful pink—rare in Lilies. *L. Leichtlini* is very beautiful and graceful, the colour citron-yellow, richly spotted with purple. *L. longiflorum giganteum*, an improvement on *L. longiflorum* and *L. l. Harrisii*, being larger than either, than

small orange-coloured flowers, spotted black, the tips of the petals being at times stained of a crimson colour. *L. Parryi*, one of the most beautiful and fragrant of all Lilies; the colour a citron-yellow, spotted with chocolate-brown.

Among dwarf Lilies the following deserve special notice, viz., *Alice Wilson*, clear lemon; *L. Hermannii*, flowers large, of a rich crimson-mahogany colour, the finest in the *L. elegans* group; *L. Van Houttei*, flowers large, of a shade of crimson, a very fine Lily. There was also a darker coloured variety

over-sung, is ever new and ever original to him who looks upon it for the first time. And now, from April 1 to July 31, or for even longer time if the venture prove successful, Japan's arts and industries are in course of representation at the Kyoto Exhibition, which (to turn for a moment to the business portion of our hand-book) is located in buildings extending over 9 acres of ground, surrounded by a garden 40 acres in extent, and including an annexe devoted to fisheries. Altogether, the enterprise is an important one, and gives no mean indication of the wealth of resources, both actual and mental, possessed by the ingenious people who have originated and carried it out.

ÆCIDIDIUM NYMPHÆOIDES, D.C.

IN November, 1877, I found floating down the river Ouse, at King's Lynn, in considerable abundance, *Scirpus lacustris*, which had evidently been cut from the sides either of the river itself or from some tributary drain. The *Scirpus* was affected with *Puccinia Scirpi*, D.C., which at that time had not previously been observed in Great Britain. The Great Ouse at King's Lynn is a river of considerable size, and for some 14 miles above the town is tidal. It rises on the borders of Oxford and Northamptonshire, near Brackley and Towcester, and drains an area of some 2700 square miles. The prospect of localising the affected *Scirpus* was therefore not very bright. Various attempts, however, have from time to time been made. The *Scirpus* is abundant enough along the banks, and in various drains and ditches in the fens, but never was I able to come across the *Puccinia* in its natural home. The river to Denver and from Denver to Ely, and the extensive pits at Ely known as Russell Hole, were searched in vain. The *Puccinia* is doubtless an heterocœcious species, and as it is uncommon, there is little doubt, could it be found growing naturally, one would have little difficulty in making out its life history, as such a rare *Puccinia* is not likely to have its *Æcidiospores* on a very common plant.

During the past winter, 1894-95, I made an archaeological excursion to Earith, a small town in Huntingdonshire, situated a few miles from St. Ives, on the river Ouse. In one of the fen drains, the Old Bedford as it is called, an abundant growth of *Scirpus acutus*, affected with the *Puccinia*, so that I felt sure I should at last be able to make out its affinities.

In the *Botanische Centralblatt*, 1891, No. 27, Herr P. Dietel, in a *résumé* of the past ten years' work on the life history of the Uredines, states that Chodat's investigations show that *Puccinia Scirpi*, D.C. is connected with the *Æcidium* on *Villarsia nymphaeoides*. Early in the present month, July, 1895, I again visited the Old Bedford at Earith, and was rewarded by finding the *Æcidium nymphaeoides* in great profusion at the same place in which during the winter I found the *Puccinia* on *Scirpus lacustris*, thus confirming Chodat's statement. The *Scirpus* was also growing abundantly in the River Ouse, but all I examined were unaffected by the parasite, neither did I find any *Villarsia* in the river itself. Charles B. Plowright, M.D., King's Lynn, July 22, 1895.

INDIA.

CALCUTTA ROYAL BOTANIC GARDEN.

AMONG the principal improvements effected during the year 1894-95 in the garden, may be mentioned the entire remodelling of one of the conservatories, which has been laid out on a new and more artistic plan. The road running along the river bank from the engine-house to the gate of the Sibpur College has been considerably improved, and several small buildings and a glass-roofed house for certain Orchids have been erected by garden labour. Dr. King's singular talent for landscape gardening has enabled him, says the official memorandum, during the twenty-four years he has been in charge, to add greatly to the beauty of the garden by skilful grouping of trees and shrubs, and it now ranks high among similar institutions for picturesque scenery no less than for scientific completeness. Within the past year he has laid the public under a further obligation by bringing out a guide to the garden, the want of which had been long felt. The book contains a map, a description of the garden, and a brief sketch

of its history since its foundation in 1786, and copies can be had by purchase at the garden gates, and from Messrs. Thacker, Spink & Co., booksellers, Calcutta.

Of the Lloyd Botanic Garden at Darjeeling, there is apparently little or nothing to record. The report does not state how far it fulfils the purpose for which it was originally established, of bringing together in one place those specimens of the indigenous flora of the Eastern Himalayas which can be grown at the elevation of Darjeeling.

VEGETABLES.

ST. DUTHUS PEA.

THIS fine Pea, which was awarded a First-Class Certificate by the Royal Horticultural Society in Jubilee year (1887), has somehow remained but little known, which is, a great pity, seeing there are a very few better wrinkled Peas grown. It is well adapted for a last crop, continuing to bear till winter sets in. The haulm, pods, and seeds are of a dark green colour, and the production of ten Peas in a pod is quite a common occurrence, and hardly any pods have fewer than eight. The flavour is first-rate, and its cropping qualities everything that can be desired. Why it has not taken a stronger position among late marrow-fat Peas I do not know, unless it be that, owing to its peculiarity in remaining so long in a green condition, the seed ripens with difficulty. Although sent out six years ago, it is still sold in quart packets to the trade, I believe, which looks as if there was not much of it saved. It is a grand late Pea, though not so well known as it ought to be. A. H. [The sample of pods kindly sent by our correspondent fully bears out his statements. Ed.]

A NEW PEA, RENTPAYER.

Seeing the interest you take in good vegetables, I have sent you a sample of my new Pea, Rentpayer, which I think everyone will welcome, as it is what has been lacking. You will see it is a first-class Pea, growing 1½ to 2 feet, strong, and robust in habit. If you saw it growing, you would say you had seen nothing like it for crop. It is a cross between Duke of Albany and Little Gem. I intend to send it out this coming spring. H. Brownhill, Sale.

[The plant is all that our correspondent says of it, and the Peas, which number eight or nine in a pod, are large, dark green in colour, and of the Duke of Albany flavour when cooked. The variety partakes of the character of Little Gem in height only, in most other respects it is a Duke of Albany. Grown in fields, it would do without sticks, but in the richer soil of a garden it would need to have short ones. The pods show at the upper part of the stem for about 1 foot down it. Ed.]

A NEW AND GOOD PEA.

This description fairly applies to Sutton's Peerless Marrow-fat, a medium, maincrop variety, which has done remarkably well in the gardens at Devonhurst, Chiswick, this season. Mr. Gibson, the gardener there, describes it as the coming Pea in its section. It bears a large number of well-filled pods, the Peas being of good quality. From plants raised from seed sown in pots on March 25, and afterwards planted out, the first gathering was made June 20. The height of the haulm is about 2 feet. The earliest Pea at Devonhurst this season was that good variety, Ringleader, gathered May 31. J. B.

THE WEEK'S WORK.

THE KITCHEN GARDEN.

By JOHN LAMBERT, Gardener, Powis Castle, Welshpool.

SPINACH.—Continue to make successional sowings at regular intervals of time, choosing a cool, somewhat shady place, as it is a plant that soon runs up to seed in hot dry situations, and the poorer the ground the sooner it runs.

SALSAFY AND SCORZONERA.—If signs of running to seed are noticed, the flower-stalks must be removed, or the roots will be quite useless.

THE SOWING OF CABBAGE-SEED.—Cabbages being an important crop in the spring season, I recommend that at least two sowings be made—one forthwith, and another at the end of the month, or, in the warmer parts of the country, the first week in August. The earlier sowings are the more important in colder districts, and anywhere north of the

Humber. In early parts the later sowings are more to be relied upon. It is a mistake to put out large succulent plants which look well at the time, and yet will not stand the winter. A plot of ground should be chosen as the site of the seed-beds that is well exposed to sun and air, and the land should be well tilled but not over-manned unless it is known to be impoverished. Having dug and levelled, and tramped the land evenly all over, and raked off the stones, mark out the beds and sow the seeds very thinly broadcast if it is intended to transplant straight from the beds. Perhaps a better way is to sow the seeds moderately thickly, and prick out into other beds when the plants have made two pair of true leaves. Very early sowing and large plants result in the Cabbage bolting in the spring. Last season out of a bed of some thousands none bolted, and nearly every one withstood the frost, but they were netted to protect them from the ravages of the wood-pigeons directly the snow melted down sufficiently to allow the pigeons to reach them. Ellam's Early is excellent for first cutting, and the Heartwell Early Marrow, Battersea and Enfield Market are all good varieties of Cabbage. Seeds of all these were sown here on July 29. A good planting of Rosette Coleworts may now be put out for late autumn use.

CAULIFLOWERS.—A sowing of Cauliflower seed should be made when Cabbage seed is got into the ground. It is prudent to make three sowings, at intervals of about two weeks. The variety Early London, if it be true, and it is treated properly, is still my favourite all-round Cauliflower.

MISCELLANEOUS.—Any ground cleared of its summer crops may be planted with Cottagers' and Asparagus Kalea. Purple and White Sprouting Broccoli, and even Brussels Sprouts may be planted where the quantity got in is not deemed equal to the probable demand.

THE FLOWER GARDEN.

By BAILEY WADDS, Gardener, Birdsall Gardens, York.

BULBS FOR AUTUMN PLANTING CONTINUED.

—The single and double-flowered Anemones deserve to be planted extensively; the single varieties are the hardiest, earliest, and the more useful, and they may be obtained from the bulb dealers in fine mixtures or in named varieties. Some good single-flowered varieties are Masterpiece, scarlet; The Bride, white; Cœrules, blue; and Garibaldi, vermilion. The double and single-flowered late varieties have large and brilliant flowers, as have also the double French Chrysanthemum-flowered. Good varieties of doubles are King of the Scarlets, L'Eclair, King of the Blues, Feu Superbe, Thalia, Prince de Ligny, Ceres, Admiral Zoutman. Useful varieties for planting in the herbaceous borders for flowering in the autumn, are A. japonica, A. j. alba, A. j. elegans, and A. j. Lady Ardilaun; and for spring flowering there is nothing brighter or more useful than *Anemone fulgens*; also the yellow-wood Anemone, A. ranunculoides, and the purple and white pasque flower, A. Pulsatilla, A. P. alba, and the wood-wind flower, A. nemorosa, and its several varieties; the varieties of A. appendicula, A. a. alba, and A. a. rosea. Hepaticas should be grown in every garden; H. angulosa, H. a. triloba alba, H. cœrules, H. rubra flore-pleno, and several others.

SCILLA or Squills are amongst the brightest and prettiest of spring-flowering bulbs, *Scilla sibirica*, *S. bifolia* are the earliest to flower. *S. nutans*, and other good varieties are later, and all are good for planting in mixed borders or as edgings to beds of other plants.

FRITILLARIAS, including Crown Imperial Lilies, are showy plants for mixed borders. Some of the varieties are tall, others dwarf, and all are strong growers, but they do not require much staking. The variegated varieties are very striking when they do well; but they require good rich loamy soil, and should be planted in patches of 5 bulbs. Good varieties are F. Aurora, F. lutea, F. rubra, and F. r. variegata. *Fritillaria Melesgris*, having curious snake's-head-like blossoms, is of slender habit of growth.

GLADIOLUS COLVILLEI ALBA is useful for spring and early summer flowering, and should be planted in the autumn before the corms begin to grow, about 4 inches apart or in clumps in the herbaceous borders, or in parts of the garden that are sheltered from the colder winds. The flower-spikes are useful material for cutting, especially the variety G. C. rosea. A rich soil suits them, and the beds or groups should be mulched with short manure during the winter.

COLCHICUMS.—These bulbs should be largely planted in clumps in the herbaceous border, as the plants flower early, and give brightness to the garden just when it is required. Early varieties are *C. Bulbocodium persicum*, *B. robustum*, *B. vernalis*, and *B. v. Plantii*. The autumn and winter-flowering varieties are also very useful for borders or rockwork.

CHIONODOXA.—Glory of the Snow is a Scilla-like plant that looks well if planted in clumps with other spring-flowering bulbs. *C. Lucilia*, blue and white, and *C. gigantea* are good varieties.

FRUITS UNDER GLASS.

By RICHARD PARKER, *Gardener, Goodwood, Chichester.*

ORCHARD HOUSE.—The portable trees should be removed to a sunny place out-of-doors as soon as the fruits are gathered from them. By so doing the wood will become quite matured. The plants must be supplied with clear water at the roots, and the foliage syringed at least once a day in bright weather, if the pots can be stood upon a bed of coal ashes, or each on a piece of slate to prevent worms getting into them. Large fruits of Apples or Pears should be supported by strips of matting or pieces of open muslin or netting as they approach maturity. Reduce the amount of nutriment supplied to the trees as the fruits approach the ripening stage, but continue to syringe the foliage up to within a few days of gathering the fruit, and afford plenty of ventilation, so as to ensure the proper flavour. If birds or wasps are troublesome, all openings should be covered with light tiffany or canvas. In some cases it may be necessary to tie some of the foliage back to expose the fruit to the sun.

FIGS.—The main crops of Figs in cool-houses now approaching maturity will require abundance of moisture at the roots, and in the air. Continue to pinch the growing shoots at the fourth or fifth leaf, reckoning from the base of such shoots, retaining sufficient wood for furnishing a crop next season. Ripe fruit should be gathered daily in the early morning, placing them on fresh leaves, and putting them in a cool place, if not consumed forthwith. When the ripe fruits are gathered, the trees should be freely syringed, doing this less copiously if damp weather prevails, and in that event a slight warmth may be maintained in the heating apparatus at night. Any Fig trees or bushes requiring larger pots should be shifted during August, the roots then having time to take to the new soil before the end of the autumn.

POT VINES.—Those for early fruiting next year should have now completed their growth, the rest of the summer being required for the thorough ripening of the canes; and unless this takes place the Vines will be useless for early work. The ripening should not be hurried but gradual, and the plants must not be deprived of the amount of water required for the healthy development of the wood. They will not require any manual aids to growth after this date. The foliage of such Vines should be syringed once a day, more air afforded, and in bright weather artificial heat may be dispensed with. By maturing the vines in this manner for a few weeks they will be in a better condition to be stood out of doors later on.

THE ORCHID HOUSES.

By W. H. WHITE, *Orchid Grower, Bursford, Dorset.*

AFFORDING WATER.—The chief work in the Orchid-houses during the rest of the month will consist of watering and shading the plants, and ventilating the houses. Owing to the external air having been very dry, I have been obliged in some divisions to depart from my customary rule of setting aside two days in each week for watering the plants, and have been obliged to examine them every day to ascertain if water at the root was necessary or not. Some Orchids, namely, *Cattleyas* and *Laelias*, do not suffer even if they are allowed to remain dry for a day or two—in fact, specimen plants that are in very large pots are all the better for being occasionally deprived of water for that length of time; whilst other species, as *Cypripediums*, *Calanthes*, *Habenarias*, *Phaius*, *Bolleas*, *Pescatoreas*, *Diseas*, and all kinds of plants growing on wood blocks soon show signs of distress. I would advise cultivators at the present season to carefully examine the plants in the early morning; and in affording water to those which are dry, let it be sufficient to wet every part, and to rush through the bottom-holes in the pots. Species which do not possess pseudo-bulbs, viz., *Phalaenopsis*, *Aërides*,

Saccolabiums, and *Vandas*, should be watered often enough to keep the sphagnum on the surface fresh and green.

DENDROBIUMS.—Plants of *Dendrobium* finishing their growth should be watered with great care, for if too much be afforded, they will begin to grow again; but such late-growing species as *D. fimbriatum*, *D. Brymerianum*, *D. Phalaenopsis*, *D. superbiens*, *D. taenium*, *D. Dalhousieanum*, *D. Parishii*, *D. clavatum*, *D. calceolus*, *D. albo-sanguineum*, and the evergreen section, *D. thyriflorum*, *D. densiflorum*, *D. suavisimum*, *D. chrysotoxum*, *D. Farmeri*, &c., should not be allowed ever to get dry till growth is complete.

CYPRIPEDIUMS.—The species and varieties of *Cypripedium*, viz., *C. insigne*, *C. Leeaanum* ×, *C. Spicerianum*, *C. Charlesworthii*, *C. Fairieanum*, *C. Schlimii*, *C. Arthurianum* ×, *C. barbatum*, and others which are inmates of the intermediate-house, may be copiously watered overhead two or three times every week, whether they appear to be dry or not.

ODONTOGLOSSUMS.—Taking the cool-house plants as a whole, they should be watered just often enough to keep the compost moist. The plants of *Odontoglossum* of the *O. crispum*, *O. Pescatorsi*, *O. triumphans*, and *O. luteo-purpureum* sections, having but little to do at this season, should not be kept in a saturated condition, or the old roots will decay, and the new growths just starting get soft and weak.

MASDEVALLIAS.—All the Chimæroid *Masdevallias* require to have their foliage well syringed, and to be frequently watered at the root; whilst those of the *Harryana* and *Veitchii* sections should be watered only when the compost has become dry. To all houses, except that one in which are the *Masdevallias*, plenty of air should be afforded, especially during the middle hours of the day, when the inside temperature may be allowed to get comparatively dry, damping them down morning and evening. The shading should not now be let down quite so soon in the morning as heretofore, and it should be withdrawn earlier in the afternoon, in particular in those divisions where the *Dendrobiums*, *Cattleyas*, and Mexican *Ochids* are placed.

PLANTS UNDER GLASS.

By W. H. SMITH, *Gardener, West Dean Park, Chichester.*

POINSETTIA PULCHERRIMA.—Those plants which were the earliest raised from cuttings will now be ready for re-potting, and this time they should go into those pots in which they will flower. In order to ensure dwarf plants, they should be grown at no great distance from the glass, and never allowed to become crowded in their summer quarters. A good mixture of soil consists of loam, leaf-mould, and peat, with a small quantity of dried cow-dung. After re-potting them, place on a very slight hotbed, still close to the glass. If this be not available, then utilise a low pit into which heat can be turned in weather that is dull or cold. Keep the pit close until the roots have penetrated the soil, when fresh air must be admitted, gradually at first. Later-struck plants may also be re-potted, keeping these, however, still on the shelves in the stove, so as to hasten growth a little before putting them into heated pits or frames.

GLOXINIAS (SINNINGIA) SPECIOSA.—Young plants may be re-potted into 48's, or even larger pots if the tubers are large, keeping them in a genial growing temperature, when, if well looked after, they will make good flowering stuff for the autumn. The shift afforded them at this date will tend to increase the size of the bulbs, and the number of bloom next year. *Gloxinias* which have done flowering keep a little drier at the roots, and place them in cold frames, with a light shade over them to prevent scorching, and when the leaves have died down place the pots on their sides under the greenhouse or intermediate-house stage.

PRIMULA SINENSIS.—Any seedlings now standing in 60's should be repotted forthwith, and this time into 48's and 32's, using good loam, leaf-mould, dry cow manure, with a moderate quantity of sand. In performing the operation keep the soil close up to the collar of the plant, making it moderately firm, and if a plant is not steady, make it so with three short pegs. Place close to the glass in a cold frame, and afford the plants light shading in sunny weather, keeping close for a few days after potting, syringing the frame twice a day when the weather is sunny

FUCHSIAS spring-struck will require repotting, and the flowers to be pinched off them till the plants have acquired a good useful size. They may be placed outside in half-shade, and well syringed, especially the undersides of the leaves, where thrips are apt to lurk. *Fuchsias* treated in this manner make useful subjects for the conservatory in late autumn.

EAST LOTHIAN INTERMEDIATE STOCKS.—Sow a potful or boxful of each, according to needs, of the different coloured varieties for flowering in the spring, and place in a cold frame. A few of each variety may be brought into flower in the latter part of the winter by gently forcing them.

TREE CARNATIONS may be potted, and secured to green painted sticks. The first that were potted will have become established, and may therefore be placed out-of-doors in the full sun, and stood upon, or sunk up to the rims of the pots in coal-ashes. Flower-spikes must be removed as fast as they make their appearance, the syringe applied twice a day, and water carefully afforded, remembering that plunged plants require much less water than those stood on the surface. The tree varieties are not nearly so susceptible to disease as *Souvenir de la Malmaison*, and the two should be kept apart.

THE HARDY FRUIT GARDEN.

By W. POPE, *Gardener, Highclere Castle, Newbury.*

THE SUMMER PRUNING OF FRUIT TREES.—Attention to the pruning of fruit trees at this season is of the first importance, not only as regards the development of the present crop of fruit, but of the shoots and fruit-spurs. It should be borne in mind that the fruit-buds cannot become fully developed without air and light; therefore, the disbudding and thinning of the shoots should be well carried out. If a tree is growing very vigorously, making a lot of strong rank wood, and there are no fruit-buds, it is advisable to thin these growths somewhat severely, in order to admit sunlight right up to the base of the remaining shoots, and in a few weeks later, say about the middle of August, give each of these strong shoots a twist about 5 or 6 inches from the base, not breaking them off, but letting the points hang downwards; this will tend to check the flow of sap and cause the back buds to plump up instead of breaking into fresh growth, which might be the case were the shoots cut back in the usual manner. Then, early in September, whilst the leaves are yet on the tree, take out a trench at a distance of 3 or 4 feet from the stem, and root-prune such trees, working underneath the mass of roots, and severing the taproots with a knife. Having done this, fill up the trench with a mixture of turfy loam taken from the sides of roads, or such like fresh, gritty material, and charred garden refuse. This will encourage a fresh growth of rootlets before the setting in of cold weather, the tree being pruned at the ordinary winter-pruning as usual.

EARLY PLANTING OF STRAWBERRIES.—Where Strawberries have been layered to afford an early crop of fruit next year, the layers should be planted forthwith. Choose a warm, sheltered position for the bed, which will be all the better for being deeply worked and heavily manured. Before proceeding to plant, tread the ground firmly. In planting, follow nature, and do not set the layers deep in the soil. *Black Prince*, *King of the Earlies*, &c., may be planted 1 foot apart each way for the first season, each alternate row being taken away when the first crop of fruit is gathered; or they may be planted at 18 inches apart each way in the first instance, which will be ample room for these rather small growers for several seasons. Mid-season varieties are generally rather stronger growers, and should be allowed 2 feet each way, with an extra 6 inches after every third row as an alley. The space between the rows may be utilised the first season by autumn-sown Onions or Lettuces. For the earliest crop the old *Black Prince* is yet hard to beat, *King of the Earlies* is a useful early variety, *Noble* is very early and prolific, and the fruit very large, but it is deficient in flavour; *Vicomtesse Héricart de Thury* is one of the best varieties for early forcing, and outdoors. For mid-season, *President* and *Sir Joseph Paxton* are well-tried and standard varieties. *Frogmore Late Pine* and *Waterloo* are good late varieties. Amongst newer ones are *Royal Sovereign*, which should take the first place, being of excellent flavour and nice appearance, and it is likely to be grown extensively; *Lord Suffield*, *Gunton Park*, and *Empress of India* are also of first-rate quality, and well worthy of a trial.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Letters for Publication.—All communications intended for publication, as well as specimens and plants for naming, should be addressed to the Editor, 41, Wellington Street, Covent Garden, London. Communications should be WRITTEN ON ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETING.

SATURDAY, JULY 27—Royal Botanic Society.

SHOWS.

WEDNESDAY, JULY 31—Working Horticultural (two days).

THURSDAY, AUG. 1 } Bransford (Worcester) Horticultural, at Hopton Court.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—63°.2.

National Rose Society.
Northern Exhibition at Derby.

THE curtain has fallen, for the third act of the drama has been played out in the Northern exhibition held at Derby on the 17th inst., and reported on in detail in our last issue. The short and feverish Rose season is now over, for although there may be one or two Rose shows still to be held, the Northern exhibition of the National Rose Society really closes the season.

The exhibition at Derby was, like those of the two which preceded it, far better than anyone anticipated, yet, upon the whole, not up to the average. It is difficult, and perhaps invidious to make comparisons when the circumstances are so very different, but, on the whole, it may be stated that Gloucester has held the palm for Tea Roses, those at Derby not being so good; while in the case of hybrid perennials they were better than at Gloucester, and probably about equal in quality to those at the Crystal Palace. The leading amateur was asked after the awards were made, whether he thought his stand of thirty-six was as good as those at the Palace; his reply was, "Certainly not!" and yet any one looking at the stand would wonder where any exception could be taken.

The exhibition was intended to meet the necessities of northern exhibitors, but they are few in number as compared with those in the south, and hence one need not be surprised to find so many, even of the chief prizes, being captured by southern growers. As might have been expected, Messrs. HARKNESS & SONS came out victorious in the chief classes, carrying off the Jubilee Trophy, the Gold Medal, together with the Silver Medal, for the best H. P., and various other prizes; some of their blooms were of first-class quality,

and the stands altogether were very even in excellence. It is difficult in such stands as these to select those flowers which take the first rank, but the blooms of Gustave Piganneau and A. K. Williams, which obtained the Silver Medal, Horace Vernet, Charles Lefebvre, Her Majesty, Rowland Hill, Suzanne-M. Rodocanachi, were of this character. It has been sometimes suggested that seventy-two is too large a number even for nurserymen, because there is always sure to be a certain amount of "tail," but it would have been very difficult to have picked out any in Messrs. HARKNESS' stand which deserved this opprobrious title; there were certainly none of them to which less than two points could be given, and most of them were worthy of three. Of course, this firm's position in Yorkshire, where the temperature is lower, and the rains have been more frequent, was in their favour, and it was the expectation of everyone that they would carry off the premier awards; they were near home, in itself a great advantage.

Unquestionably the great interest in the show was concentrated in the amateur classes, for there were to be competed for not only the Trophy and Gold Medal offered by the National, but the valuable special prizes offered by the Right Hon. Sir W. V. HARCOURT, the prizes offered by the Crown Derby Company, and the Piece of Plate offered by the Mayor. The first of these was won by Mr. E. B. LINDSELL of Hitchin, the second by Mr. BARKER, also of Hitchin; and the third by Mr. WHITTON of Bedale, a near neighbour of Messrs. HARKNESS. The Challenge Trophy and Gold Medal were awarded to Mr. LINDSELL, who thus holds the northern and southern trophy. It need hardly be said that the quality of Mr. LINDSELL'S flowers was very fine; beside those which obtained the Silver Medals for the best hybrids and Teas, both of which were in his stand of twenty-four, he had grand blooms of Horace Vernet, A. K. Williams, Count Raimbaud, Her Majesty, Ulrich Brunner, Earl of Dufferin, Catherine Vernet, Sir Rowland Hill (affording a most pleasing contrast by its deep colour to the other flowers in the stand), Marie Baumann, Fisher Holmes, Countess de Nadaillac (Silver Medal), and Alfred Colomb. It will be noticed how many of these were of the rich high colour varieties, which the Hitchin soil seems to produce so grandly. The second place in these contests was assigned to a northern amateur, Mr. H. V. MACHIN, of Worksop. His flowers were particularly fine, but wanted in some way the high finish obtained by the Hitchin amateur. Another rising amateur has this year made his mark, in the person of Mr. PARKER, of Hitchin, and a very excellent stand of his secured the Vase given by the Crown Derby Company, a prize which many of those competing would gladly have won. The Mayor's prize was awarded to Mr. WHITTON, of Bedale, Yorkshire, who a couple of years ago carried off the Jubilee Trophy; his flowers were of good form and excellent colour. Mr. WM. BOYES, of Derby, who has taken infinite pains in organising and carrying out the exhibition, and on whom the chief burden of it rested, was a successful exhibitor, but not so successful as he might have been had he not unselfishly sacrificed his time for the benefit of the Society. Tea Roses, as already said, were not of first-rate quality, although Mr. BURNSIDE again showed what an enthusiastic intelligence can effect under most depressing circumstances. Few men who had witnessed the destruction of their best plants by removal and the terrible frosts of last winter, and who had

planted them in March, would have ventured to compete; but difficulties do not deter him, and although his situation is in chilling contrast to that which he enjoyed at Chipping Camden and at Birch, he will not readily relinquish the high position he has held for some years as a Tea grower.

The position which Her Majesty took at the beginning of the season has been maintained to the close, the box of twelve exhibited by Messrs. ALEX. DICKSON & SON, and which carried off the prize for twelve blooms of the best light Roses was truly grand, clearly showing the variability of Rose blooming for Mrs. John Lsing, a seedling of the same raiser; the late Mr. Henry Bennett was nowhere seen in such form as last year, although most people consider it a better Rose than Her Majesty; but the same firm was awarded a prize for the best box of twelve new Roses which, with two exceptions, were flowers of their own raising. Conspicuous amongst them was Mrs. Sharman Crawford and Marchioness of Londonderry, others being Eileen, Con, Shandon, Killarney, Erin-go-bragh, Countess of Caledon, quite new; Lady Moyra Besnolker, quite new; and Shaugraun, the two which were not their own raising being Captain Hayward and Madame Jules Finger.

There could not be any doubt as to the excellence of the blooms which obtained the Silver Medals of the National Rose Society in the amateurs' class. Xavier Olibo (H.P.) was a fine bloom of a Rose not often seen in perfection, and to many, probably, the blooms of Horace Vernet and A. K. Williams in the same stand were considered, perhaps, slightly superior to it. The Tea in the same box, Comtesse de Nadaillac, was a fairly good one; but we have often seen this fine Rose in better condition—a statement which might be made of most of the Tea Roses in the show. Messrs. HARKNESS & SONS' A. K. Williams was a magnificent flower, of large size and of good colour; while Messrs. CROLL & SONS' Marie van Houtte was a splendid specimen of that lovely Tea.

Although no Gold Medal had been awarded at the two previous shows, Messrs. ALEX. DICKSON & SONS were again successful in obtaining that coveted award at this show, with Helen Keller, a pink Rose with a slightly purplish tint in it; it is a well built, solid flower, but it is questionable whether if Lady Moyra Beaulker, another of their flowers, had been exhibited in better form it would not have obtained a higher award than a Card of Commendation.

The collections of garden Roses attracted a good deal of attention, especially those exhibited by Mr. H. V. MACHIN, of Worksop, amongst amateurs, and those of Messrs. PAUL & SON, and Messrs. TOWNSEND, amongst nurserymen. In Mr. MACHIN'S collection there was a large number of the dwarf Polyantha section, while L'Idéale, Red Damask, and Camden were well shown. Messrs. PAUL & SON depended more largely on the new exhibition Teas, among which Madame C. Guinoisseau, W. Allen Richardson, Alistair, Stella Gray (somewhat in the style of this latter flower), added considerably to the beauty of the stand. In the display of Roses, Mr. H. V. MACHIN was again first, and his collection was a very fine one, but there is still a good deal to be done in this class. In one collection there was an attempt made to break through the dead level monotony usual in such arrangements, baskets and vases being used to break the level line which is usual in such exhibits; but this collection was spoiled by having two or three exhibition boxes with single blooms placed in the front—a few



CORRIDOR AT MR. W. BULL'S NURSERY, CHELSEA.

low vases containing the dwarf Polyanthus would have added considerably to the effect. It is evident that we have very much yet to learn in the æsthetic arrangement of groups of Roses—we call to mind a collection exhibited at the Drill Hall some two or three years ago by Mrs. EDWARD MAWLEY, of Berkhamsted, from which a good deal might be learned by those aspiring to direct taste in such matters.

It will thus be seen that the projectors of the Derby Show have reason to be satisfied with the result of their appeal to the Rose-growing public; and, although one may assent to the opinion of our champion amateur, that this has been a most disappointing season, we may at the same time add, that it was a far better one than the mournful complaints of growers after the hard winter, and again after the lengthened drought, had led us to anticipate—some even of those who drew these pictures coming out as if nothing extraordinary had happened to them.

A MEETING of the Syndicate of Belgian horticulturists, and one of special importance, is convened at the Casino, Ghent, on August 4, at 11 A.M., to consider, at the request of the Belgian Government, the question of the desirability of revising the Berne Phylloxera Convention. We have, from the first, protested against the futility of these regulations, and against the wholly gratuitous injury which has been inflicted, not only on commercial horticulturists, but upon amateurs desirous of transmitting plants from one country to another.

The Italian government has at length proposed a meeting of the nationalities concerned in the Treaty of Berne with a view to obtain the entire abrogation of so much of the convention as prevents the circulation of plants other than Vines. This subject was informally discussed by us with some of the Italian authorities so long ago as the Florence Botanical Congress, when the absurdity of the regulations was pointed out. This country has never assented to the convention, but our nurserymen have had, like others, to put up with the vexations and impediments uselessly created by that treaty. It is surely time they took steps to support their brethren of Belgium and Italy. We may fairly look to the authorities at Kew also to lend their potent aid in this matter.

THE generation of botanists that put its faith in "BABINGTON" is not yet extinct, nor indeed—such have been his services to British botany—will his name and his work soon be forgotten. The state of botanical teaching is wonderfully different from what it was when BABINGTON was in his prime, but he retained his Professorship at Cambridge under these altered circumstances till his death on the 22nd inst. in his 87th year, though he had, we believe, long ceased to take any active part in the duties of his office. He was of the stock of the Leicestershire BABINGTONS, but was born at Ludlow in 1808, and educated at St. John's College, Cambridge, where he passed the greater part of his life, assuming the duties of his Professorship on the death of Professor HENSLOW in 1861.

He is best known by his *Manual of British Botany*, the value of which as a field manual is attested by the fact that it ran through eight or nine editions. In it the "characters" are sharply contrasted, and special prominence is given to those points of most interest and value for classificatory purposes. Another and most

important characteristic of the book is the strenuous effort made to keep in line with the great European floras of KOCH and others, and to harmonise the nomenclature of British plants with that in use on the Continent. BABINGTON was very keen in discriminating slight differences, the value of which has been greatly enhanced since the general acceptance of Darwinian views of evolution. His tendencies in this direction led to his being classed among the "splitters" rather than the "lumpers," by a former generation less appreciative of the significance of minute differences. BABINGTON'S powers of analysis were also prominently shown in his study of British Brambles. He spared no pains in his efforts to disentangle the complications that arise in the study of these protean plants, and reduce chaos to order. He seems to have done this purely from the point of view of a systematic botanist without concerning himself greatly with the philosophical deductions which might be drawn from such materials. To aid in the discrimination of these plants, BABINGTON caused a large number of them to be cultivated in the Cambridge Botanic Garden. Not only was he a foremost authority on British plants, but he collected in Iceland and published his researches into the flora of that island. In addition, he was well known as an antiquary, and was one of the very oldest of our own contributors, though, of late years, we have had little or nothing from his pen. In social and private life, Professor BABINGTON was one of the best and most amiable of men.

THE TURNIP-FLY.—From the Board of Agriculture we have received a pamphlet treating of the Turnip-fly or flea (*Phyllotreta nemorum*), and of the best methods of coping with the pest. This fly is really a beetle, small in size, but capable, when found in numbers, of destroying rapidly entire crops of Turnips or Swedes. In view of this, and of the enormous expense entailed by losses on so large a scale, many methods of preventing the scourge are suggested. Amongst these are the sowing of Turnip-seed on a "stale furrow;" selecting vigorous, healthy seed; extirpating such weeds as Charlock and other Crucifers which encourage the beetles; and, in some cases, sowing Mustard with the other seed, as the former, germinating first, is devoured by them in preference. Drought is found to be more favourable to the beetles than is moisture of atmosphere and soil. Where the Turnip-fly already exists, the proposed remedies are dressings of soot, lime, paraffin, and other detergents; lightly rolling the ground, or pushing over it a "light wide framework upon wheels with well-tarred boards fastened upon it, so as to come just over the Turnip plants;" in this case the beetles, being disturbed, jump into the tar, upon which they soon accumulate in masses, and can be scraped off, and the boards re-tarred.

TOMATO DUKE OF YORK.—Messrs. FELLOWS & RYDER of Orpington have submitted specimens of a new Tomato under this name. The fruit is of medium or large size, handsome, symmetrical, of rich crimson-red colour, deep flesh, and full, slightly acid flavour. We presume the habit is good, and that it is a good cropper, as Messrs. FELLOWS & RYDER inform us they have seventy houses devoted to its cultivation. While there are so many Tomatoes of good quality, it is difficult to express an opinion, but in this case we have no hesitation in saying that, judging from the sample sent to us, this is a first-class variety. Its merits were recognised by the award of a First-class Certificate from the Royal Horticultural Society on Tuesday last.

"PHARMACEUTICAL JOURNAL."—This journal has always been remarkable for its efforts to forward the scientific development of Pharmacy. Its weekly numbers supply a condensed but accurate summary of scientific work in chemistry and botany. Quite recently a fourth series has been commenced, and

the size of the journal increased to quarto size. Everyone interested in such matters must sympathise with the unceasing endeavours on the part of the Society to place pharmacy on a proper basis.

SCOTTISH HORTICULTURAL ASSOCIATION.—A paper was read before the Association on the 22d inst., by Mr. M. CHAPMAN, Easter Duddingston, Portobello, on the "Gardens of Antiquity." Mr. CHAPMAN passed in review the gardens of Babylon, Egypt, Persia, Greece, and pointed out the principal causes of the great progress of horticulture in modern times.

ST. JOHN'S HORTICULTURAL SHOW.—The St. John's (Ipawich) Cottagers and Gardeners' Horticultural Society held their annual show of flowers, fruit, and vegetables on Wednesday, July 17, in the grounds of Mr. R. BOND (one of the vice-presidents), who had kindly placed them at the disposal of the Committee. In comparison with previous years, the exhibits were well up to the average, but, owing to the time of the year, were perhaps not quite so numerous. The prize list was divided into three classes—cottagers, gardeners, and amateurs—and in addition, numerous special prizes were offered.

THE JERSEY POTATO CROP.—The winter of 1894-95 was, we learn from a correspondent, keenly felt in the Channel Islands, and for the third year in succession a large quantity of seed Potatoes was destroyed by the frost. The loss of quite a fourth part of their Potato seed by this cause was nothing less than a calamity to the Jersey farmers. Moreover, the frost was so protracted, that planting was delayed for quite a month beyond the usual time. In the early districts, planting did not commence until the second week in March, whereas at the same date in 1894 the young plants were showing well above the ground. The growth this year was also slower owing to the greater coldness of the soil; and it was a general complaint that the Potato fields showed various "mises," owing, no doubt, to the planting of seed which had been injured by the frost, and which failed to germinate. The outlook from the first was therefore far from promising, and continued dry weather threatened general disaster. The early districts, as a matter of fact, fared very poorly; their yield was extremely light, and only for a very few weeks did prices continue at all remunerative. On the heavy lands, on the other hand, the tubers benefited greatly from a downpour on Whit-Sunday, and a heavy crop made amends, to some extent, for bad returns. Very soon, however, after the commencement of the English new Potato season, prices in Jersey fell to a ruinous figure. It is estimated that the value of the Potatoes exported from Jersey has this year not exceeded £300,000, whereas it reached almost £500,000 in 1894.

CLOVE CARNATIONS, STOCKS, AND ZINNIA IN THE EMSANKMENT GARDENS, CHARING CROSS.—The first of these have thoroughly established their fame here as hardy town flowers, flourishing in the midst of smoke. Masses of them in flower are pictures of vigorous health now in these gardens, and their handsome and fragrant flowers cannot fail to evoke warm admiration. The Stocks are even more charming as bedding plants, their fine massive build and great floriferousness, added to the variety of colour and fragrance, making them most desirable subjects, especially when planted in good numbers together. The dwarf strain of Zinnia elegans afford quantities of brilliant, telling shades of colour; they are, moreover, very lasting, if not permitted to bear seeds.

HORTICULTURAL MEETING AT GHENT.—At the Ghent meeting on July 9, the following awards were made:—Certificates of Merit *par acclamation*, to M. JULES HYE, for twenty specimens of *Cattleya Mendeli*, *Mossie* and *gigas*, all choice varieties, notable for the size and colouring of their flowers; to M. KUYLE, for *Phoenix humilis*, an excellent variety of *P. senegalensis*, leaves light bluish, a good market plant if seeds of it could be imported; to M. JULES HYE, for *Cattleya Arnoldiana* ×, a fine hybrid between *Lælia purpurata* and *Cattleya*

Waracewicz, lately obtained by Messrs. SANDER. Certificates of Merit (*à l'unanimité*) were allotted to M. JULES HYE for *Cypripedium Youngi*, which has long petals, quite covered with great black spots, exactly resembling those of *C. Veitchi*, whence this fine hybrid was raised; to M. PYNÆRT for a hybrid *Cypripedium* between *C. Stonei* and *Spicerianum*, the parentage was plainly shown, the new acquisition is very free-flowering, and easy of cultivation. Certificates of Merit were given to M. L. DE SMET-DUVIVIER, for *Pteris longifolia Marildii*, the fronds elegantly cut, the colour very distinct from that of other Ferns, a noteworthy variety for growing on a large scale; to M. JULES HYE for *Odontoglossum Wilkeanum*; to M. PETRICK for *Æchmea fulgens major*, a seedling from the old and popular *Æchmea fulgens*, but the bracts are much larger than in the type, and the colouring is brighter; to M. PETRICK, also, for *Tillandsia Sieboldiana*, a variety still very rare, and remarkable for its fine branching raceme covered with rosy-blue flowers or bracts. Certificates for Cultivation were awarded to M. JULES DE COCK for *Angræcum sesquipedale* with twenty flowers and buds; to M. JULES HYE for *Cattleya Mossiæ* var. *alba Wagneri*, bearing twelve well-expanded flowers; to M. L. DE SMET-DUVIVIER for *Promenæa citrina* with very numerous, small, golden yellow flowers; to M. SZEWEZIK for *Saintpaulia ionantha*, with fifty lovely blue flowers; to M. PYNÆRT, for *Cienkowiekia (Kämpferia) Kirki*, an interesting greenhouse plant, the flowers unfortunately are ephemeral, but recall in size, form, and colouring those of the beautiful *Miltonia vexillaria*. A Certificate for good cultivation was allotted to M. DE SMET-DUVIVIER, for a splendid specimen of *Adiantum Luddemannianum*, a variety reputed to be very difficult to cultivate, but this example was a strong and fine plant, with a hundred characteristic and young fronds. *Thunia Marshalliana* may also be mentioned, with twelve well-opened white flowers; and three imported specimens of *Cypripedium Curtisii*, quite distinct varieties, of which the one named *magnificum* is the most noteworthy. *Ch. de B.*

POTATOS CULTIVATED IN JADOO FIBRE.—

We have been allowed to see some Potato tubers and tops which were grown in Colonel THOMSON'S Jadoo Fibre. Without giving an opinion on the usefulness or otherwise of the fibre named as medium for growing Potatos, we are still enabled to allege that the Potatos had a nice clean appearance, free from wartiness and scabbiness, and they were weighty for their size.

CONSTANTINE FLOWER SHOW.—We learn from the *Western Mercury* that amidst the duet and din of politics in the Truro-Helston Division, Constantine Flower Show came as a welcome relief on Wednesday, the 17th inst. The attendance was large, though the dimensions of the show were on this occasion curtailed by the exclusion of a poultry department. During an existence of five years the Society has done much to promote interest in horticulture in the district it embraces, and this year's display in each section was worthy of high encomiums.

CUT FLOWERS.—An Association has been formed in Holland to endeavour to put a stop to the exportation of flowers cut from bulbs grown in that country. As this custom seriously interferes with the sale of cut flowers and bulbs in the London and provincial markets, it is felt by many of the principal English growers and bulb merchants that the time has arrived when steps should be taken to suppress this system by supporting the Dutch Association. A meeting will be held at the Hummum's Hotel, Covent Garden, on Friday next, July 26, at 8 P.M. C. H. M. A. ALDERSON, *Hon. Sec. (pro tem.)*

NATIONAL HORTICULTURAL SOCIETY OF FRANCE.—We noticed, says our Paris correspondent, at the last meeting of the Orchid committee a new and interesting *Stanhopea* raised from seed. Hybrid

Stanhopeas are still extremely scarce. Up to the present we have heard only of *Stanhopea Spindleriana*, raised by Mr. WEBER, gardener to Mr. SPINDLER, Berlin (*S. oculata* × *S. tigrina*). The new gain is a cross between *S. insignis* (Frost), and *S. oculata* (Lindley), and was shown by the fortunate raiser, Mr. MANTIN, president of the committee, at Olivet, Orleans. This plant, *S. Bellaerensis* × (Mantin), is exactly intermediate between its two parents; the flower is pale yellow striped with brown; The fertilisation took place in April, 1880, and the seed-pod ripened in April, 1889; the first flower opened June, 1891; three plants having already flowered are alike. *S. Bellaerensis* × obtained a First-



FIG. 20.—FRUITING SHOOT OF THE SPINELESS GOOSEBERRY.

class Certificate. Mr. MANTIN staged *Cypripedium Vigorianum* × (*C. barbatum superbum*, *C. aspericiliare*), the scape erect, flower large, of a fine rosy-purple colour, the upper sepal striped with purple. First-class Certificate. Mr. DOIN had a specimen plant of *Grammatophyllum Ellisiai* with six spikes; the plant was splendidly grown and excited general interest. Mr. DOIN is one of our best French Orchid amateurs. A well-flowered *Promenæa citrina* and a good many other varieties completed this interesting lot of Orchids. Unfortunately this year, the Paris Horticultural Exhibition took place at the same time as the Temple Show. Desirous to change this state of things, and to allow London and English nurserymen an opportunity to come at Paris next year, the "Bureau" of the Society decided that the show at the Tuileries should be held earlier in the future.

UNIVERSITY EXTENSION COLLEGE, READING.—

The awarding examiners in the Agricultural Examinations held under the authority of the Oxford and Reading Joint Committee have issued the following pass list: Certificate in Agriculture, John Francis Adams; Dairy Teacher's Certificate, Jane Foster; Diploma in Agriculture, first year's examination, passed in all subjects, Thomas Edward Gunter, Leyton Price Richards, and Charles William Thorp; passed in all subjects except biology, Claude Reginald Powell; passed in, all subjects except chemistry and physics, Edward, Thomas Brown; passed in biology and geology, Eric Dowson; passed in geology, Clement Hugh Weston Malet. The following were the examiners:—Professor E. B. Ponton, F.R.S.; Professor A. H. Green, F.R.S.; Mr. D. A. Gilchrist, B.Sc.; Mr. A. F. M. Druce, Mr. W. A. Glasson, M.A.; Professor J. W. Axe, Mr. E. Brown, Mr. W. W. Fisher, M.A.; and Mr. H. N. Dickson.

CORRIDOR AT MR. W. BULL'S NURSERY, KING'S ROAD, CHELSEA.

[SEE SUPPLEMENTARY ILLUSTRATION.]

Those of our readers who for reasons of business or pleasure have ever visited Mr. Bull's establishment for the sale of new plants, will have remarked the tastefully constructed range of buildings that skirts the King's Road. This block consists of a large central show-house well adapted for tree Ferns, Palms, Cycads, and similar plants grown chiefly for the beauty of their leaves and fronds. It was, however not built for any such purpose, being intended by Messrs. Weeks, the original owners and constructors, as a vinery, in which a great variety of Grapevines were to be cultivated, the fruit being sold in the London market. This was many years ago, in the infancy of commercial Grape growing, long antecedent to the extensive culture of the Grape as we see it now at Rochford's, Ladd's, and elsewhere.

We may be sure it did not remain a vinery after coming into the possession of Mr. Bull—he had other and more profitable use for so large a house.

The wings of the range consist of offices and two small lean-to plant houses.

In the rear are a number of span-roofed houses, in the longest and widest of which Mr. Bull displays in the height of the flowering season a wonderful array of rare and beautiful Orchids. Visitors to this part of the nursery must needs pass through the large glass house that forms the subject of our illustration, and will have noticed, perhaps only cursorily, the fine species of plants with which it is mainly filled, and that give it its appearance of tropical luxuriance.

Near the entrance from the street is a pair of *Encephalartos Vroomi* of great size, second only to some at Kew. *Encephalartos caffra* is also a fine plant. Some specimens of *Cycas revoluta* have stems two to three feet in height, and perfect crowns of deep green fronds. *C. circinalis* is found in splendid examples; and the door is flanked by some majestic *Dracæna australis*, of which there are many examples in other parts of the house. Specimens of the broad-leaved *D. a. lineata* also figure near the door; it is a very desirable variety for the cool conservatory. The more prominent Palms consist of the graceful *Seaworthia elegans*; *S. robusta* (*Rhopalostylis Baneri*); *Archontophoenix Alexandræ*, a beautiful and useful cool house species. *Areca sapida*, specimens with stems three feet high, and leaves measuring 10 feet in length; *Phoenix intermedia*, *P. reclinata* and *P. rupicola*, a most graceful species. A *Chamærops excelsa* has a height of 16 feet, and a *Corypha australis* is almost equally tall. Some fine specimens of *Arancaria excelsa* were noted; also *Catakidozamia Hopei*, a noble looking species. This by no means completes the list of Cycads and palms, but it will enable the reader to form an idea of the larger plants in the house. Of tree Ferns we remarked specimens of *Dicksonia antarctica*, the hardiest species, with tall stems,

which, together with the fine healthy crown of fronds, have a total height of 25 feet. *Cyathea Smithi*, a beautiful Fern, about 10 feet high.

Two admirable specimens—probably *Cyatheas*, which came from the Sandwich Islands, have a rachis covered with a thick brown tomentum, and stems respectively 2 and 4 feet in height.

The remainder of the plants on the floor of the house consist of smaller furnishing specimens of *Aspidiæta lurida*, greenhouse Ferns, *Aralias*, &c. Hidden from view at the sides of the house are glass frames filled with *Trichomanes* and *Todeas*, including *T. Moorei*, named after Moore of the Sydney Botanic Gardens; a very attractive filmy from Lord Howe's Island; also *T. superba*, an introduction of Mr. Bull's twenty-five years ago. Those persons who are interested in quaint-looking Cycadaceous plants would find here many plants not to be found in any other nursery in the country, and amongst them an ancient specimen of *Ceratozamia fusco-viridis*, a Mexican species introduced about twenty years ago.

mountains and on the banks of the burns had an attraction for me. It was there on the mountain-side that I saw the Sandews growing wild, and I was so interested in them, not having seen them before in the wild state, that the first night her ladyship arrived I dressed the dinner-table with *Drosera rotundifolia* and *D. longifolia*, which I found growing together with beautiful coloured clumps of sphagnum-moss. *J. Barnard, Mostyn Hall Gardens, Mostyn, N.W.*

RASPBERRIES.—Although the soil of Dover House Gardens is light and susceptible to drought, yet must Mr. McLeod have the highest commendation for the splendid crop of superlative Raspberry, which I saw there a few days since. The several rows of plants running across a broad garden square, were all trained to wire trellises, they were of an average from 6 to 7 feet in height, the canes having been only slightly shortened, and they hung with very fine fruit from top to the bottom. Superlative is so superb a variety, that it is quite displacing all others where cultivation is good. As the soil at Dover House is naturally so light and porous, as to render Raspberries fruitful, it is the rule to fork out a

early as the Ashleaf Kidney. The haulm, being smaller and weaker than that of the true Ashleaf, led me to suppose that it would be an even poorer cropper than that variety, which proved, on lifting the crop, to be correct. The tubers were about of a size, nice-looking, and fit for the best table, but of not by a long way so good as regards flavour as that prince of Potatoes, the Ashleaf. I am unable to understand why anyone should cultivate such a poor cropping variety, when there is nothing in point of flavour to recommend it. My first trial with it was also my last; still, there are cultivators whose verdict differs from mine, and who say that it is the best variety that they have. I wonder if their's is the true *Mona's Pride*, or a variety that merely bears a resemblance to that much vaunted Potato. The tuber of the true variety of *Mona's Pride* is very much shorter in its longer diameter than the true Ashleaf Kidney or *Marjolin* of the French, being sometimes almost round and flat, and there is no swelling about the eye, as is nearly always met with in the Ashleaf Kidney. With regard to the preparation of early varieties of Potato for early cropping, it may not be without use to mention the practice of the Parisian cultivators. They arrange the tubers e.g. uppermost as we do on wicker screens, and keep them in a dry frost-proof place until they are planted. When the time for planting in the open ground arrives (April), the screens are carried with the tubers upon them on to the ground to be planted, and the tubers are taken from them one by one and planted in the holes or furrows made to receive them. It is not asserted that this is a better method than our own, but at least it has the merit of being a very handy one for cultivators of large areas of Potatoes. Moreover, osiers are cheaper than boards, of which boxes are made. *Mona's Pride* Potato gained the 1st prize at the show of the Manchester and Liverpool Agricultural Society, held at Birkenhead in October, 1863, and the 1st prize at the County Kildare Horticultural Exhibition same year. It was raised by Mr. Rutledge, Douglas, Isle of Man. *F. M. F.*

— Referring to some criticisms, a few weeks ago, on my reference to the quality of the old *Mona's Pride* Potato, there must, of course, be local variations. I only called attention to a variety which, in this district, appears to be the best of all the earlier, both in crop and quality. *T. Fletcher, Grappenhall, Cheshire.*

GENTIANA PHLOGIFOLIA.—This is a plant to be recommended to gardeners as being one of the few *Gentians* which are both ornamental and easily cultivated. It is a native of the Carpathian Mountains, and owes its name to the supposed resemblance of its narrow lanceolate leaves to those of some of the herbaceous *Phloxes*. It is perennial and long-lived. A plant which has remained six or seven years where I first put it looks no older than it did five years ago, but has about a dozen divaricate stems a foot long, with numerous terminal umbels, which will take two months to flower out, and several axillary smaller umbels, so that each stem has in all thirty or forty flowers and buds. The flowers are bright blue, nearly as large as those of *G. septemfida*, but the stems are less leafy. *C. Wolley Dod, Edgely Hall, Malpas.*

MAIZE AND BLACK CURRANTS.—As a matter of local peculiarities, I may mention that we have here grown Maize over 11 feet high, with cobs $\frac{1}{2}$ lb. weight each, a record not easy to beat out of Cornwall, and yet many things which grow like weeds in other places, die out with us. What is popularly known as the "bob" in black Currants has been a pest here for many years; we have had to burn all our trees, and import others from the non-infested districts; after all the trouble and expense, I now hear of places where it is disappearing, or has disappeared entirely. Is this good thing purely local, or is the pest generally dying out? *Thos. Fletcher, Grappenhall, Cheshire.* [We fear not.]

THE WATERING OF DOG ROSES OR BRIARS FOR BUDDING.—From almost every quarter the cry grows louder, that the Briars die. And it is not alone or chiefly those that were planted last year. But the deaths seem even more prevalent among two-year-old plantations, or Briars that missed taking the bud last season. These old Briars are almost invariably the strongest, and this last phrase being interpreted means the softest wooded and the fullest of crude sap. And such fat and full-fed tissue, whether of rosewood, fruit trees, or aught else, is always the first victim to be stricken down, severely injured, or killed by frost. The majority of Briars are exceptionally



FIG. 21.—BUSHES OF THE SPINELESS GOOSEBERRY.

A SPINELESS GOOSEBERRY.

The plants shown in the accompanying illustrations (figs. 20, 21), were exhibited by MM. Letelletier, of Caen, before the Fruit Committee on Tuesday last. They are spineless varieties obtained from seed. The first spineless Gooseberry, according to the *Revue Horticole*, 1892, p. 180, was obtained as a chance seedling by M. Billard about 1860. About 1884, M. Ed. Lefort sowed the seeds of this variety, from which he obtained a race of spineless varieties, several of which are described in the *Revue Horticole* as above cited. The variety we figure is a dwarf form, very productive, and with the fruit of good flavour. It is the form described and figured by M. Carrière as *Madame Edouard Lefort*. The varieties are grafted upon *Ribes aureum*, but the scions soon become free. The advantages of a race of spineless Gooseberries need no pointing out.

shallow trench on either side of the row of plants, fill in with strong half-decayed manure, cover with soil, and tread in firmly. The centre space between the rows are also broken up deeply, as in that way renewed root activity is generated. Of course, no surplusage of summer growths is permitted. These are rigidly thinned out to what are needful, the stoutest being preserved, so that the intervening spaces between the rows are during the summer kept quite clean. It would be difficult to find a finer crop or finer sample of fruit than is seen here, and ample evidence is afforded that trellis training would be amply repaid if it were adopted in market culture. One row of plants as grown at Rosehampton, would give as much of fruit, and certainly finer and cleaner than can be got from three rows of short canes as grown in market gardens. Where, however, deep, fairly stiff and holding soil can be furnished, combined with the highest culture, even greater crops may be found. So far, the very best of fruit culture seems to exist chiefly in private gardens. *A. D.*

MONA'S PRIDE POTATO.—Allow me to add my mite of information to what has been given in these pages about *Mona's Pride*. It is now, I think, about thirty-two years ago since I grew this variety of Potato for the first time. The sets, a very nice shapely lot of tubers, on arrival from the nurseryman, were planted on a west border, in fairly good soil, in a garden on the South Coast, and the crop was ready to dig nearly as

HOME CORRESPONDENCE.

DROSERAS IN SCOTLAND.—Mr. Kelly's note on the Sandew (p. 74) reminds me of the time I was at Attedale, Loch Carron, Ross-shire, being then with the late Lady Brassey. As it was my first visit to the Highlands, the different subjects growing on the

late this year owing to heat and lack of rain, and the shoots of many of them to remain too short and weak to be fit for budding. There is only one effectual remedy for this, let them be heavily watered, soaking the soil at their roots with river-water, sewage, or horse-slops, failing heavy rains. I know a great many rosarians dread water more than drought among their Roses. I met one such to-day, who feared that none of his Briars would reach this season, and who simply returned the sceptic's smile at my advice of soak them through. Neither need we be much surprised at the slender faith of so many rosarians in the watering of either Briars or Roses. The work of watering has been so shamefully scamped in most cases as to warrant the common verdict that it does more harm than good. Surface sprinklings do so, without doubt. But soakings of sewage, slops, and soft-water, soon stimulate Briars into budding condition, and have helped many waning blooms with first prize stands. *Rosa.*

PEAS AND POPPIES IN RUSSIA.—In *Happgood's Russian Rambles*, p. 115, reference is made to a variety of *Pea* growing nearly 7 feet high, and producing pods 7 inches long and 3 inches wide; and of "double Poppies 6 to 7 feet high, with flowers the size of Pæonies, while the pods of the single Poppies were 9 inches in circumference." Is anything known of these varieties in England? *Thos. Fletcher, Grappenhall.*

LAW NOTES.

RE FREDERICK PENDLE.

At the Ipswich Court of Bankruptcy, held on Thursday, the 18th inst., before Mr. B. P. Grimsey, Registrar, the above appeared for public examination. The statement of the debtor (nurseryman, seedsman, and farmer, of Rendham) showed a deficiency of £149 Os. 3d., due to unacquainted creditors. In reply to the Official Receiver, Mr. F. Messent, the debtor said that he was at one time an apprentice to the late Duke of Hamilton's gardener at Easton, and that he afterwards went home to manage the nursery at Rendham for his father, who was in failing health. His father died in 1889, and he carried on the business as one of the executors until April, 1894. The members of the family then arranged that the property should be sold; it was put up to public auction at Saxmundham, and bought by his wife. One of the conditions of sale was that the nursery stock should be taken at valuation; and in order to meet this charge his wife mortgaged the property at the time she bought it. He (the debtor) had nothing to do with this transaction, and all he did afterwards was to manage the property on behalf of his wife. People with whom they dealt, he said, knew the position of affairs, although the invoice was sometimes made out to him, and sometimes to his wife. Finding himself in difficulties, the debtor fell into the hands of the advertising money-lenders. He borrowed £50 from the Bedfordshire Loan Company at 60 per cent. per annum, to be repaid in monthly instalments of £4 3s. 4d., and the balance in the following January. As security, he gave a bill of sale on his goods, or his wife's goods, although his wife had nothing to do with signing it. Four instalments, amounting to £16 13s. 4d., had been paid when he filed his petition, and as soon as the Loan Company heard of his failure they put a man in possession, and his goods were sold by auction. The Loan Company got a net sum of £56 in satisfaction of their claim, and full official charges were made in respect of the selling-up transaction. The Registrar said upon this point, that reasonable charges must, of course, be paid, but that in an instance of this kind the sheriff's officer, who was employed, had acted quite in a non-official capacity. With reference to the case generally, the Registrar said it seemed to be questionable whether the wife of the debtor, and not the debtor himself, was really the responsible party. More than that, the man had no right to give a bill of sale to the Loan Company on his wife's goods, so that the authority under which her goods were sold might really be invalid.

The Official Receiver said, however, that he supposed this question had nothing to do with him, and the Registrar assented.

The examination was adjourned. *Eastern Daily Press, 19th inst.*

SOCIETIES.

ROYAL HORTICULTURAL.

JULY 23.—The usual fortnightly meeting of the Society was held on the above date in the Drill Hall at Westminster, and the number of exhibits though fewer than we have become accustomed to see at the Spring Meetings was considerable.

Orchids formed a less conspicuous feature in regard to quantity than usual, but hardy flowers were again exhibited largely, and there were extensive collections of Sweet Peas. New and rare plants were not wanting, and First-class Certificates were awarded by each Committee.

Fruit exhibits included large collections of Gooseberries and other miscellaneous subjects.

Floral Committee.

Present: W. Marshall, Esq., in the chair, and Messrs. J. Fraser, Owen Thomas, H. B. May, H. Herbst, R. Dean, R. Owen, G. Stevens, C. J. Salter, W. Bain, J. T. Bennett, P. & J. D. Pawle, H. J. Jones, C. E. Shea, Jas. Walker, H. Cannell, L. Spath, C. Noble, and G. Paul.

A large and comprehensive collection of hardy and perennial flowers was shown by Mr. M. PRITCHARD, Christchurch, Hants. Conspicuous among these were capital bunches of *Potentilla Wm. Rollinson*, and the pretty, though less showy, *P. Hopwoodiana*; large bunches of herbaceous *Phlox* were good; also several varieties of Perennial Sunflower, *Montbretia crocosmiiflora*, and others. *Platycodon grandiflorum*, with its large single blue flowers, was effective; and *Scabiosa caucasica*, and several *Centaureas*, were noticed, as was also a remarkably well-fruited spray of *sambucus racemosa* (Scarlet-berried Elder) (Silver Banksian Medal).

Another excellent exhibit of out-of-door flowers was from Messrs. PAUL & SON, The Old Nurseries, Cheshunt. This included flowering sprays of the purple-flowering *Asclepias Cornuti*, a fine bunch of *Boconia cordata*, the white *Lysimachia clethroides*, a good bunch of *Helipopsis scabra*, large, and orange-coloured variety of great effect in borders; and *Eryngium amethystinum* was well shown, and some first-rate varieties of herbaceous *Phlox*, &c. (Silver Banksian Medal).

Messrs. CANNELL & SONS, Swanley, Kent, exhibited a collection of Carnations in light bunches, and representing considerable variety, many of which were new seedlings. Cannell's Scarlet is an especially bright one, Duchess of Portland is a very pretty rose and white-coloured Carnation, and *Haidee Falbe*, a white flower flaked with rose, Messrs. CANNELL had also some capital sprays of *Canna Queen Charlotte* (Silver Banksian Medal).

Messrs. B. WALLACE & CO., Colchester, again exhibited a collection of sprays of Lilies. Conspicuous amongst the collection was *Lilium chalcidonicum*, the very bright sealing-wax coloured species. A First-class Certificate was awarded to *L. odorum* (*L. japonicum Colchester*). This is a species from China, much in the way of *L. japonicum Brownii*, for which it has been frequently mistaken. The flower is rather larger and thicker than *Brownii*, has larger anthers, and the interior is cream-coloured instead of white. *L. dalmaticum Catani*, *L. Thunbergianum*, *Calochortus luteus*, *C. l. concolor*, *C. Weidii*, figured in *Gardeners' Chronicle*, August 18, 1894, fig. 27, and *C. Plummere*, *Gardeners' Chronicle*, August 4, 1894, fig. 21, were also shown (Silver Banksian Medal).

A group of well-grown Achimenes in pots and pans was shown by Mr. W. C. WALKER, Esq., Percy Lodge, Winchmore Hill, London, N. (gr., Mr. Geo. Cragg) (Bronze Banksian Medal).

J. T. BENNETT POË, Esq., Holmwood, Cheshunt, exhibited three splendidly-grown plants of *Campanula Vidalii*. This is a bushy species, and the plants shown had six or seven spikes each, the height of which were about 4 feet. Fourteen to seventeen flowers are produced upon each spike. Flowers are pendulous, about 1½ inch long, white, with orange-coloured zone in the interior of base (see fig. 19, p. 95). Three very fine plants of *Streptosolen Jamesoni* were shown, which had been lifted from the open ground, and several plants of *Myrtus communis* var. *betica*. *Violas* in pots and sprays of good quality were exhibited by Mr. W. BAXTER, Florist, Woking.

Messrs. PAUL & SON, Cheshunt, exhibited plants in flower of *Clematis Viticella* × *Uniflora*, a lilac-coloured variety, and a large plant of the small leaved *C. flammula rubra marginata*. The flowers are also small, purple in colour, but the base and centre of each petal silver. *Cannas Comet*, *Souvenir de Crosby*, and Mrs. Fandell Phillips were shown in praiseworthy style by Messrs. Paul. Sweet Peas were very largely exhibited at this meeting, a collection of very great attractiveness being staged by Mr. HENRY ECKFORD, Wem, Salop, and others; by The Brookhampton Nurseries, Mr. W. E. TIDY (Manager), and by Messrs. DOBBIE & CO., Bothesay, N.B., and Orpington, Kent. Mr. ECKFORD's collection was extensive, and included upwards of 50 bunches. Awards of merit were recommended to Lady Grisel Hamilton, an excellent heliotrope or pale lilac-coloured variety; *Blanche Burpee*, a large flower of pure white; and *Mars*, a variety with extra large flowers of rosy purple, very bright and effective. Particularly noticeable amongst a whole lot of magnificent varieties were *Firefly*, very bright rosy crimson; *Venus*, flesh tinted with bronze; *Peach Blossom*, a soft pink-coloured flower; *Prince Edward* of York, crimson and rose; *Stanley*, very dark purple, and many others (Silver Flora

Medal). The exhibit from the Brookhampton Nurseries was staged amid Maidenhair Ferns, and included a large number of bunches, rather thickly disposed (Bronze Flora Medal). Messrs. DOBBIE had about fifty bunches of bright flowers in variety (Bronze Flora Medal).

Messrs. PEED & SONS, Norwood Road, West Norwood, staged a group of very choice *Gloxinias*, interspersed with *Ferns*, &c. (Bronze Flora Medal).

Messrs. JNO. LAING & SONS, Forest Hill, London, S.E., exhibited four large-flowered double *Begonias*: *Mrs. Peek*, cream-coloured; *Mrs. Hall*, yellow; *Madame de Falbe*, salmon-rose; and *Mrs. W. J. Bilney*, light apricot.

Mr. C. Herrin, gr. to Lady FORTESCUE, Dropmore, Maidenhead, showed a bunch of a border Carnation named *Dropmore Clove*, a good dark bloom with non-splitting calyx. A First-class Certificate was awarded to *Carduus eriophorus*, a species of Thistle, also shown by Lady Fortescue. This plant has a very ornamental character, its chief attraction being the large woolly heads that follow the purple flower. It appears to be a cultivated form of our English species.

From Mr. F. W. MOORE, Royal Botanic Garden, Glasnevin, were sprays of *Agapanthus minor* and *A. Mooreana*, *Crinum Powellii*, *C. P. alba*, and *C. yemense*, all from the open air.

Messrs. JAS. VEITCH & SONS, King's Road, Chelsea, showed a pretty little group of their Rhododendron javanico-jasminiflorum hybrids, nice, dwarf, well-flowered plants; and were awarded a First-class Certificate for *Davallia tenuifolia* Burkei from New Guinea. This is a very elegant variety, and the fronds are pendent as soon as made. For a basket it should be very suitable and pretty in the stove (Silver Banksian Medal).

Sir TREVOR LAWRENCE, Bart., Burford, Dorking (gr., Mr. Bain, showed some sprays of *Pentstemon hybridus grandiflorus* from seed sown on January 15, 1895. The blooms and sprays were alike magnificent, and an Award of Merit was recommended to the strain. Sprays of *Salpiglossis* in variety, and of excellent merit, were also shown, and a spray of *Gladiolus Dutreuil de Rhine* was recommended an Award of Merit. The blooms of this were of remarkable size, salmon-scarlet in colour marked slightly with silver.

Messrs. WM. CUTBUSH & SONS, Highgate Nurseries, London, showed some very fine Cockscombs named *Cuthush's Giant*; and G. A. FARINI, Esq., Forest Hill, exhibited some tuberous-rooted *Begonias*.

Messrs. WEBB & BRAND, Saffron Walden, were awarded a Bronze Banksian Medal for fine heads of excellent double Hollyhocks; and Messrs. SANDER & CO., St. Albans, exhibited a fine foliage *Begonia* named *Duke of York*.

Messrs. VEITCH & SON, Chelsea, showed sprays of *Pavia macrostachya*, and a collection of *Nymphaea* blooms. A First-class Certificate was awarded to *N. Marliacea chromatella*, and Awards of Merit to rose-coloured varieties of *N. odorata* and *N. Leydekerii*.

Messrs. T. CRIPPS & SON, Tunbridge Wells, showed some plants of the rare *Mutisia decurvens*, sometimes called the climbing *Gazanias*. It has excellent orange-coloured flowers. Also some flowering shoots of *Schnbertia grandiflora* (Bronze Banksian Medal).

Mr. R. P. BROTHERSTON, Tuninghame, Prestonkirk, sent some vigorous sprays of *Germania Carnations*. A large double-flowered yellow *Begonia* named *Marquis of Londonderry*, was shown by B. ARMITAGE, Esq., Hermitage Place, Norton, Stockton-on-Tees.

Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; and Messrs. Jas. O'Brien (Secretary), E. Hill, H. J. Chapman, Sydney Courtland, De B. Crawshaw, T. B. Haywood, W. H. White, W. H. Protheroe, and H. M. Pollet.

Messrs. JAS. VEITCH & SON, Royal Exotic Nursery, King's Road, Chelsea, exhibited *Phalaenopsis* × *Ludde-Violacea* (Ludde-Violacea ♂, violacea ♀), the latest of the fine hybrids raised and reared by Mr. JOHN SADEN. This beautiful hybrid has the wax-like flowers of *P. Ludde-Violacea*, but the segments are broader and more equal. The colour is light rosy-purple with narrow wavy, closely-set bars of a darker hue across the sepals and petals. The base of the lip is yellow with some reddish markings, the front lobes bright crimson-purple (First-class Certificate). Messrs. VEITCH also again exhibited their singular *Dendrobium* × *porphyrogastrum* (*Dalhousieanum* ♂, *Huttonii* ♀), which, on this occasion bore several spikes of four and five flowers, of a pale pinkish-lilac colour (Award of Merit); and *Cypripedium* × *Carnusianum* (*Spicerianum* ♂, *Haynaldianum* ♀), *Dendrobium glomeratum* and *Miltonia vexillaria superba*.

Sir TREVOR LAWRENCE, Bart., Burford, Dorking (grower, Mr. W. H. White), exhibited *Habenaria rhodochela*, a pretty species of the *H. militaris* class, but with bright green, unspotted leaves, and clear orange-scarlet labellum. The plants shown exhibited very free growth and profuse flowering qualities (Botanical Certificate); also the pretty and fragrant *Epidendrum alatum*.

Messrs. F. SANDER & CO., St. Albans, staged a select group of Orchids, in which were the rare and singular *Angraecum Eicherianum*, a curious species, with fleshy, flatly-arranged dark-green leaves and large solitary flowers, bearing some resemblance to those of *A. eburneum*; the sepals, petals, spur, and base of the lip, is pale green, the broad apiculate front of the lip pure white (Award of Merit); *Dendrobium speciosissimum*, for which they obtained a Botanical Certificate at the last meeting, but which on this occasion secured an Award of Merit; *Cypripedium Kimballianum*, illustrated in the *Gardeners' Chronicle*, June 29, p. 801; the pretty *Eria latibracteata*, with erect spikes of rather large cream-white flowers, with the side-lobes of the lip and tip of the column

well-bloomed specimen of *Plumbago capensis*, which was placed before a tolerably good *Anthurium* and a *Stephanotis floribunda*.

Begonias were not very numerous, but the quality of several of the exhibits was quite satisfactory. The best four plants of these were staged by Mr. F. W. Price, gr. to H. C. CROWTHER, Esq., Broadelyot. Fuchsias, Coleus, Carnations, Dahlias, Petunias, and Roses were exhibited in small quantity, the quality generally fair, but calling for no special remark. There were several exhibits of very commendable Ferns, and the best four plants were staged by Mr. H. Cooper, gr. to C. M. HARRISON, Esq., Whitmore; and in another class Mr. R. SIMMONS, gr. to F. H. SIMPSON, Esq., Thornbury, had three fine plants of *Adiantum cuneatum*.

Fruit.—Though not very extensive, the fruit exhibits represented Grapes, Peaches, Nectarines, Melons, Gooseberries, and Currants. Mr. J. MUNRO was 1st for black and for white Grapes, and his bunches were of good quality, but neither the black Grapes nor his Muscats of Alexandria were quite ripe. The other dishes of fruits were generally of very satisfactory quality, particularly Red Currants, and some of the exhibits of Gooseberries.

Vegetables were exhibited with considerable spirit in the open classes in those limited to single-handed gardeners, and in others confined to amateurs. First prizes for collections were taken by Mr. MUNRO and Mr. F. W. PRICE, and Mr. WEBSTER was 1st for a nice collection of salad. Potatoes were not of more than average quality in the most cases, and the skins were not very clean. But Beans, Peas, and Turnips were good.

Table Decorations, &c.—One of the tents was nearly devoted to these and kindred exhibits, which were more than usually numerous. The winning designs exhibited considerable taste, but call for no special notice. Bouquets and similar florists' specialties were numerous; and to instance the desire that exists here to provide classes of interest to as many exhibitors as possible, there were mail-carts decorated with flowers, &c., the work of children only; and model designs of gardens and greenhouses were numerous. Some of these were good, but such classes usually bring exhibits of a very artificial and absurd character. Amongst some furnished window boxes there was one shown by Mr. F. SINCOCK, of very superior appearance. Nothing very novel was employed, but it was done well in detail.

Cottagers, and Miscellaneous.—There were twenty classes open only to cottagers, most of them for vegetables. Miscellaneous exhibits included groups of plants and hardy cut flowers from Messrs. JNO. LAING & SONS, Forest Hill; Crotons and other plants from Messrs. J. FRED & SONS, Norwood; and excellent group of choice Begonias from Mr. JNO. R. BOX, Croydon; and smaller exhibits from local nurserymen.

NEWCASTLE-ON-TYNE HORTICULTURAL.

JULY 24, 25, 26.—The annual show of this old-established society opened on Wednesday last. Taken throughout it fully maintained its previously high standard of excellence. Amongst plants the groups are beginning to form an important feature. The cut-flower classes were notable for the grand display of Roses, and also for the splendid exhibit of hardy herbaceous flowers, whilst Carnations and Pansies were remarkable for good quality. The decorative arrangements, as on previous occasions, were quite up to the average, making collectively a splendid display. Fruit, on the whole, was not as good as last year. It is pleasing to note that vegetables have been included this year, and it is hoped that this portion of the show will be further extended another year.

PLANTS.

The specimen classes for flowering plants were not so well filled, a fact to be regretted; for whatever may be said of the value of specimens in any other respects, it will be conceded that they will exhibit the gardener's cultural skill.

Mr. Nicholas, gr. to the Marquis of ZETLAND at Upleatham, was an excellent 1st for six different and distinct kinds, showing *Dipladenia boliviensis*, well flowered, and very healthy; *Allamanda grandiflora*, a good all-round plant; *Phenacoma prolifera* Barnesii, also good; *Erica verticosa* Bothwelliana, rather thin, but fresh; *Clerodendron fallax*, a grand specimen, with thirty flower-spikes (this fine autumnal species is worthy of more notice), and a well-bloomed *Stephanotis floribunda*. The next exhibit fell far behind this one.

Mr. NICHOLAS was also 1st for six exotic Ferns, showing two grand *Davallias*, *D. filiensis plumosa* fully 6 feet through, and very fresh; and *D. tenuifolia Veitchiana*, a graceful variety grandly developed; and other good plants were *Sadleria Cynathoides*, and *Dicksonia squarrosa*.

Mr. McIntyre, gr. to Mrs. PEASE, Darlington, was an excellent 1st for six foliage plants, having well-coloured Crotons in *C. Queen Victoria* and *C. angustifolius* (the latter in its best form); also *Phoenix rupicola* and *Cycas siamensis*, and a dwarf close-growing form of *C. circinalis*. Mr. NICHOLAS was a good 2nd, having the same varieties of Crotons, with a fine *Kentia Belmoreana*.

For three Crotons, Mr. McIntyre was also 1st, showing *C. Warreni*, *C. Barons James de Rothschild*, and *C. angustifolius*, all well-coloured; as well as being 1st for three *Dracaenas*, with well-grown good varieties. He was again 1st for four foliage plants, viz., *Croton Simtziamus* being one of his best.

The best four Ferns came from Mr. Jas. Woods, gr. to

E. HOPPER, Esq., Morpeth, his varieties being *Adiantum Farleyense*, extra fine; and *Thamnopteris australasica*, well developed. Mr. MCINTYRE followed with smaller examples.

Mr. WYLAM, Cramlington, had the best four flowering plants, his *Stephanotis floribunda* and *Allamanda Hendersonii* being well bloomed.

Mr. MCINTYRE was allowed a walk over in the class for a large group of 26 feet by 10 feet, taking the 1st prize with an arrangement which was broken up into smaller mounds, the flowering plants being brought, as we considered, too much to the front, otherwise it was effective.

Mr. JAS. WOOD was 1st for the smaller group, consisting of well-grown plants arranged on the old eloping model; the 2nd prize going to a thin arrangement from Mr. F. EDMONDSON, Green Market, Newcastle-on-Tyne.

Some very good freely-flowered Fuchsias were staged, the most successful exhibitors being Mr. ELLIOTT of Felling; and Mr. BALL of High Felling.

The table plants were of good character, but Lilies and Orchids were not shown so well as we expected.

CUT FLOWERS.

Of these the Roses were the most numerous, and of fine quality, the size and colour of the blooms being remarkable. Messrs. HARKNESS & SON, Bedale and Hitchin, were 1st for forty-eight varieties, with a very even and bright exhibit, the best varieties being *Her Majesty* (extra colour), *Alfred Colombe*, *Comte de Rimbaud*, *Earl Dufferin*, *Gustave Piganeau*, and *Séateur Vaise*. Messrs. COCKER & SON, Aberdeen, were a close 2nd, their best being *Gustave Piganeau* and *Captain Hayward*, both extra good.



BATTENSBY, Blaydon, came a good second, three of his best being *Veratrum viride*, *Spirea palmata*, and *Alstroemeria aurantiaca*.

Decorative arrangements.—Here Messrs. PERKINS, Coventry and Leamington, carried off the chief honours, being 1st for bouquets in two classes, also 1st for a basket, and for sprays and button-holes, all of these exhibits being in good taste and in no instance too heavy or excessively large.

Mr. SUMMERS, florist, Sunderland, was a very close competitor in the class for a hand bouquet, where in addition a bronze Banksian medal was awarded with the 1st prize, which was won by Messrs. PERKINS; the only fault being in the former an excess of size.

The best *Epergne* came from Mr. F. EDMONDSON, a recherché arrangement chiefly of Orchids. Mr. J. BATTENSBY also won 1st prizes for bouquets in the amateurs' classes with superior arrangements; whilst Miss EDMONDSON was a very successful exhibitor of *epergnes* and baskets.

Carnations, Picotees and Pinks were specially good, so also were the Pansies. Mr. CAMPBELL, Auchincloth, Blantyre, taking two 1sts for the latter (show and fancies). In all of these classes the competition was very keen.

FRUITS.

Mr. McIndoe, gardener to Sir J. PEASE, Hutton Hall, Guisborough, was 1st for both six and four kinds of fruit, there being no other competitor, the best dishes here were grand ones of Red Magdalen Peaches and Humboldt Nectarines, Transparent Gage Plums, and Black Tartarian Cherries; a large bunch of Bananas was included. The Grapes were scarcely so good as usual from this exhibitor.

In the single-dish classes, Mr. MCINDOE was again successful, taking 1st for a green-flesh Melon with High Cross Hybrid, and 1st for a scarlet-flesh variety, with Premier; he being also 1st with Red Magdalen Peaches; Mr. NICHOLAS followed very closely with the same variety.

For Nectarines, Mr. MCINDOE was 1st again with Humboldt; and for Cherries, with Late Bigarreau.

For four bunches of Grapes, not fewer than two varieties, Mr. J. Mark, gr. to J. C. ARKWRIGHT, Esq., Clitheroe, Lancashire, was 1st, with fine examples of Muscat Hamburg, large in berry; and Black Hamburg, also large—both varieties being well coloured. Mr. Tullett, gr. to Lord BARNARD, Raby Castle, came a good 2nd in this class, his Muscat of Alexandria being the best in the show.

Mr. Hunter, gr. to the Earl of DURHAM, Lambton, had the best Black Hamburgs, fine in bunch and finish. Mr. JAS. WOOD had the ripest and highest-coloured Muscat of Alexandria, but the smallest bunches; Mr. MCINDOE following, with much finer bunches. Mr. TULLETT had the finest *Madre-feld Courts*; Mr. MCINDOE being very close, with finer bunches, scarcely so ripe.

For any other white Mr. MCINDOE was easily 1st with well-ripened, clear-looking Duke of Buccleuch.

The Tomato competition was keen, and several splendid dishes were shown, Mr. MCINDOE again coming in 1st with *Invincible*, apparently a good selection of Perfection.

MISCELLANEOUS EXHIBITS.

These at Newcastle are very important, and were on the present occasion fully equal to anything before shown. From Messrs. LAING & SON, Forest Hill, S.E., came a grand display of Begonias (tubercus), in the finest varieties of both the singles and doubles now in cultivation. They embraced every shade of colour to be found amongst this section, several of the doubles, notably Mrs. Watson Armstrong, rich apricot buff; W. Clifford, deep rose; Duwager Empress Frederick, bluish; and Lady Wantage, rosy-buff. Some of the newer *Caladiums* and other plants were included, the Begonias having stood the long journey in the best possible manner.

Mr. DOUGLAS exhibited a choice selection of his seedling Carnations (cut blooms), the best being *Waterwitch*, Duchess of Orleans, a full primrose-yellow; Mrs. Eric Hambro, a pure white, of fine form; Braw Lass, form of *Haye's Scarlet*, deep rose colour; Mrs. Douglas, sulphur-yellow, rosy-pink edge; and Cardinal Wolsey, apricot-yellow, edged and flaked bright red.

Messrs. F. FELL & CO., Hexham, showed a most extensive group of remarkably well-grown *Conifers* in baskets, &c. These consisted of species of *Retinospora*, *Cupressus*, *Thuia*, and *Juniperus*, with some capital young plants of *Picea pungens glauca*. Cut hardy flowers were also included.

From Messrs. COCKER & SONS, Aberdeen, came additional cut hardy flowers, making a great show, including several kinds not often seen.

Messrs. KENT & BRYDON had a bright group of *Coniferae*, with *Acers*, &c.; and a somewhat similar exhibit came from Messrs. J. ROBSON & SONS, which was made brighter by well-flowered *Hydrangea paniculata grandiflora*.

Mr. J. BIRKENHEAD showed a large assortment of exotic Ferns, small plants in good character. *Violas* and *Pansies* came from Mr. S. FYE, Garstang, and other exhibitors. Mr. CUTHBERTSON, Rothsay, had a large assortment of hardy flowers; Mr. CAMPBELL, Blantyre, had *Malmaison* and other Carnations, the former of deep colour; Messrs. LAING & MATHER had Carnations; and from Mr. H. BROWN HILL, Sale, came a much improved race of the annual *Chrysanthemums*, a specially fine strain, with larger and finer formed flowers.

Obituary.

MR. T. H. RABONE.—It is with much regret that we hear of the death, on Saturday last, of Mr. T. H. Rabone, the well-known gardener at Alton Towers. In our present issue we can only

reproduce the photograph of the deceased gardener which was given in the Gardeners' Chronicle on October 14, 1876, in our series of British gardeners, but next week we hope to reproduce a few of the facts concerning his early life, then recorded by himself.

HENRI BAILLON.—The death of this accomplished and most energetic botanist is announced. He was born in Calais in 1827, and prosecuted his studies in Paris. For many years he acted as Professor of Botany at the Faculté de Médecine at Paris, and had the charge of the small garden belonging to that institution. Baillon's activity was truly extraordinary. A Histoire des Plantes in twelve volumes, a Dictionary of Botany in three volumes, innumerable memoirs and monographs attest his diligence. Nor were these works mere compilations, they were the result of actual comparative investigation and remarkable keen insight. Few, if any, botanists of our time had so clear and thorough a knowledge of flowering plants in general as Baillon. He attached great importance to organogeny as a key to deciphering the morphological characteristics and the natural affinities of plants. A quarrel with Decaisne and Duchartre was the occasion of a personal attack on those botanists, which for virulence and persistency has had no equal in our remembrance, and which led to protests from other botanists who deplored the unscientific violence of the critic.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Table with columns for DISTRICTS, TEMPERATURE (Daily and Accumulated), RAINFALL, and BRIGHT SUN. It contains numerical data for various districts over a period of days.

The districts indicated by number in the first column are the following: 0, Scotland, N. Principal Wheat-producing Districts—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending July 20, is furnished from the Meteorological Office:—

"The weather during the early part of the week was fine in all the more eastern, central, and southern parts of our Islands, but changeable and showery in the west and north. After the 16th, however, unsettled weather spread gradually from the westward over the whole Kingdom, the rainfall of

the 18th and 19th being in many places very heavy. Thunderstorms occurred in several parts of England on the 19th, and thunder was heard in a few isolated places on the 18th and 20th.

"The temperature was slightly below the mean in all districts, excepting 'England, E. and S.,' where it agreed very closely with the normal. The highest readings were observed mostly on the 17th or 18th, and ranged from 81° in 'England, S.,' and 75° in 'England, E.,' to 69° in 'Scotland, N., Ireland, S., and the Channel Islands,' and to 67° in 'Scotland, W.' The lowest readings occurred at various times in different parts of the country; at one or two stations in 'Scotland, N. and E., and in Ireland, N.,' the thermometer fell slightly below 40°, but in the 'Channel Islands' it did not go below 45°, while in 'England, N.W.,' 49° was the lowest reading reported.

"The rainfall exceeded the mean in all districts, the excess being very slight in 'Scotland, N.,' but large over the central and southern parts of England. In the 'Midland Counties and the Channel Islands' the amount recorded was twice as much as the mean.

"The bright sunshine was less than the mean in most districts, the deficiency being very large in the 'Midland Counties.' In 'Scotland, E., England, N.E., and the Channel Islands,' however, there was a slight excess. The percentage of the possible duration ranged from 16 in 'Scotland, N.,' and 19 in 'Ireland, N.,' to 40 in 'England, S.,' and to 46 in the 'Channel Islands.'"

MARKETS.

COVENT GARDEN, July 25.

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

OUT FLOWERS.—AVERAGE WHOLESALE PRICES.

Table listing prices for various flowers such as Arums, Asters, Bouvardias, Carnations, etc., with columns for s. and d.

ORCHID-BLOOM in variety

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

Table listing prices for various potted plants like Adiantum, Aspidistra, Calceolaria, Coleus, etc., with columns for s. and d.

FRUIT.—AVERAGE WHOLESALE PRICES.

Table listing prices for various fruits including Apples, Cherries, Figs, Grapes, etc., with columns for s. and d.

VEGETABLES.—AVERAGE WHOLESALE PRICES.

Table listing prices for various vegetables like Beans, Cauliflowers, Cucumbers, etc., with columns for s. and d.

POTATOS.

Market and prices about same as last report. J. B. Thomas.

SEEDS.

LONDON: July 24.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that, thanks to the recent welcome showers, there is

now an improving demand for Trefoil and Rape, and more especially for Mustard seed; all these three varieties now offer us exceedingly tempting terms. New home-grown Rye is coming to market. Full prices are asked for yearling Winter Tares. There is no change in either Peas or Haricots. Bird seeds, at this quiet season, show no fresh feature.

FRUITS AND VEGETABLES.

BOROUGH: July 23.—Quotations.—Peas, 2s. 6d. to 3s. per bushel; Onions, 2s. 6d. to 3s. per bag; Horseradish, 1s. to 1s. 3d. per bundle; Apples, Tasmanian, 6s. to 8s. per case; Currants, 1s. 9d. to 4s. per half-sieve; Gooseberries, 1s. 6d. to 1s. 9d. do.

SPITALFIELDS: July 23.—Quotations.—Scarlet Runners, 3s. to 3s. 6d. per bushel; Peas, 2s. to 2s. 6d. do.; Carrots, 2s. 6d. to 3s. per dozen bunches; Turnips, 2s. to 2s. 6d. do.; Cabbages, 5s. to 6s. per tally; Marrows, 4s. to 6s. do.; Cucumbers, 2s. to 3s. per dozen.

STRATFORD: July 23.—Quotations.—The supply to this market during the past week has been good, and, with plenty of buyers, a brisk trade was done as under:—Cabbages, 2s. to 3s. per tally; Turnips, 2s. to 2s. 6d. per dozen bunches; Carrots, household, 1s. to 2s. per dozen; Mangels, 20s. to 24s. per ton; Onions, Egyptian, 5s. 8d. to 6s. per cwt.; Beans, Scarlet, 3s. 6d. to 4s. per sieve; do., Broad, 1s. 6d. to 2s. per bag; Peas, 5s. to 6s. do.; Cherries, 5s. to 6s. per half sieve; Berries, 2s. to 3s. do.; Apples, 2s. to 2s. 3d. do.; do., 3s. 6d. to 4s. per bushel; Marrows, 6s. to 7s. 6d. per tally; Cucumbers, 1s. 6d. to 2s. per dozen; Onions, Ports, 5s. 6d. to 6s. per case.

FARRINGTON: July 25.—Quotations.—Raspberries, 2s. 6d. per half-sieve; Gooseberries, 3s. do.; Cherries, 6s. 6d. to 7s. do.; Green Gages, 3s. to 4s. per basket (12 lb.); Plums, 2s. per box of 10 lb.; Cucumbers, 7s. 6d. to 8s. per dozen; Cabbages, 3s. to 3s. 6d. per tally; Carrots, 3s. per dozen bunches; Turnips, 3d.; Marrows, 2s. 6d. per dozen; Broad Beans, 1s. 6d. per bushel; Scarlet do., 2s. 6d. do.

POTATOS.

BOROUGH: July 23.—Quotations ranged from 80s. to 110s. per ton.

SPITALFIELDS: July 23.—Quotations.—Puritans, 110s. to 120s.; Hebrons (Bedford), 100s. to 120s.; do., Essex, 100s. to 110s.; Snitton's Regents, 100s. to 120s.; Yorkshirs Hero, 110s. to 120s. per ton.

STRATFORD: July 23.—Quotations.—Old: 20s. to 30s. per ton. New: Hebrons, 110s. to 130s.; Kidneys, 100s. to 120s.; Snowdrops, 110s. to 130s. per ton.

FARRINGTON: July 25.—Quotations.—White Hebrons, 110s. to 120s. per ton; Red do., 100s. to 110s. do.; Puritans, 110s. to 120s. do.

LONDON AVERAGES: July 24.—New: Snowdrops, 110s. to 120s.; Hebrons, 110s. to 120s.; Early Rose, 110s. to 12 s.; Puritan, 120s. to 130s.; Early Regents, 100s. to 110s.; Jersey, 90s. to 110s. per ton. Old: Magnums, 40s. to 50s. per ton.

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 90s. to 115s.; do., inferior, 50s. to 80s.; bay, best, 60s. to 95s.; do., inferior, 30s. to 60s.; mixture, 70s. to 92s.; and straw, 20s. to 38s. per load.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending July 20, and for the corresponding period last year:—1895: Wheat, 24s. 4d.; Barley, 18s. 6d.; Oats, 16s. 6d. 1894: Wheat, 24s. 6d.; Barley, 18s. 6d.; Oats, 19s. 7d.

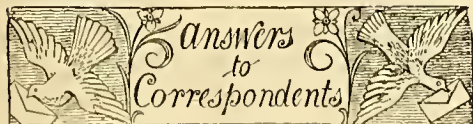
VARIORUM.

THE INDIAN SHOT OR CANNA.—It has been stated that the only difference between a weed and a wild flower is, that it is a weed when it comes up where the cultivator does not want it. A wild flower, then, becomes a weed when growing in cultivated ground. One would hardly suppose that the Canna of our gardens, a beautiful wild flower of Florida, is often a great pest to the Floridan horticulturist, and is classed there as among the worst weeds. It seems it appears persistently in low ground, known to cultivators as hummock soil; its root-stocks grow so deep in the ground, that the plough does not turn them out, so that they grow up as bad as ever in newly-ploughed ground. The roots have to be dug out with a spade in order to get clear of them. 'Mechan's Monthly' for July.

ENQUIRY.

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

ELÆAGNUS EDULIS.—Can any reader say how the berries of this plant are made use of, so as to be edible? In their natural state no one would care to taste them more than once. V.



. Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.

. PLANTS, FRUITS, ETC., TO BE NAMED.—Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists varieties cannot, as a rule be named.

BOOKS: *A Subscriber.* Grape-growing for Amateurs, by E. Molyneux. London: Upcott Gill, 170, Strand, W.C., price 1s.

BEECH: *E. M. B.* The occurrence of laciniated leaves on the Beech is not uncommon. It is an instance of bud-variation, or "sporting"; but whether it is a reversion to a former state of things, or an adaptation to new circumstances, no one can tell. The Fern-leaved Beeches of gardens have originated in this way, the "sport" being grafted on to a Beech stock, and thus propagated.

CARNATION: *G. W.* sends us flowers of Carnations in which the stalks are abruptly bent downwards. We do not know what the cause of the distortion is, but we suspect it may be the result of insect-puncture at an early stage of growth.

CHRYSANTHEMUMS DISEASED: *G. Harwood.* The plants are attacked by a minute mite which punctures the young leaves; the fungus Botrytis then settles on the wounds and spreads. Spray thoroughly, so that the buds are soaked, twice a week, with a deep-red solution of potassic permanganate. *G. M.*

DISEASE IN PLUM AND PEAR TREES: *T. W. O.* Neither cause nor cure is known. It is, however, known that the disease is contagious, therefore all dead trees should be burned, also branches, leaves, and fruit. The application of manure containing ammonia favours the disease. *G. M.*

GRAPE VINES: *G. W.* The disease is certainly not black-rot, neither is there any evidence of any fungoid disease. Not having the roots under proper control is undoubtedly the cause of the leaves and fruit going wrong. *G. M.*

HOW PEAT BEDS ARE FORMED: *G. F.* We cannot do better than give you the account by Spender in the *Transactions of the Bath and West of England Society*, of the formation of the peat-beds of Holland. "In the high lands peat is supposed to have been formed by the decay of vegetable life, chiefly that of moss and heather on the surface of the ground, which forms a mould that increases year by year until it has undermined the health of the trees, and having caused their fall, gradually covers them over with a yearly-increasing deposit. Ages afterwards the trunks are found several feet below the surface of the bed. The forests protected the growth of the moss and were destroyed by it. In the lower beds peat is formed by the decay of aquatic plants under water, which fall to the bottom and form layer upon layer. These are often found floating on the surface of the water. Floating peat-beds were at one time common in parts of Holland, but the modern Dutchman, less superstitious than the Romans, who were greatly alarmed by the floating forests of the Zuyder Zee, fastens these fugitive parts of his estate by ropes fixed to stakes fixed in more solid earth."

LICBEN: *G. W. W.* *Physcia ciliare.*

MEALY-RUG: *M. T. G. G.* Should use the XL All Vaporiser.

NAMES OF PLANTS: Correspondents not answered in this issue are requested to consult the next number. *W. H. D.* 1, Rose, garden variety; 2, *S. uccio artemisiifolius*; 3, *Veronica longifolia* var. *rosea*; 4, *V. longifolia* var. *alba*; 5, *V. nitida*; 6, *V. media*.—*J. A.* 1, *Galega officinalis* *alba*; 2, the Crown Pea (*fasciata*); 3, *Spiraea Lindleyana*; 4, *Eurybia argophylla*; 5, *Elæagnus pungens*.—*S. G. Jones.* *Alstroemeria aurantiaca*.—*W. T.* 1, *Cystopteris bulbifera*; 2, *Pteris chinensis*; 3, *Asplenium viviparum*.—*Campbell.* *Eupatorium cannabinum*.—*C. L., Berlin.* Specimens all quite withered. 1, *Cypripedium*, may be *bellatulum*, or one of the hybrids from that species; 2, *Vanda Bensoni*; 3, *Vanda hastifera*; 4, *Dendrobium bicameratum*; 5, *Dendrobium sulcatum*. These are probably the species sent, but the material is so bad that we cannot pledge ourselves to the correctness of some of the names.—*H. M.* *Tilia platyphyllos*.—*No Name.* 1, *Linaria cymbalaria*; 2, *Achillea Ptarmica*, double-flowered; 3, *Galium verum*; 4, *Linaria vulgaris*; 5, *Echium vulgare*.—*G. A.* 1, *Clitorea Ternatea*; 2, A variety of *Lathyrus sativus*, often erroneously called Lord Anson's Pea.—*A. F.* 1, *Acer Negundo variegatum*; 2, *Taxus baccata* var.; 3 and 4, *Juniperus virginiana*; 5, *Betula*; 6, *Picea excelsa* var.—*J. B. J.* A *Viola*, so far as we can make out from such a poor specimen.—*G. B.* *Chrysanthemum carinatum*.

PEAS: *A. B.* Something in the soil or the manure that has an injurious effect on them. Do other crops suffer similarly? In some places the grubs of cockchafer and wireworm do much harm to Peas.

ROSES: *Ross Florence.* Rose double Macartney, Marie Leonida.

TEST FOR LIME IN THE SOIL: *W. P.* Pour some strong sulphuric acid on to a little of the soil in an earthenware vessel, and if effervescence takes place there is lime present.

TOMATOS: *J. H. B.* 1, Curling of the leaf is frequent in some varieties; the lower part of the leaf grows disproportionately fat, probably from over stimulation. 2, Yes; was not the ammonia in too large proportion to the water? 3, Yes.

TOMATOS AND THE BORDEAUX MIXTURE: *Tompkins & A. K.* The formula has been given in these pages many times before, and we repeat it for your especial benefit. We think that every gardener should hang a copy of it in his potting-shed for reference in case of need:—Copper sulphate, 4 lb.; fresh unslaked lime, 3 lb.; water, 40 gallons. Place 6 gallons of the water in a tub or barrel, and hang in it 4 lb. of pulverised copper sulphate in some coarse sacking. Slake the lime in another vessel, adding water only as fast as it takes it up, and then pour together. Enough lime should be used to neutralise the free acid of the copper, as if this be not done, the foliage will be injured. To test this, get a pennyworth of yellow prussiate of potash at the chemist's, and place in a bottle of water. Add a few drops of this to the Bordeaux before it is diluted, and if it turns it brown the lime is deficient, and more lime should be added until the prussiate of potash has no effect. The above formula is as strong as Bordeaux Mixture can be used at any time, and if it is strained twice or thrice through canvas, it may be used in sprayers and pumps without clogging the nozzles. If fungi are not very troublesome, and when several applications are to be made at frequent intervals, 50 or even 60 gallons of water may be used. Always mix the Bordeaux in wooden, earthenware, or brass vessels, and the fittings of the pump, &c., should be of brass.

TOMATOS DISEASED: *Market Gardener.* The soil has nothing to do with it, nor the manure you have employed, although the excessive damp atmosphere which growers maintain in their houses favours the growth of minute fungus. The plant is much safer in a comparatively dry, warm house than in a moist one. See reply to *Tompkins*.

TOMATOS: *A. P. B.* The beginning of the Black-rot. Cut off all the affected fruits and burn them, dressing the plants with the Bordeaux Mixture. Can you send specimen of the beetle which gnawed into the fruit sent?

VARIETIES OF FRUITS FOR MARKETING: *Ignoramus.* *Red Currants:* Raby Castle or Victoria for late, and *La Hative* for very early use. *Red Ditch* if a sweet, rich fruit be wanted; and *La Fertile*, a

very heavy bearer, and large fruited. Prices about 20s. per 100; new varieties a little dearer than this. *Black Varieties:* The Ogden for early use, and *Le's Black* for general use. Price about 23s. per 100. Three varieties of Raspberry: *Falstaff*, large, excellent, red; *Baumforth's Seedling*, large, productive, red, 15s. per 100; *Superlative*, red, heavy cropper, 25s. per 100. If a yellow variety be grown, choose *Yellow Antwerp*, or for late use *October Yellow*. *Black or Purple Cooking Plums:* *Early Rivers*, unequalled for cooking and preserving. The fruit is very heavy, a bushel weighing from 70 to 80 lb., whereas other varieties seldom exceed 60 lb. Ripe at end of July. *Late Prolific*, equally productive and good, ripens three weeks later; *Wyedale* is a very late variety, ripening in October. If an early dessert Plum of a dark purple colour is required, choose *The Czar*; if a late dessert variety, one of the best to plant is *Monarch*, which is ripe late in September. Late and early varieties of any kind of fruit pay well. The prices of standards of Plums for orchards from £6 to £7 10s. per 100. Dwarf maidens about 12s. per dozen. Distances at which to plant red Currants, 6 by 8 feet apart. *Black Currants* rather more, say, 10 feet in rich deep soil; and 8 feet in that which is naturally poorer or shallow. Plums 14 feet apart if bushes; 20 feet if standards. Raspberries, if grown on stools throwing from eight to ten canes each, which will be bent over and tied to stakes fixed midway between the stools in the line of the plants, or a trifle more on one side of the line, which is better at 6 feet apart; or they may be planted at 2½ to 3 feet apart, and the fruiting canes restricted to six, the canes being then made self-supporting. The best Gooseberry for picking green is *Whinham's Industry*, or if for gathering when ripe as well, then choose *Hielander* or *Lancashire Lad*—price per 100 same as red Currants; distance apart also the same.

VIRGINIA CREEPER: *E. M.* *Vitis (Ampelopsis) hederacea.* It is said to have been introduced from Canada or the northern United States in 1629, and was originally called *Hedera quinquefolia*, under which heading you will find it in *Miller's Dictionary*. Of course it is no Ivy, but a Vine.

VINES: *J. W.* The shanking in other years was due to the roots having got low down in a border, which, owing to the great length of time that has elapsed since it was made, has become in an unwholesome condition. Your partial escape this year from shanked berries is due to the great amount of sunshine having warmed the soil to a greater depth than usual, and caused an excessive amount of transpiration from the foliage, and thus preserved, to some extent, a balance between requirements and supply. You should examine the border this year as soon as the crop is ripe, cutting the bunches and bottling them. If the border is found to be in bad order, make a new border with fresh soil, &c., and see that the drainage is well provided for, and the depth of soil does not exceed 2½ feet, raising the surface above the surrounding level, the subsoil being clay.

COMMUNICATIONS RECEIVED.—A. B. F. M.—G. W.—W. W.—R. J. L.—E. L. J.—H. H. D'O.—G. N.—Prof. Penzig, Genoa.—W. T.—W. J. T., Hong Kong.—R. V. & Sons.—H. W.—Ch. de B., Antwerp.—A. E. B.—Canon E.—T. T.—W. C.—J. J., all next week.—P. F. A.—W. A. C.—A. D.

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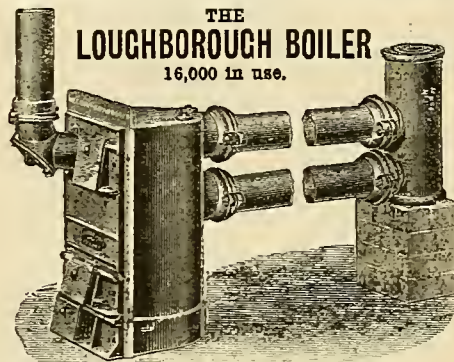
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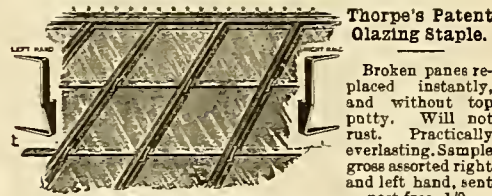
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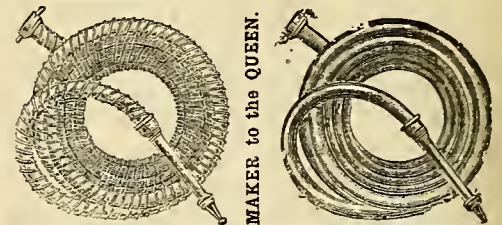
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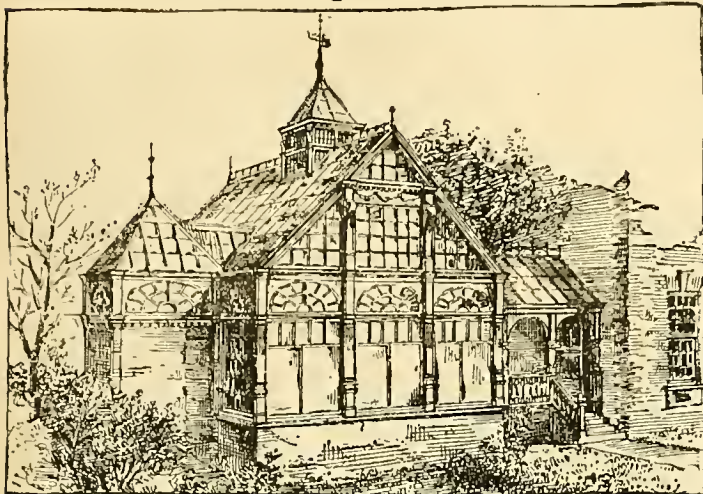
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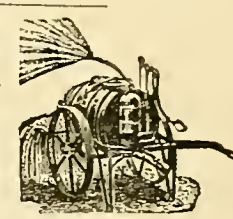


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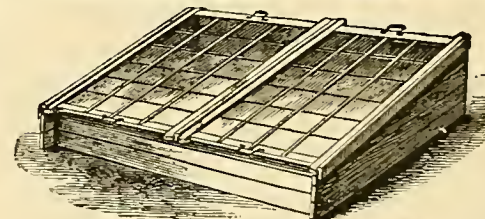


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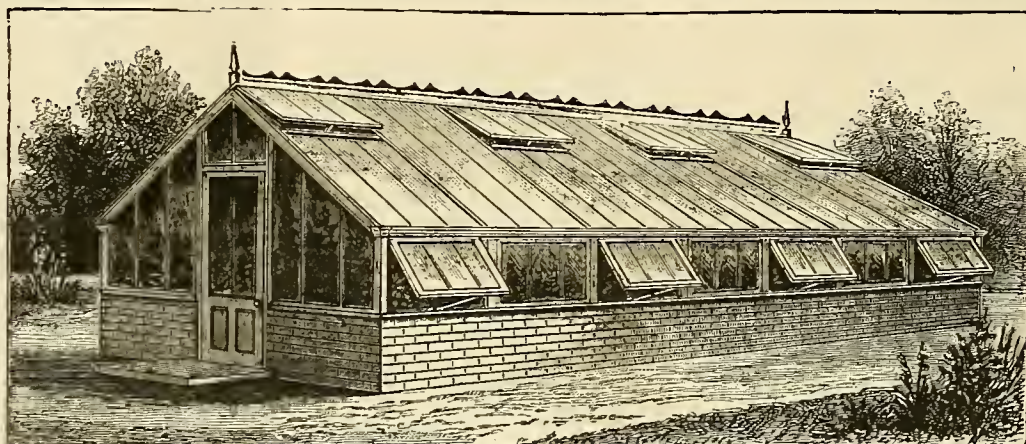
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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

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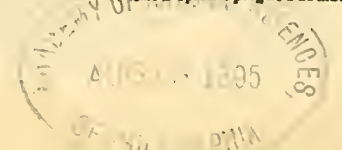
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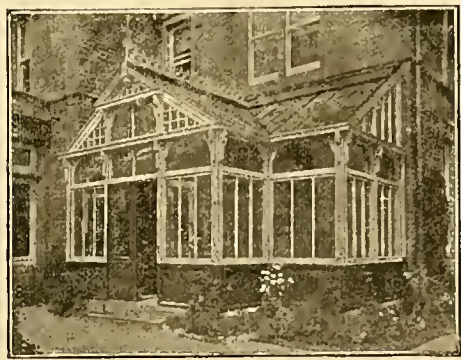
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**HORTICULTURAL
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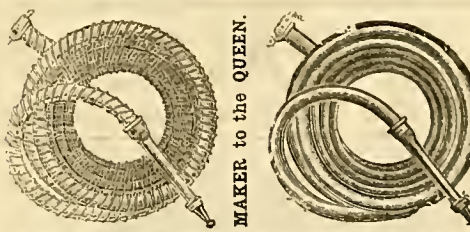
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At lowest possible prices.

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Largest and best Stock of **HOT-WATER
BOILERS, PIPES, VALVES,** and **HORTI-
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Quality Guaranteed.
Prices of 60-foot lengths (including Fittings).

ARMOURED.		PLAIN.	
Diam.	PRICES.	Diam.	PRICES.
½-in.	best quality ... 38 3	½-in.	cheap ... 19 3
¾ "	extra stout ... 43 7	¾ "	extra stout ... 27 5
1 "	best quality ... 45 0	1 "	best quality ... 28 0
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1 ½ "	best quality ... 52 0	1 ½ "	best quality ... 33 0
1 ¾ "	extra stout ... 60 7	1 ¾ "	extra stout ... 40 10

Carriage paid, and dispatched on receipt of order. Awarded
12 Gold and Silver Medals. Also maker of Hose for Delivery,
Steam, Fire, Suction, and Liquid Manures, &c. Supplied to
all the principal Corporations, Parks, Estates, &c. at home and
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CARDIFF HORTICULTURAL SOCIETY
(Affiliated to the Royal Horticultural Society).
The SEVENTH ANNUAL SHOW will be held on August 14
and 15. £300 in Prizes, Specials, Cups, and Medals.
Entries close August 7. H. OILLETT, Secretary.

**MAIDENHEAD HORTICULTURAL
SOCIETY.**
The ANNUAL SHOW OF FLOWERS, FRUIT, VEGETABLES,
HONEY, and POULTRY, will be held in the
Grounds of Ives Place, on THURSDAY, August 15. Entries
close August 8. CHAS. A. YARDY, Hon. Sec.

**ROYAL BOTANIC SOCIETY
OF MANCHESTER.**
THE GREAT LILY SHOW.
The First Special Exhibition of this glorious flower ever
held in this country. Thousands of pots of flowers contributed
by some of the most eminent growers in the country.
GRAND SPECIAL EXHIBITION OF GRAPES.
It is expected that this great display will, in a sense, be
unique in the annals of Horticultural demonstrations.
Open on THURSDAY the 22nd inst., at 12 at Noon, and
remain open till SATURDAY EVENING the 24th.
Gardeners from any part of the country can purchase
admission tickets at 6d. each, by applying to the undersigned
on or before the 19th inst.
Botanical Gardens, Manchester. BRUCE FINDLAY.

**BRIGHTON and SUSSEX HORTICULTU-
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SUMMER SHOW.
£200 in Prizes, and Two Silver Challenge Cups.
Last Day of Entry, August 22.
Schedules and particulars of—
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Schedules ready. F. SCOTT, Secretary.
Entries close August 17.

WESTON-SUPER-MARE FLOWER SHOW.
AUGUST 15TH.
£200 IN PRIZES.
Schedules from the HON. SECS.,
24, West Street, Weston-Super-Mare.

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GEORGE BUNYARD & CO.

Beg to ask Buyers to consult their 1895

STRAWBERRY LIST

Before Ordering their Supplies. Now Ready.

Their Plants will be grand, both for Forcing, in little pots, and as Runners.

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15-oz., per 100 ft., 7s. 6d. } 12x10, 18x12, 18x14, 24x14
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 1 1/2 x 3 Prepared Sash Bar at 5s. per 100 feet.
 Flooring, 5/9 per square; Matching, 4/9; 2 x 4, at 1/4d. per foot run. Garden Utensils, Trellis, Ironmongery, Paints, &c. Catalogues free.

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IMPROVED

LATH ROLLER BLINDS,

The most Effective

GREENHOUSE SHADING

yet introduced, and the cheapest in the end.

Price on application.

Can be had in various widths up to 15 feet.

Sample piece sent on receipt of 1s. 6d.

WALTERS & CO.,

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EARLY WHITE ROMAN HYACINTHS.

WM. PAUL & SON

Having now received, in excellent condition, their first consignment of the above valuable Early Forcing Bulbs, respectfully solicit orders for them. Selected roots, 2s. 3d. per dozen; 15s. per 100. Good ordinary roots, 1s. 9d. per dozen; 12s. per 100. Cheaper by the 1000.

All other Bulbs, both Early and Late, can be supplied as ready, of the best quality and at very moderate prices.

PAUL'S NURSERIES, WALTHAM CROSS, HERTS

THE COTTAGER'S CALENDAR OF GARDEN OPERATIONS.

Price 3d., Post-free 3 1/2d.;

Twenty-five Copies, 5s.; fifty, 10s.; and one hundred, 20s.

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

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

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Early White Roman Hyacinths,

Early Snowflake and Paper-white Narcissus.



JAMES VEITCH & SONS

Beg to announce the arrival of, in exceptionally fine condition,

THE ABOVE VALUABLE BULBS FOR EARLY FORCING,

And will be pleased to receive Orders for immediate delivery.

BULB CATALOGUE for 1895 NOW READY, and may be had on application.

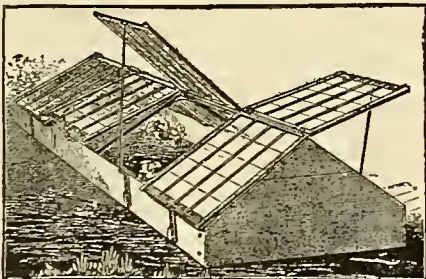
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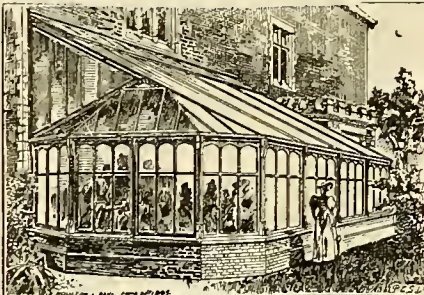
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4 ft. by 8 ft. ... £3 9 0 | 12 ft. by 8 ft. ... £3 7 0
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PIT (6 ft. by 4 ft., painted and glazed ... 13/6 each.
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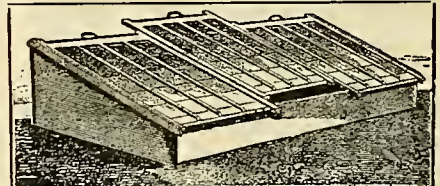
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 Carefully Packed and Carriage Paid.

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 Similar to No. 75, with two lights.

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EMPEROR CABBAGE.

THE EARLIEST AND BEST.
6d. and 1s. per packet,
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From Mr. W. J. CHASNEY, West Henstead

"I had the best bed of Cabbage this year from Webbs' Emperor Seed that I ever saw; not one of the 5000 plants which I put out went to seed."

	Per ounce.
EARLY NONPAREIL CABBAGE	... .. 8d.
ENFIELD MARKET do.	... .. 6d.
EARLY RAINHAM do.	... .. 8d.
RED DUTCH ... do.	... .. 9d.

ONION.

	Per pkt.	Per ounce.
WEBBS' RED GLOBE TRIPOLI	... 6d.	1s. 6d.
LARGE FLAT RED TRIPOLI	... 6d.	... 10d.
GIANT ROCCA ... ..	... 6d.	... 10d.
WHITE LISBON ... ..	... 6d.	... 6d.

All Garden Seeds Free by Post or Rail.

Seedsmen by Royal Warrants to H.M. the Queen and H.R.H. the Prince of Wales,

WORDSLEY, STOURBRIDGE.

STRAWBERRIES.

ROYAL SOVEREIGN,

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STEVENS' WONDER.

NOW READY FOR DISTRIBUTION.

Everyone should secure this grand early variety.

In pots	2s per 100	15s. per dozen.
Strong Runners	2s per 100	9s. per dozen.

All other leading varieties now ready for delivery. See Special LIST free on application.

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FERNS!—FERNS!!

50,000 Prime Stuff, in 2½-inch pots—PTERIS CRISTATA, NOBILIS, MAJOR, TREMULA, and other Best Market Sorts, at 9s. per 100.

Good, clean, and bushy stuff, in 48's at 4s. 6d. per dozen.

Also a quantity in large 60's, at 2s. 6d. per doz., or 20s. per 100.

Above prices are for cash with order only. All orders carefully and promptly executed. An inspection is invited by

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The above are now ready for delivery, and for full descriptive details of the same and other BULBS for Forcing, see our CATALOGUE for 1895, which will be sent free, on application to our offices, at OVERVEEN, near HAARLEM, HOLLAND, or to our General Agents—

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Good plants, ready for shifting into 5 and 6-inch pots, 4s. per dozen.

SEEDLING PRIMULAS.

Extra quality. All colours, mixed.
1s. 6d. per dozen. Free for cash with order.

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RYECROFT NURSERY, HITHER GREEN, LEWISHAM.

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EARLY WHITE ROMAN HYACINTHS,
SNOWFLAKE, PAPER-WHITE NARCISSUS,
FREESIAS, &c. &c.

First consignment to hand in excellent condition.

For particulars of these and all other Bulbs see our CATALOGUE, No. 455, post free on application.

DICKSONS, Seed & Bulb Growers, **CHESTER.**

STRAWBERRIES.

All the leading varieties, new or old, in small pots for fruiting first year. Open-air plants, very cheap. Special low quotations for quantities for Market Growing.

FRUIT TREES
OF ALL SORTS. SEND FOR LISTS.

JOHN WATKINS,
POMONA FARM NURSERIES, WITHINGTON, HEREFORD



THE

Gardeners' Chronicle.

SATURDAY, AUGUST 3, 1895.

MUSHROOM SPAWN.

THE general public, and even a good many gardeners, have but misty ideas as to the mode of growth of Mushrooms. If this is true with reference to the Mushrooms, it is even more so in regard to the spawn. Those who do know are not always successful in the "manufacture" of spawn, and sometimes experience disappointment in the growth of that purchased. The gardener has frequently to encounter two evils in Mushroom growing, one uncertainty of production, which may arise from bad or dead spawn, but is usually the result of want of care in regulating the temperature of the bed before or during spawning; the other the production of Mushrooms, indeed, but of Mushrooms intermixed with other fungi whose presence is not desirable, and might even be injurious. This evidently arises from the use of bad, that is of mixed spawn. The "spawn" represents the roots, stem and branches of a flowering plant, and it feeds upon decaying animal and vegetable matter, being, in fact, what botanists call a "saprophyte," and not a "parasite" on living plants. When this spawn is placed under suitable conditions of moisture and heat, it absorbs food, grows, spreads, and ultimately sends up into the light and air the stalked caps which represent the fruit or seed-vessel of an ordinary plant.

The would-be "manufacturer" would do well to visit a botanical laboratory where fungus "cultures" are undertaken, so that he might be able to see and realise what are the conditions under which fungi can be grown. "Culture" in a laboratory and culture for market, though dependent on identical principles, are necessarily different in detail. A French botanist, for instance, has succeeded in growing Mushrooms on glass-plates with the aid of certain chemical solutions, and without the aid of any manure whatever, the temperature being kept uniform. The advantages of such a procedure in cleanliness, certitude as to the species employed, and regularity of production, would of course be great. At present, however, this is only a laboratory experiment, and as such presents nothing remarkable to the student of fungi. Whether such procedures can be taken on commercial lines is another matter, and one that might well be investigated at Chiswick or some other experimental garden. In the meanwhile, we must go on in the old ways, and get the best spawn we can. The "manufacture" of Mushroom spawn may be looked on as a curious and out of the way sort of industry; but it is a very important one nevertheless, as those who pay a visit to Mr. Johnson's farm at Hanger Hill, near Ealing, may see for themselves.

Mr. Johnson, we may say, from such an inspection of his land and his crops as a daily journey through them for some years past has enabled us to make, is an excellent farmer, and one who apparently does not approve of grumbling and despair as remedies for

agricultural depression. Amongst other things he has a herd of 100 or more cows and these repay the attention bestowed upon them, not only by the milk they yield, but by the aid they afford in the production of virgin spawn. In Mr. Johnson's spawn-factory the bricks have the form of flat tiles 9 inches by $4\frac{1}{2}$ inches. They appear to consist of fine loam mixed with cow-manure and with fragments of spawn interspersed. When mixed, they are spread on the ground in the open air to dry, and then placed on racks in open sheds. There is so large a demand for this spawn, that some difficulty is occasionally felt in coping with it.

Mr. Johnson tests the value of his spawn by himself growing Mushrooms on a large scale. Long raised mounds of manure are formed in the open air, each 32 yards in length, and 2 feet 6 inches in height, and as much through at the base. The degrees of fermentation and heat are, of course, watched, and when the heat has decreased, say to 80–90°, and remains pretty uniform, the beds are "spawned" by the insertion at intervals of fragments of the bricks 3 inches square. The beds are moistened when necessary, and when the spawn has commenced to run, the beds are then cased with mould about $1\frac{1}{2}$ or 2 inches thick, and then covered with long litter, beneath which, in about six weeks, the fungi make their appearance. On the average, we were told, these beds have produced 19 lbs. of Mushrooms to the yard. The average price for the year has been 8d. per lb., or 12s. 8d. a yard. Four outdoor beds spawned in September last came into bearing a month later, and produced upwards of 2000 lbs. weight of Mushrooms by November, some being of extraordinary size. The weekly average gathering is upwards of 700 lbs. The beds are so arranged as to ensure a more or less continuous supply, one set succeeding another.

"City gentlemen" riding to town every morning by the District Railway from Ealing are puzzled to know what can be grown on those long mounds of earth, on which nothing green ever seems to make its appearance. We remember that years ago a very distinguished botanist, and one by no means unknown in the gardening world a generation ago, travelling to and from Kew *via* Putney, used to express his wonder in like manner at these mysterious mounds. That they contain buried treasure we hope we have made apparent.

The three beds shown in the photograph (fig. 24) produced at this gathering 508 lbs. of Mushrooms, or an average of $5\frac{1}{2}$ lbs. to the yard.

NEW OR NOTEWORTHY PLANTS.

CATTLEYA × JUNO. *hyb. nov.*, L. Barron.
(C. FORBESI × C. VELUTINA.)

This hybrid has been raised in the collection of C. G. Roebing of Trenton, N.J., where it was in flower June, 1895. In general appearance the flower may be likened to that of *C. velutina*, brightened; the growth reminds one of the other parent; altogether it is a decided acquisition in a section but little cultivated. Flowers $3\frac{1}{2}$ to 4 inches in diameter, borne erect on a three-flowered scape, highly fragrant; sepals and petals equal, light yellowish brown, irregularly and sparsely spotted with intense rose, undulate, recurved at the apex, flushed rose at the base, where they are narrowed almost to a claw. Lip prominent; median lobe semi-orbicular, white with rich heavy veins of



FIG. 23.—MUSHROOM CULTURE: MAKING THE "SPAWN."

rose; side lobes wrapped closely over the column, pure white flushed with rose on the margin; yellow-veined in the throat. Leonard Barron.

THE ROSARY.

A WHITE MOSS ROSE.

MR. NEWNHAM BROWN, of Reigate, has in his garden a white Moss Rose tree, which twice during this season has produced a flower half-white, half-red, all the others being white. The white and red do not melt into each other, but are sharply defined, one petal, in fact, being

half-red, half-white. According to Mr. W. Botting Hemsley, who writes in *Nature*, there are several varieties of Rose which "revert" or "sport" in this manner to the ancestral colour. The striped white and red "York and Lancaster" Rose is an example. Generally, the proportions of red and white are the same in any two flowers; but sometimes a pure pink—if not also a pure white—flower is seen. This reversion is ascribed to an imperfect blending of the parent stock; and as any vegetative bud of a plant is capable of producing any or all of the organs of the whole plant, or when detached from the parent plant or similar organism, it follows that in a cross-bred variety, which is not constant or "fixed," any vegetative bud may produce the cross or the parent forms.



FIG. 24.—MUSHROOM CULTURE: GATHERING THE CROP.

REPORT ON THE CONDITION OF THE FRUIT CROPS.

[FROM OUR OWN CORRESPONDENTS, AUGUST, 1895.]

The words "average," "over," or "under," as the case may be, indicate the amount of the crop; and "good," "very good," or "bad," indicate the quality.

The counties are arranged in numbered groups, to correspond with those adopted in the Weather Reports of the Meteorological Department, and followed in our weekly Weather Tables.

** Fuller comments will be given in the following Numbers. See also Leading Article on page 128.

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NEOTARINES.	APRICOTS.	SMALL FRUITS.	STRAW-BERRIES.	NUTS.	NAME AND ADDRESS.
SCOTLAND—										
0, Scotland, N.										
CAITHNESS	Over; very good	Average	.....	Average; good	.....	.....	Average; very good	Over; very good	.....	W. F. Mackenzie, Thurso Castle Gardens, Thurso
INVERNESS	Average; good	Average; good	Under; bad	Over; very good	.....	.....	Over; very good	Average; good	Over	Wm. McKie, Dunbeath Castle Gardens, Dunbeath, Caithness
MORAYSHIRE	Average; under	.....	Average; good	Over; very good	.....	.....	Average; small	Average; good	.....	James Cooper, Inverlochy Castle Gardens, Fort William.
MORAYSHIRE	Over; very good	Under; good	Over; good	Average; good	Average; very good	Over; good	Average; good	Over	Average	C. Webster, Gordon Castle Gardens, Fochabers.
MORAYSHIRE	Average; good	Over; good	Over; good	Under; good	Average; good	Under; good	Plentiful; good	Average; good	.....	D. Cunningham, Darnaway Castle Gardens, Forres.
MORAYSHIRE	Over; very good	Average; very good	Average; good	Over; good	Under; good	Under; good	Average; good	Over; good	.....	Wm. Ogg, The Gardens, Duftus House, Elgin
NAIRNSHIRE.....	Under; good	Average; good	Average; good	Average; very good	Under; good	Under; bad	Over; good	Average; very good	.....	Wm. Morrison, Killarock Castle, Fort George
ORKNEY	Under	Over; good	.....	Average; good	Average; good	.....	Average	Average; good	.....	Thos. McDonald, Balfour Castle Gardens, Kirkwall
ROSS-SHIRE	Average	Under	Under	Under	Under	.....	Average	Average	.....	Robert Massie, Ardross Castle Gardens, Alness
ROSS-SHIRE	Average; good	Under; bad	Average; good	Average; good	Under; bad	Under; bad	Very good	Average; very good	.....	D. Harvey, Invergordon Castle Gardens
SUTHERLANDSHIRE.....	Average	Average	Average	Average	.....	.....	Average; good	Average; good	Average	D. Melville, Dunrobin Castle Gardens, Golspie
1, Scotland, E.										
ABERDEENSHIRE	Under	Under	Average	Average	.....	.....	Average	Over	.....	John Forrest, Haddo House Gardens, Aberdeen
ABERDEENSHIRE	Average	Under	Under	Under	.....	Bad	Average	Very good	.....	Simon Campbell, Fyvie Castle Gardens, Aberdeen
ABERDEENSHIRE	Under; bad	Under; bad	Under; good	Under; good	Under; bad	Under; good	Average; good	Over; very good	.....	Rothie Norman, Gardens, Rothie
ABERDEENSHIRE	Average	Under	.....	Under; good	.....	.....	Over; very good	Over; very good	.....	John M. Troup, Balmoral Castle Gardens, Ballater
BANFFSHIRE	Average; good	Under	Under	Over; good	Under	.....	Over; good	Over; good	.....	W. Jamieson, Castle Gardens, Ballindalloch
BANFFSHIRE	Average	Average; good	Average; very good	Over; good	Under; bad	Under	Average; very good	Extra good	.....	J. Frazer Smith, Cullen House Gardens, Cullen
BANFFSHIRE	Under; bad	Average; good	Average; good	Average; very good	Over; very good	.....	Average; good	Over; very good	.....	William Alexander, Mountblairy House Gardens, Turiff
BERWICKSHIRE.....	Average; good	Average; good	Over; very good	Average; good	Average; good	Under; good	Over; very good	Over; very good	Under	James Gemmill, Ladykirk Gardens, Berwick-on-Tweed
BERWICKSHIRE.....	Average; good	Average; good	Average; good	Average; good	Average; good	Few grown	Over; very good	Over; very good	.....	John Cairns, The Birsal Gardens, Coldstream, N.B.
BERWICKSHIRE.....	Average; good	Average; good	Over; very good	Over; very good	Under; good	Under; good	Over; very good	Average; good	.....	J. Ironside, Blackadder House Gardens, Edrom.
BERWICKSHIRE.....	Average; very good	Under; very good	Average; good	Average; very good	Over; good	Under; very good	Over; good	Over; very good	Average; good	John MacKinnon, Ayton Castle Gardens, Ballaloch
CLACKMANNANSHIRE .	Average; good	Average	Average	Average	.....	Not much grown	Average; very good	Average; very good	.....	Thomas Ormiston, Gr., 45, High Street, Alloa
CLACKMANNANSHIRE .	Under; good	Average; good	Over; very good	Average; very good	.....	.....	Over; very good	Over; very good	.....	William Nicholson, Cowden Castle Gardens, Dollar
EAST LOTHIAN	Over; very good	Under; very good	Over; very good	.....	Average; good	Under; good	Over; very good	Over; good	.....	R. P. Brotherton, Tynninghame Gardens, Prestonkirk
EAST LOTHIAN	Average; good	Average; good	Average; good	Over; good	Average; good	Average; good	Over; good	Under	.....	L. Dow, Newyth Gardens, Prestonkirk
EAST LOTHIAN	Over; good	Average; good	Over; good	Over; good	Average; good	Average; good	Over; good	Over; good	Average; good	William McKelvie, Broxmouth Park Gardens, Dunbar
FIFESHIRE	Over	Under	Over	Average	.....	Average	Over	Over; very good	.....	W. Henderson, Balbirnie Gardens, Markinch
FIFESHIRE	Over; very good	Average; good	Over; good	Average; good	Average; good	Under; good	Over; good	Average; good	.....	William Williams, Tarrit Gardens, Cupar
FIFESHIRE	Average	Under	Good	Under	.....	Under	Over	Over	.....	John Clark, Wemyss Castle Gardens
FIFESHIRE	Over; good	Average; good	Over; good	Over; good	.....	Average	Over; very good	Over; very good	.....	Peter Duncan, Dysart House Gardens, Dysart
FORFARSHIRE.....	Average	Under	Under	Average	.....	Under	Over	Average	.....	W. McDowall, Brechin Castle Gardens, Brechin
FORFARSHIRE.....	Average; good	Under; good	Average; good	Average; good	Under; very good	Under; good	Over; good	Over; very good	.....	Thomas Wilson, Glamis Castle Gardens, Glamis
FORFARSHIRE.....	Under	Average	Under	Average; very good	.....	.....	Average; very good	Over; very good	.....	William Alison, Seaview Gardens, Nonfleeth
KINCAIDINESHIRE	Under	Under	Average	Under	.....	Under	Over	Over; very good	.....	J. M. Gairns, Arbuthnot House Gardens, Foroon
KINCAIDINESHIRE	Under	Over	Over	Over; very good	.....	Under	Over; very good	Over; very good	.....	William Knight, Fasque Gardens, Lawrencetown
KINROSS-SHIRE	Average; good	Under; good	Under; bad	Over; very good	.....	.....	Over; very good	Over; very good	.....	John Fortune, Blairadam, Kinross
MIDLOTHIAN	Average; very good	Over; very good	Over; very good	Over; very good	Average; very good	Average; very good	Over; very good	Over; very good	Average; very good	Malcolm Dunn, Dalkeith Palace Gardens
MIDLOTHIAN	Average	Average	Under	Over	.....	Under	Over	Over	.....	Mungo Chapman, Easter Duddingston Lodge, Fortobello
PEEBLES SHIRE.....	Under	Under	Over; good	Over; good	.....	.....	Average	Under; bad	.....	Wm. McDonald, Cardrope, Peebles
PEEBLES SHIRE.....	Average; good	.....	Average; good	Over; very good	.....	Under; bad	Over; good	Under; bad	.....	D. L. Mackintosh, King's Meadows, Peebles
PERTSHIRE	Over; very good	Average; very good	Average; very good	Over; good	Average; good	Over; very good	Over; very good	Over; very good	.....	G. Goodfellow, Kinfauns Castle Gardens, Perth
PERTSHIRE	Over	Over	Over	Over; very good	.....	.....	Over	Over	.....	John Rabb, Brummond Castle Gardens, Crieff
PERTSHIRE	Average	Over	Average	Over; very good	.....	.....	Average	Over; very good	.....	George Croucher, Ochertyre Gardens, Crieff
PERTSHIRE	Average; bad	Under; bad	Average; good	Over; good	.....	Average; moderate	Average; good	Over; very good	.....	James Ewing, Castle Medzies Gardens, Aberfeldy
PERTSHIRE	Average; good	Average; good	Over; very good	Over; very good	Average; good	Over; very good	Over; very good	Over; very good	.....	Thomas Lunt, Keir Gardens, Du Blana
PERTSHIRE	Over; good	Average; good	Average; good	Over; very good	Average; good	Under	Over; very good	Under; bad	Average; bad	A. McKinnon, Scope Palace Gardens, Perth
ROXBURGHSHIRE	Average; good	Average; good	Average; good	Over; very good	Under	Under	Over; very good	Over; very good	.....	John Page, Monteriot Gardens, Jedburgh

CONDITION OF THE FRUIT CROPS—(Continued).

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAW-BERRIES.	NUTS.	NAME AND ADDRESS.
1, Scotland, E										
SELKIRKSHIRE	Average	Average	Average	Average; very good	Under	Under	Over; good	Over	.....	Wm. G. Pirie, Sunderland Hall Gardens, Selkirk
	Under; good	Under; bad	Over; very good	Average; very good	.....	.....	Over; very good	Average; very good	.....	John C. Lunt, Bowhill Gardens, Selkirk
	Average	Average	Over	Average	Average	Average	Over; good	Over; very good	.....	James Hunter, Kings Knowes Gardens, Galashiels
WEST LOTHIAN	Average; good	Over; very good	Average; good	Average	Average	Under	Over; very good	Average; very good	.....	John Moyes, Dalmeny Park Gardens, Edinburgh
6, Scotland, W.										
ARGYLLSHIRE.....	Under	Under	Average	Average; good	.....	Under	Average; good	Average; good	.....	G. Taylor, Inverary Castle Gardens
	Over; good	Average; good	Over; very good	Over; very good	.....	.....	Average; good	Over; very good	.....	D. S. Melville, Poltalloch Gardens, Lochgilphead
	Very good; over	Good; average	Good; average	Good; average	.....	.....	Very good; over	Very good; average	.....	Henry Scott, Torloisk Gardens, Tobermory, Isle of Mull
AYRSHIRE	Average	Average	Over	Average	Average	.....	Over	Over	.....	W. Priest, Eglinton Gardens, Irvine
	Over; good	Average; good	Average; good	Over; good	.....	Average; good	Average; good	Average; good	Average; good	D. Buchanan, Bargany Gardens, Gavan
	Over; very good	Average; good	Over; very good	Over; good	Over; good	Average; good	Over; very good	Average	.....	A. Wilson, Auchincruive Gardens, Ayr
	Very good	Good	Very good	Very good	.....	.....	Very good	Good	.....	Richard Kitchen, Goodham Gardens, Kilmarnock
	Over; very good	Over; very good	Over; very good	Over; very good	.....	Good	Over; very good	Over; very good	.....	Thomas Simpson, Hunterston Gardens, West Kilbride
DUMBARTONSHIRE ...	Under; good	Under; good	Over; good	average; very good	.....	Average; good	Over; very good	Average; very good	Average; good	George McKay, Balloch Castle Gardens, Balloch
	Average	.....	Under	Over; good quality	.....	.....	Over	Over	.....	D. Stewart, Knockderry Castle Gardens, Cove
DUMFRIESSHIRE	Over	Good under glass	Very good	Very good	.....	.....	Very good	Very good	.....	D. Thomson, Drumlanrig, Thornhill
	Average; good	Under	Under	Over; good	.....	Under	Over; very good	Over; very good	.....	J. Urquhart, Hoddam Castle Gardens, Ecclefechan
	Over; good	Under; bad	Over	Average; very good	.....	.....	Over; very good	Over	.....	R. W., Burnfoot Gardens, Largsholm
LANARKSHIRE	Over; very good	Under	Average; good	Over; very good	Average	.....	Over; very good	Over; very good	.....	Robert Grieve, Carstairs House Gardens, Carstairs
	Over; very good	Over; very good	Over; very good	Over; very good	.....	.....	Over; very good	Over; very good	.....	W. Sutherland, Bothwell Bank Gardens, Bothwell
	Average; good	Under; good	Average; good	Over; good	.....	.....	Over; good	Average; good	.....	James Miller, Castlemilk Gardens, Kuthergate
	Good	Good	Good	.....	.....	.....	Good	Good	.....	William Castle, Blantyre Lodge Gardens, Blantyre
RENFREWSHIRE	Over; good	Average; good	Over; very good	Average; good	.....	.....	Over; very good	Over; very good	.....	Frederick Fulford, Eastwood Park Gardens, Giffnock
	Average; over	Average	Average	Average; over	Average	Under	Average; over	Average; over	.....	John Methven, Blythswood Gardens
	average; good	Average; good	Over; very good	Average; good	.....	.....	Over; very good	Over; very good	.....	Thomas Lunt, Ardgowan Gardens, Greenock
	Very good	Good	Average	Good	.....	.....	Good	Very good	.....	Henry Maxwell, Raiston Gardens, Paisley
STIRLINGSHIRE	Average; good	Average; good	Over; good	Average; good	.....	Average; good	Over; very good	Over; good	.....	Alexander Crossbie, Buchanan Gardens, Drymen
	Over; good	Average; good	Average; good	Over; good	None outside; inside ones under	.....	Average; very good	Average; very good	.....	James Masterton, Craigend Castle Gardens, Milngavie
	Average; good	Under; good	Average; good	Over; very good	Average; good	Average; good	Over; very good	Over; very good	.....	M. Temple, Carron House, Falkirk
WIGTONSHIRE	Over	Average	Under	Average	.....	.....	Average	Over	.....	John Bryden, Dunragit Gardens, Dunragit
	Average	Under	Average; good	Over; good	Under	.....	Over; good	Over; very good	.....	John Luthe, Penninghame Gardens, Newton Stewart
	Over; good	Average; good	Average; good	Average; good	Average; good	Under; good	Average; good	Ahundred; good	Under	James Day, Galloway House Gardens, Garliestown
ENGLAND—										
2, England, N.E.										
DURHAM.....	Average	Average	Under	Under	Under	.....	Average	Under	.....	B. Draper, Seaham Hall Gardens, Seaham Harbour
	Average	Under	Average	Average	None inside	Under	Over	Over	.....	James Noble, Woodburn Gardens, Darlington
NORTHUMBERLAND.....	Over; very good	Under	Over; very good	Average; good	Average; good	Average	Average	Over; very good	.....	George Harris, The Castle Gardens, Alnwick
	Average	Very good	Medium	Average	None outdoors	Under; bad	Over; good	Average; good	Under	Wm. Fell & Co., Seed Merchants and Nursermen, Hexham
	Average	Under	Under	Over; good	Average; good	Under; good	Over; very good	Over; very good	Under	David Inglis, Howick Hall, Lesbury
	Over; very good	Average; good	Average; very good	Over; very good	Average; good	.....	Over; very good	Over; very good	.....	Edward Keith, Wallington Hall Gardens, Cambo
	Average; good	Average; good	Average; good	Over; good	Average; good	.....	Over; good	Over; good	.....	Henry Trotter, Ford Gardens, Cornhill
	Average; good	Under; good	Average; good	Over; good	Under	Under	Over; good	Over; good	.....	X. Y. Z., Eslington Park Gardens, Whittingham
YORKSHIRE	Over	Under	Over	Over; very good	Average	Under	Average	Over	Average	J. Kiddell, Castle Howard Gardens, York
	Under; good	Under; good	Under; good	Very good	Under; good	Average; good	Over; good	Over; good	.....	Thomas Jones, Ribston Hall Garden, Wetherby
	Average	Under	Average	Over; very good	Average	Under	Over; very good	Over; very good	.....	Bailey Wadds, The Gardens, Birdsall, York
	Good	Average	Bad	Good	Good	Bad	Very good	Over	Bad	William Culverwell, Thorpe Perrow Gardens, Bedale
	Average; good	Under; bad	Average; good	Over; good	.....	Failure	Over; very good	Over; very good	Average; good	J. P. Leadbetter, Tranby Croft Gardens, Hull
	Over; very good	Over; good	Average	Average	None outdoors	Under	Over; very good	Average; very good	.....	Geo. Hatley, Wentworth Castle Gardens, Barnsley
	Average; good	Under	Under	Average	.....	Under	Over; very good	Over; very good	Under	William Higgin, Stanwick Gardens, Darlington
	Over; good	Average	Over	Over	.....	.....	Over	Over; very good	.....	J. Simpson, Wortley Hall Gardens, Sheffield
	Average; good	Under; good	Average	Average; good	Average	Average; good	Average; over	Average; over	.....	J. Easter, Nestell Priory Gardens, Wakefield
	Over; very good	Under; good	Average; very good	Over; very good	Average; good	Under; good	Over; very good	Over; very good	Under; bad	George Knight, Conyngham Hall, Knaresborough
	Average; good	Average; good	Average; very good	Average; good	Under; bad	Under; bad	Over; very good	Over; very good	Average; good	Frederick Kneller, Studley Royal Gardens, Ripon
	Average; very good	Average; good	Average; good	Average; good	.....	.....	Over; very good	Over; very good	.....	Thos. Bonsall, Elmet Hall Gardens, Leeds
	Over; good	Average; good	Over; good	Over; very good	Under	Average; good	Over; very good	Over; very good	Under; bad	Robert Dawes, Temple Newsam Gardens, Leeds
	Average	Average	Average	Average	.....	Under	Average	Over; good	.....	J. Hughes, Wentworth Woodhouse Gardens, Rotherham

CONDITION OF THE FRUIT CROPS—(Continued).

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAW-BERRIES.	NUTS.	NAME AND ADDRESS.
3, England, E.										
CAMBRIDGESHIRE	Average	Under	Under	Over	.....	.....	Over	Over	Over	Andrew Grant, The Vicarier, Willingham
	Over; very good	Under; good	Under; good	Over; very good	.....	.....	Average; good	Over; good	.....	Osborne Farm, Wisbech
ESSEX	Average; good	Under; good	Under	Average	Over; good	Under	Over	Average	Over	James Hill, Babraham Gardens, Cambridge
	Average; very good	Under	Average; good	Under	Under	Under	Over; very good	Over	Over; good	Wilson C. Smythe, Upwell House Gardens, Wisbech
	Average; good	Under; good	Under; good	Over; very good	Average; good	Under	Over; very good	Over;	.....	Charles Butler, Parndon Hall Gardens, Harlow
	Under; good	Under; good	Average; good	Average; good	.....	Under; bad	Average; good	Under; very bad	.....	H. May, Havering Park Gardens, Romford
	Average; very good	Average; good	Average; good	Average; good	Over; good	Under	Under; good	Over; good	Average; good	H. Lister, Easton Lodge, Dunmow
	Over; very good	Average; very good	Average; good	Over; very small	Average; good	Average; good	Over; good	Over; very small	Average; good	William Plester, Elsenham Hall Gardens, Stansted
	Over	Average	Under	Over	.....	Under	Average	Under	Average	J. Overall, Hall Gardens, Stansted
	Over; very good	Under; good	Under; good	Over; very good	Average; good	Average; good	Over; good	Over; very good	Under; good	Jas. Douglas, Great Gearis Gardens, Ilford
	Average; very good	Under	Under	Average; very good	Average; good	Average; very good	Over; very good	Average; very good	Average; good	E. Hill, Belmont Castle Gardens, Grays
	Over; good	Under; small	Under; bad	Average; good	Average;	Under; good	Over; very good	Over; very good	Average	R. H. Tatcher, Bocking Place Gardens, Braintree
Average; very good	Average; very good	Under; good	Average; good; Morello average;	Over; very good	Under; good	Under; good	Over; very good	Average; good	Under; good	James Vert, Audley End Gardens, Saffron Walden
LINCOLNSHIRE	Over; very good	Average; good	Average; good	Over; very good	Under; bad	Under; bad	Over; very good	Average; good	Average; Filberts; Walnuts, under	William Lumsden, The Gardens, Bloxholm Hall
	Average	Under	Average	Over	Under	Under	Average	Over	Few grown	Thomas Vinden, Harlaxton Manor Gardens, Grantham
	Over; good	Under	Average; good	Average	.....	Under	Over	Average; good	Under	J. Rowlands, Bardsey Manor Gardens, Lincoln
	Average; good	Average	Under	Average; good	Under	.....	Over; good	Over; good	Average	J. Spilsbury, Blankney Hall Gardens, Sleaford
	Average	Average	Over; good	Under	Under	.....	Over; very good	Over; good	Average	Henry Naylor, Grimthorpe Gardens, Bourne
Average; good	Average	Under	Under	.....	Under	Average	Average; good	Average	Wm. M. Cooper, Uffington House Gardens, Stamford.	
NORFOLK	Average	Under	Average	Average	Over	Under	Over; very good	Over; very good	Over	E. F. Hazeltor, Brocklesby Park Gardens
	Under	Under	Under	Average	Under	.....	Average	Over; good	Walnuts under; small Nuts average	H. Batchelor, Catton Park Gardens, Norwich
	Over; good	Average	Under	Under	.....	Under	Average	Average	Over	F. Lee, Lynford Gardens, Mundford
SUFFOLK	Over; good	Under; good	Under; good	Under; good	.....	.....	Over; very good	Over; very good	Under; good	H. Tedder, Marham House Gardens, Downham
	Under	Under; good	Under	Average; good	Average	.....	Over; very good	Over; excellent	Under	H. Fisher, Flixton Hall Gardens, Bungay
	Average; good	Under	Under	Over; good	Average	Average	Over	Over; good	Average	W. Messenger, Woolverstone Park Gardens, Ipswich
	Average	Under	Under	Over	Average	Under	Over	Over	Under	D. T. Fish, Bury St. Edmunds, Suffolk
	Under; bad	Under; good	Average; good	Average; good	Over; good	Under; good	Over; good	Over; good	Under	G. W. Eden, Henham Gardens, Wargford
	Average; good	Over; good	Average	Over; good	Average	Under	Average; good	Over; good	Under	Herbert Co-ter, Ickworth Park Gardens, Bury St Edmunds
	Average; good	Under; good	Average; good	Under; good	Average; good	Bad	Under	Bad	Average; good	John Perkins The Gardens, Thornham Hall, Eye
	Average; very good	Under; good	Average; good	Average; very good	Over; very good	Failure	Over; very good	Average; very good	Over; very good	H. Rogers, Bendlesham Gardens, Woodbridge
Under; good	Under; good	Under; good	Average; good	Average; good	Under; bad	Average; good	Under; bad	Average	John Wallis, The Gardens, Orwell Park, near Ipswich	
4, Midland Counties.										
BEDFORDSHIRE.....	Under; good	Average; good	Under; good	Average; good	Under; good	Under; good	Average; good	Average; good	Average; good	Geo. Ford, Wrest Park, Ampt-hill
	Average; good	Average; good	Average; good	Average; good	.....	.....	Over; good	Over; very good	Average	Thos Hedley, Potteridge Bury Gardens, Luton
	Average	Average	Under	Average; good	Under	Under	Average; good	Average; good	Under	C. Turner, Cranfield Court, Newport Pagnell
	Under	Under	Bad	Good	Under	Under	Good	Good	Average	H. W. Nutt, Fittwick, Ampt-hill
	Average; good	Under; good	Under; good	Under; bad	.....	Under; bad	Average; good	Average; good	.....	C. R. Clarke, Oakley Gardens, Bedford
	Average; good	Under	Under	Average	Average	Under; very scarce	Average; good	Over; very good	Average; good	G. R. Allis, Old Worden Park Gardens, Biggleswade
	Average	Under	Bad	Very good	.....	Bad	Very good	Very good	Good	Richard Calvert, Wolurn Abbey Gardens, Woburn
	Over; good	Under; good	Average	Good	.....	Bad	Over; good	Over; good	Over	G. Bloxham, Great Brickhill Manor Gardens, Blechley
BUCKINGHAMSHIRE ...	Over	Average	Average	Average	Over	Average	Over	Over	Average	Geo. T. Miles, Wycombe Abbey Gardens, High Wycombe
	Under	Average	Average	Good	Under	Under	Good	Good	Average	W. Waters, Bulstrode Park Gardens, Gerrard's Cross
	Over; very good	Average; good	Average; good	Average; good	.....	Under	Over; very good	Over; very good	.....	John Jaques, Waddesdon Manor Gardens, Aylesbury
	Average; good	Average; good	Under; good	.....	.....	.....	Over; very good	Over; very good	Over; very good	Hedley Warren, Aston Clinton Gardens, Tring
	Under	Under; bad	Under; bad	Over; good	Under	Under	Under	Average	Over; good	Jas. Thomas, Shardeloes Gardens, Amersham
	Average	Under	Average	Average	Over; good	Under	Average; good	Average	Over	Chas. Herrip, Dropmore Gardens, Maidenhead
	Over; good	Under	Over; good	Average	Under	Under	Over; good	Over; good	Over; good	J. Smith, Mentmore, Leigh-on Buzzard
	Average	Under	Under	Average	Average	Average	Average; good	Over	Over	Henry Perkins, Greenlands Gardens, Henley-on-Thames
	Very good	Very good	Under	Very good	Very good	Average	Average	Very good	.....	F. Capp, Wexham Park Gardens, Slough
	Over; good	Over; good	Average	Average	.....	.....	Over; good	Average	.....	Robt. MacKellar, The Gardens, Abney Hall, Cheadle
CHESHIRE.....	Over	Over	Over	Over	Over	Under	Over	Over	Over	Wm. Whitaker, Crews Hall Gardens, Crews
	Over; very good	Under; good	Over; good	Average; good	Not grown outside	Under	Over; very good	Over; very good	.....	N. F. Barnes, Eaton Gardens, Chester
	Very good	Average	Good	Very good	Average	Under	Very good	Very good	Good	Charles Slack, Cholmondeley Castle Gardens, Malpas
	Average	Moderate	Under	.....	.....	.....	Over	Over	.....	Rev. C. W. Dod, Edge Hall, Malpas

CONDITION OF THE FRUIT CROPS—(Continued).

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAW-BERRIES.	NUTS.	NAME AND ADDRESS.
4, Midland Counties.										
CHESHIRE.....	Over; good	Average; good	Over; very good	Over; very good	Under; good	Average; very good	Over; good	Over; very good	.....	Wm. G. Sorley, The Rookery, Nantwich
DERBYSHIRE	Over	Over	Over	Average	Not grown outside	Under	Average	Average	Average	Thos. Keetley, The Gardens, Darley Abbey, Derby
	Average	Under; bad	Average	Under; bad	None grown out ide	.....	Over; very good	Average; good	Average	Wm. Elphinstone, Shipley Hall, Derby
	Under; good	Under; good	Under; bad	Average; good	.....	Under; good	Average; good	Over; very good	.....	W. Chester, Chatsworth Gardens, Chesterfield
	Over; good	Over; very good	Average	Over; good	Will not do outside	Will not do outside	Over; good	Average; good	.....	Ben Ashton, Glossop Hall Gardens, High Park
	Over; good	Under	Under; Damsons over	Under	.....	.....	Over; good	Under	Average	E. Wilson, Hardwick Hall Gardens, Chesterfield
HERTFORDSHIRE	Over; very good	Over; very good	Over; good	Over; very good	Average	Under	Over; very good	Average; good	.....	J. Bottrell, The Gardens, Sudbury Hall, Derby
	Average	Very good	Good	Over	Average; good	Under	Over; very good	Over; very large	Average; good	C. E. Martin, The Hoo Gardens, Welwyn
	Average	Average; very good	Average; good	Over; very good	.....	Under	Over; very good	Over; very good	Over; very good	E. Hill, Tryng Park Gardens, Tring
	Over; very good	Under; good	Average; good	Average; very good	Under; bad	Under; good	Over; very good	Over; good	Over; very good	J. Turk, Pinfield Gardens, Berkhamstead
	Over; good	Average	Under	Over; good	Average	Under	Over; very good, except Raspberries	Over; excellent	Over; good	Thomas Nutting, Childwickbury Gardens, St. Albans
	Under	Under	Under	Good	Very good	Bad	Good	Good	Under	Chas. Deane, Cassiobury Gardens, Watford
	Average	Under	Average	Over	Under	Under	Over	Over	Average	Edwin Beckett, Aldenham House Gardens, Elstree
LEICESTERSHIRE	Average; good	Average; good	Under; good	Over; very good	Average; good	Average; good	Average; good	Over; very good	Under	W. H. Lees, Trent Park Gardens, New Barnet
	Over; good	Average; good	Under; good	Over; good	Average; good	Failure	Over; good	Over; good	.....	Alfred Hamshire, Beaumanor Park Gardens, Loughborough
	Average; very good	Under; good	Over; very good	Under; very good	Average; good	Under	Over; very good	Over; very good	Average; good	W. H. Divers, Belvoir Castle Gardens, Grantham
	Over; very good	Under; good	Average; good	Average; good	Under; good	Under; good	Over; very good	Over; good	.....	Dani. Roberts, Prestwold Gardens, Loughborough
	Over; good	Over; good	Average; good	Average; good	Under; good	Under; good	Over; very good	Average; very good	.....	Thos. A. Metcalfe, Rolleston Gardens, Leicester
	Over	Average	Average; good	Average	.....	Under	Over	Average	Average; good	George Mansell, Higham Grange Gardens, Nuneaton
NORTHAMPTONSHIRE..	Average	Under	Average	Average; good	.....	Under; good	Average; good	Over; good	Over	P. McGreadie, Wakefield Lodge, Stony Stratford
	Over	Average	Over	Average	.....	.....	Over	Over	Average	W. S. Miller, Whittlebury Gardens, Towcester
	Average; good	Under; good	Average; good	Under; good	Under; good	Under; bad	Over; very good	Over; very good	Average; good	H. Turner, Fineshade Abbey Gardens, Stamford
	Under	Average	Average on walls	Under	Under	Under	Average; good	Average; good	Average	J. Trigger, Milton Park Gardens, Peterborough
	Average; good	Under; bad	Under	Average	Average	Under; good	Average; good	Over; good	Average	James Harlock, Lilford Hall Gardens, Oundle
	Over	Under	Under	Average	Under	Under	Over	Over	Average	C. Carter, Palace Gardens, Peterborough
NOTTINGHAMSHIRE ..	Very good	Good	Under	Average; good	Average; good	.....	Over	Very good	Average	A. Henderson, Thoresby Gardens, Ollerton
	Average; good	Average; good	Under; good	Average; good	.....	.....	Over; good	Over; good	Under; good	John Horton, Welbeck Gardens, Worksop
	Over; good	Average; very good	Over; very good	Average; good	Average; good	Under; good	Over; good	Over; good	Average; good	Amos Parr, Holme Pierrepont Hall, Nottingham
	Over	Average	Average	Average	Average	Average	Over; very good	Over; very good	.....	John Edmonds, Bestwood Gardens, Arnold
	Over; very good	Average; good	Average; good	Under; fair	.....	Under; bad	Over; very good	Over; good	Under; bad	John Lyon, The Home Farms, Osington, Newark
OXFORDSHIRE.....	Over	Average	Under	Average	Average	Average	Average	Over	Over	George Stanton, Park Place Gardens, Henley-on-Thames
	Over; bad	Average	Over	Average	Under	Under	Over	Over	Average	W. M. Geddes, Shirburn Castle Gardens, Tetworth
	Average	Under	Under	Average	Under	.....	Very good	Very good	.....	A. J. Long, Wyfold Court Gardens, Reading
	Good	Under	Under	Good	Good	Very poor	Very good	Good	Good	Thos. Whillans, Blenheim Gardens, Woodstock
	Over; good	Average; good	Under; good	Average; very good	Average; good	Under; good	Average; good	Over; bad	Average; good	Thomas Aggiss, Tusmore House Gardens, Bicester
RUTLANDSHIRE	Average; very good	Under; good	Over; very good	Average; good	Average; very good	Under; bad	Over; very good	Over; very good	Under; good	Geo. Drabble, Ketton Hall Gardens, Stamford
	Average; good	Over; good	Average; good	Average; good	Under	Under	Average; good	Over; good	Average; very good	Henry Mason, Bisbrook Hall Gardens, Uppingham
	Very bad	Under	Under	.....	.....	.....	Very good	Very good	Under	William Kaines, Cold Overton Hall Gardens, Oakham
SHROPSHIRE	Over	Average	Over	Over	Average	Under	Average	Over	Over	James Louden, The Quinta Gardens, Chirk
	Average; good	Average; small	Over; good	Average; small	Average; good	Under	Over; very good	Average; good; small	Average	A. S. Kemp, Broadway Gardens, Shifnal
	Average	Bad	Average	Bad	Very good	.....	Very good	Very good	.....	Hugh Hamilton, Sharnington Hall and Cloverley Hall Gardens, Market Drayton
	Average; good	Average; good	Over; very good	Average; very good	Average; good	.....	Over; very good	Over; very good	Average	William Weeks, Cheswardine House Gardens, Market Drayton
	Good	Bad	Very good	Very good	Under	Bad	Very good	Good	Good	John Matthews, Burford Gardens, Tenbury
	Average; good	Under	Average	Under; bad	Average	Under	Over; good	Over; very good	Average	W. Sutton, Hawkstone Gardens, Shrewsbury
	Over; very good	Average; very good	Average; good	Average; good	Average; good	Under; good	Over; good	Over; good	.....	S. Backhouse, Onslow Gardens, Shrewsbury
STAFFORDSHIRE	Very good	Under	Under	Average	Bad	Under	Good	Good	.....	Edward Gilman, Ingestre Gardens, Stafford
	Under	Under	Average	Under	Good	.....	Over; good	Over; good	Average	Wm. Halliday, Fatsbull Gardens, Wolverhampton
	Average	Average	Over	Over; very good	.....	.....	Over; very good	Over; very good	.....	James Campbell, Biddulph Grange Gardens, Congleton
	Over; very good	Over; very good	Under; good; Damsons over	Over; very good	Under; good	Under; good	Over; very good	Over; very good	.....	Arthur Coombes, Himley Hall Gardens, Dudley
	Over; very good	Average; very good	Over; very good	Over; very good	Average; good	Average; good	Over; very good	Over; very good	Average; good	Henry G. Wilks, Sandon Hall Gardens, Stone
	Average; good	Under	Average; good	Average; good	.....	Under	Average; good	Average; good	Under	W. Beonett, Rangemore Gardens, Burton-on-Trent
	Over; good	Average; good	Average; good	Average; good	.....	Under	Over; good	Over; good	.....	John Wallis, Keele Gardens, Newcastle-under-Lyme
WARWICKSHIRE	Over; good	Average; good	Over; good	Under; good	Over; very good	Under; good	Over; good	Over; very good	Over	James Rodger, Charlecote Park Gardens, Warwick
	Under; good	Under	Under	Average	.....	.....	Over; good	Plentiful; good	Thin	W. Miller, Combe Abbey Gardens, Coventry
	Over; very good	Over; very good	Average; good	Average; good	.....	Average	Over; very good	Over; very good	Average	W. Ward, Aston Hall Gardens, Sutton Coldfield

CONDITION OF THE FRUIT CROPS—(Continued).

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAW-BERRIES.	NUTS.	NAME AND ADDRESS.
4. Midland Counties.										
WARWICKSHIRE	Very good	Under	Under	Very good	Average	Under	Very good	Very good	Good	Thomas Beddard, Stoneleigh Abbey Gardens, Kenilworth
	Over; very good	Average; good	Average; very good	Over; very good	Over; very good	Under; good	Over; very good	Over; very good	.....	Jno. Masteron, Weston House Gardens, Shipston-on-Stour
	Over; very good	Average; very good	Over; very good	Over; very good	Average; good	Under; good	Over; very good	Average; very good	Average; good	A. B. Christie, Bagley Gardens, Alcester
5. Southern Counties.										
BERKSHIRE	Over; very good	Under; good	Average; good	Over; very good	Average; good	Under; good	Over; very good	Average; good	Over; very good	Owen Thomas, Royal Gardens, Windsor
	Average	Under	Under	Average	Average	Average	Average	Average	Over; Walnuts much over	Robert Feen, Sulhamstead Abbots, near Reading
	Average	Under	Under	Average; very good	Average	.....	Average; very good	Over; very good	Average	James Strachan, Rosehill House Gardens, Henley-on-Thames
	Under; good	Average; good	Under	Over	Average; good	Under	Over	Average	Average	J. Howard, Benham Park Gardens, Newbury
	Average	Under; bad	Under	Over; good	Average	Under	Over; good	Over	Average; Walnuts over	C. Turton, Maiden Erlegh Gardens, Reading
	Average; good	Under	Under	Average	Under	Under	Average; good	Average; good	Under	William Fyfe, Lockinge Gardens
	Over; good	Average; good	Average; good	Average; good	Under; good	Under	Over; very good	Over; good	Average	W. Pope, Highclere Castle Gardens, Newbury
	Under; good	Under; good	Average	Average	Over; good	Under	Over; good	Average	Average	Fred. J. Thorne, Sunningdale Park Gardens, Sunningdale.
DORSETSHIRE	Average; good	Under	Under	Average; good	Over	Average; good	Under	Over; very good	Over; very good	James Beck, Criche! Gardens, Wimborne
	Average; very good	Average; very good	Under; good	Over; good	.....	Over; very good	Over; very good	Over; very good	Average	Thos. Denny, Down House Gardens, Blendford
	Over; bad	Average; bad	Average; good	Average; good	Average; bad	Average; bad	Over; good	Over; good	Average	P. Davidson, Iwerne Minster Gardens, Blandford
	Average; very good	Average; very good	Under; good	.....	Under; good	Average; very good	Average; very good	Over; good	.....	Joseph Benbow, Abbotsbury Castle Gardens, Dorchester
HAMPSHIRE	Average; good	Average; good	Over; very good	Over; very good	Over; good	.....	Over; good	Over; very good	Over	Edwin Molyneux, Swanmore Park Gardens, Bishop's Waltham.
	Average	Under; bad	Over; good	Average; good	Over; very good	Under; good	Over; good	Over; good	Under	A. Maxim, Heckfield Place Gardens, Winefield
	Over; very good	Under; good	Under; bad	Average	Over; good	Under; bad	Average; good	Over; good	Average	J. Boverman, Hackwood Park Gardens, Basingstoke
	Average; good	Under	Over; good	Under	Over; good	Average; good	Under; good	Under; bad	Over	W. Smythe, Basing Park Gardens, Alton
	Average; good	Average; good	Average; very good	Under	Under; bad	Under	Over; very good	Over; very good	Average	H. Ireland, Wentworth Lodge Gardens, Bournemouth
	Over; good	Under; good	Over; very good	Over; good	Average; very good	Under; good	Over; very good	Over; very good	Average; good	J. W. McHattie, Strathfield-saye Gardens, Mortimer
	Average; good	Under	Under	Over; good	.....	.....	Over; very good	Over; very good	Over	N. M., Rookesbury Park Gardens, Fareham
	Over	Average	Average	Under	Over	Average	Over	Over	Under	Arthur Lee, Palace House Gardens, Beaulieu
	Average; good	Under; bad	Under	Good	Under	Under	Average	Over	Very good	Edward Gandy, Stratton Park, Micheldever
KENT	Very good	Average	Average	Bad	Very good	Very good	Bad	Very good	Very good	Gen. Knobbs, Royal Gardens, Osborne, I.O.W.
	Over; very good	Under; good	Under; good	Average; good	Average; very good	Average	Over; very good	Average; good	Over; very good	Wm. Craik, Hotfield Place Gardens, Ashford
	Over	Under	Under	Average; good	.....	.....	Average	Under	.....	V. Court, Lynsted, Sittingbourne
	Average; good	Under	Under	Over; very good	Average; good	Under	Average; good	Over; good	Average; good	H. Marcham, Mereworth Castle Gardens, Maidstone
	Average; good	Under	Under	Average; good	Average; good	.....	Average; good	Average; good	Average; good	Geo. Woodward, Barham Court Gardens, Maidstone
	Good; over	Average; good	Average; good	Over; very good	Under; good	Under; good	Over; very good	Over; very good	Average; good	Henry Elliott, Wilderness Gardens, Sevenoaks
	Average; good	Under; good	Under; good	Over; very good	.....	.....	Average; good	Average; good	.....	Wakeley Brothers, Rainham
	Over	Under	Under	Over	None grown on walls	Not grown on walls	Under	Average; but small	Average to over	George Bonyard, Old Nurseries, Maidstone
	Over; good	Under; bad	Under; good	Over; good	Under	.....	Average; good	Under; bad	Under; good	Fred. Smith, Lodington, Maidstone
	Over; good	Under; good	Under	Average; good	.....	.....	Over; good	Over; good	Average	Champion Bros., Mereworth, Maidstone
	Under; good	Under; good	Average; bad	Average; good	Average; good	.....	Over; good, except Raspberries and Strawberries	Average; good	Average	Geo. Abbey, Avery Hill, Eltham
	Average	Under	Average	Average; good	Under	Under	Average; very good	Average; very good	Average; good	F. Stubbs, Knowle Gardens, Sevenoaks.
	Over; very good	Average; good	Under; good	Average; good	Under	Under	Over; very good	Over; very good	Over; good	G. Hunt, Lullingstone Castle Gardens, Eynsford
	Over; good	Average	Under	Over; very good	Average	Under	Very good	Over; very good	Average	A. Wilson, Eridge Castle Gardens
	Over	Average	Under	Average; good	Over	Under	Over; good	Average; bad	.....	C. Moore, Eendon Gardens, Bexley
MIDDLESEX	Over; very good	Average; very good	Average; bad	Average; good	Average; good	Average; good	Over; very good	Over; very good	.....	A. J. Ballhatchet, Fulham Palace Gardens, Fulham
	Average; good	Average; good	Average	Over; good	Over; very good	Under; good	Over; good	Over; good	Over	George Wythes, Syon House Gardens, Brentford
	Average; over	Average; under	Average; good	Average; good	Average	Average	Average	Average	Average; good	W. Bates, Cross Deep Gardens, Twickenham
	Good	Average	Under	Average	Good	Average	Good	Good	Good	V. Watson, Harefield Place Gardens, Uxbridge
	Over; very good	Average; very good	Under; good	Under, except Morellos; good	Under	Over; good	Over; very good, except Raspberries	Average	Over; very good	G. Ringham, Wrotham Park Gardens, Barnet
	Over	Average	Over	.....	Under	Under	Average	Average	.....	A. F. B., Royal Horticultural Society's Gardens, Chiswick
	Average; good	Average; good	Under	Average; very good	Average; good	.....	Average; good	Under; good	.....	George Reynolds, Gunnersbury Park Gardens, Acton
	Average	Fair	Average	Good	Good	Under	Over	Good	Good	William Farr, Spring Grove House Gardens, Isleworth
	Over; good	Under	Average	Average	Average	Under; bad	Over	Over; bad	Average	R. H. Cronk, Cranford House Gardens, Cranford, Hounslow
	Under	Under	Under	Under	Average	Average	Average; good	Average; good	Under	W. Rapley, Harrow Weald House Gardens, Harrow Weald
SURREY.....	Over; very good	Average; good	Under	Average	Average; good	Under	Average; good	Average; very good	Average; good	John W. Odell, The Grove Gardens, Stanmore, N.W.
	Over; very good	Average; good	Average	Over; very good	Average	.....	Over; very good	Over; good	Average; Walnuts over	Alex. Dean, Kingston-on-Thames

CONDITION OF THE FRUIT CROPS—(Continued).

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAW-BERRIES.	NUTS.	NAME AND ADDRESS.
5. Southern Counties.										
SURREY	Over; good	Bad	Over; very good	Over; very good	Average	Average	Over; good	Average	Over; good	Parrott Bros., Normandy, Guildford
	Average	Under	Average; good	Over	Over	Under	Over	Average; good	.....	E. Burrell, Claremont Gardens, Esher
	Under	Under	Under	Over; good	Over	Under	Over	Over	Over	A. Evans, Lythe Hill Gardens, Haslemere
	Over; very good	Under; good	Average; good	Average; good	Over; good	Average; good	Over; good	Over; good	Over; very good	G. W. Cummins, The Grange Gardens, Wallington
	Under	Over; good	Over	Average	Under	Under	Over	Under	Under	G. B. Backett, Eashing Park Gardens, Godalming
	Over; very good	Average	Average	Over; very good	.....	.....	Over; very good	Over; very good	.....	J. F. McLeod, Dover House Gardens, Roehampton
	Average	Under	Under	Average	Average	Under	Over; good	Over; good	.....	Thos Osman, Ottershaw Park Gardens, Chertsey
	Average; good	Under; bad	Under	Under	Under	Under	Average; good	Under	Average	C. Papworth, Biddings Court Garden, Caterham
	Over	Under	Under	Average; Morellos good	Average	.....	Average; good	Average; good	Average	C. J. Salter, Woodhatch Lodge Gardens, Beigate
	Average; good	Under	Under	Not grown here	.....	Not grown	Average; good	Over; very good	Average	William Bain, Burford Gardens, Dorking
	Over; good	Over; good	Under; good	Average; good	Average	Average	Average; very good	Average; very good	Over; very good	G. H. Sage, Ham House Gardens, Richmond, S.W.
	Average	Under	Bad	Over	Very good	Bad	Very good	Very good	Good	J. Miller, Ruxley Lodge Gardens, Esher
SUSSEX	Over	Average	Over	Average	Over	Under	Over	Average	Over	Fredk. Geeson, Cowdray Park Gardens, Midhurst
	Average	Under	Under	Average	Average	.....	Average	Under	Average	A. Reid, Jun., Possingworth Gardens, Cross-in-Hand, Hawkhurst
	Over; small	Under; small	Average	Over; good	Average; small	Over	Over	Average; very good	Average; very good	H. C. Prinsep, Buxted Park Gardens, Uckfield
	Over; good	Average; very good	Under; bad	Over; good	Over; very good	.....	Over; good	Over; very good	Under	Albert Offer, Handcross Park Gardens, near Crawley
	Average; good	Under; good	Under; good	Average; very good	Average; good	Average; good	Average; good	Average; good	Over; Walnuts over	E. Burberry, Castle Gardens, Arundel
	Average; good	Under	Under	Average	Under; good	Under	Over; very good	Average; good	Under	Robert Aitken, Beanlien, St. Leonards-on-Sea
	Over; very good	Under; good	Over; good	Over; good	Over; very good	Under; good	Average; good	Average; good	Over	W. H. Smith, West Dean Park Gardens, Chichester
	Average	Under	Under	Average	Very good	.....	Over	Much over	Under	Thos. Glen, Worth Park Gardens, Crawley
	Average; good	Under; good	Average; good	Average; good	Average	.....	Over; very good	Over; very good	Average; good	Chas. Jones, Ote Hall Gardens, Borgess Hill
WILTSHIRE	Over; very good	Under; good	Under; good	Average; very good	Over; very good	Over; very good	Average; good	Average; good	Over; good	H. W. Ward, Longford Castle Gardens, Salisbury
	Under	Under	Under	Average	Average	Under	Over	Over	Average	Thomas King, Castle Gardens, Devizes
	Over; good	Under	Average; good	Average; good	Average; good	.....	Average; good	Average; good	Average	J. Trollpe, Longleat Gardens, Warminster
	Over; good	Under	Average	Over; very good	Over; very good	Over; very good	Over; very good	Over; good	Average	T. Challis, Wilton House Gardens, Salisbury
	Average	Average	Very good	Good	Very good	Under	Very good	Very good	Under	Alfred Rusbent, Savernake Gardens, Marlborough
	Average; good	Average; good	Over	Over; very good	Average; good	Average; good	Over; good	Average; good	.....	Thomas Nelson, Bowood Gardens, Calne
	Average; good	Under	Average	Over; good	Average; good	Average	Over	Average; good	Over; very good	G. Fulford, Trafalgar Gardens, Salisbury
7. England, N.W.										
LANCASHIRE	Good	Average	Over; good	Over	Over	.....	Over; good	Very good	Average	J. Hathaway, Latham House Gardens, Ormskirk
	Average; good	Average; good	Over; good	Over; good	Average; good	.....	Average; good	Over; good	.....	W. P. Roberts, Cuedon Hall Gardens, Preston
	Over; good	Over; good	Average	Average; good	.....	.....	Over; good	Average; good	.....	W. B. Upjohn, Worsley Hall Gardens, Manchester
	Average; good	Over; very good	Under	Over; very good	.....	.....	Over; very good	Average; good	.....	J. Adshead, Trafford Park Gardens, Manchester
	Over	Average	Average	Plentiful	Not grown outside	.....	Abundant	Poor	.....	B. Barham, Croxteth Park Gardens, Liverpool
	Over; very good	Average; good	Average; very good	Over; good	Average; fair	.....	Over; very good	Average; good	.....	T. Hargreaves, Ashton Hall Gardens, Lancaster
	Over; very good	Average; good	Over; good	Average; very good	Average; good	Average	Average; very good	Over; good	.....	Robt. Doe, Knowsley Hall Gardens, Prescott
WESTMORELAND	Average; good	Average; good	Average; good	Average	.....	.....	Over; very good	Over; very good	.....	W. A. Miller, Underley Gardens, Kirkby Lonsdale
8. England, S.W.										
CORNWALL	Average	Good	Bad	Good	Good	Poor	Average	Average	Average	W. H. Bennett, Menabilly Gardens, Par
	Under	Average	Average	Morellos over	Over	.....	Over	Average	.....	A. Mitchell, Tehidy Park Gardens, Camborne
	Average; good	Under; good	Under; good	Average; very good	Average; good	Will not grow in this part of Cornwall	Average; very good	Over; very good	Average; good	Alfred Read, Fort Eliot Gardens, St. Germans
	Under; very good	Average; good	Under; good	Over; very good	Average; good	.....	Over; very good	Over; very good	Under	Charles Page, Boconnoc Gardens, Lostwithiel
	Under	Average	Under	Good	Very good	.....	Over	Good	.....	Wm. Sangwin, Trellisick Gardens, Truro
DEVONSHIRE	Over; good	Over; good	Average; good	Over; but small in size	Over; promises well	Average; good	Over; good	Over; very good	Much over	James Eastone, 38, Temple Road, Exeter
	Over; good	Average; good	Over; good	Average; good	Over; good	.....	Over; good	Over; good	Average; good	A. Eames, Heanton Satchville Gardens, Beaford
GLOUCESTERSHIRE	Over; good	Under	Under	Over; good	Average	Under	Over	Average	Over	John Sowray, Highnam Court Gardens, Gloucester
	Average; very good	Under	Average	Over	Average; good	Under	Over; very good	Average; small	Average	William Keen, Bowden Hall Gardens, Gloucester
	Over; very good	Over; very good	Over; very good	Over; very good	Good	Under	Over; very good	Over; very good	Under	Thomas Arnold, Cirencester House Gardens, Cirencester
	Over; good	Average	Average	Over; good	Average	Under	Average; good	Over; good	Average	William Nash, Badminton Gardens, Chippingham
	Over; good	Average; good	Over; good	Average; good	Over; good	.....	Average; very good	Over; good	Average; good	Jas. Clare, Toddington Gardens, Winchcombe
	Average; good	Under; good	Average; good	Over; very good	Average; good	Under	Over; very good	Over; very good	Average	Thos. Shingles, Fortworth Gardens, Fairfield
	Very good	Average	Under	Very good	Very good	Under	Very good	Under	Under	William Greenaway, Dodington Park Gardens, Chipping Sodbury
	Over; very good	Over; very good	Over; very good	Average; good	Over; very good	Under; good	Average; good	Over; good	Under	Alexander Scott, Sherborne House Gardens, Northleach
HEREFORDSHIRE	Over	Under	Average	Over	Under	Under	Over	Over	Average	John Watkins, Pomona Farm, Withington, Hereford

CONDITION OF THE FRUIT CROPS—(Continued).

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAW-BERRIES.	NUTS.	NAME AND ADDRESS.
8, England, S.W.										
HEREFORDSHIRE	Average; good	Under; good	Over; good	Over; good	Average	Average; bad	Over; good	Over; good	Over	Thos. Spencer, Goodrich Court Gardens, Ross
	Over; very good	Average; very good	Average; very good	Average; good	Average; very good	Average; good	Over; very good	Average; good	Average; good	Frank Harris, Eastnor Castle Gardens, Ledbury
	Average; good	Under; good	Under; good	Over; good	Average; good	Under; good	Abundant; good	Over; good	Average; good	A. Ward, Stoke Bath Gardens, Hereford
	Average	Average	Average	Over; good	Average	Average	Over; very good	Over; very good	Over	George Milne, Titley Court Gardens, Titley
MONMOUTHSHIRE	Average; good	Average; good	Average; good	Average; good	.....	Under; good	Over; very good	Over; very good	Over	Thomas Coomber, The Hendre Gardens, Monmouth
	Average	Average	Average	Average	Average	Under	Good	Over; very good	Over; good	John Lockyer, Pontypool Park Gardens, Pontypool
	Under	Under	Good	Under	None out-of-doors	Under	Very good	Very good	Very good	John Rees, Llanover Gardens, Abergaveony
SOMERSETSHIRE	Over; good	Average	Average	Average	Average	Average	Over; very good	Over; very good	Over; good	William Hallitt, Cosington House Farm, Bridgewater
	Over; good	Average; good	Under; good	Average; good	Average; very good	Average; good	Over; good	Over; very good	Average; good	A. Young, Marston House, Frome
	Over; good	Average; good	Average; good	Over; good	.....	Over; very good	Over; good	Over; very good	Over; very good	John Crook, Forde Abbey Gardens, Chud
WORCESTERSHIRE	Over; very good	Average; good	Over; very good	Over; very good	Over; very good	Under; good	Over; very good	Over; very good	Over; very good	A. Young, Alberley Hall Gardens, Stourport
	Over; very good	Under; very good	Average; good	Over; very good	Over; very good	Under; good	Over; very good	Over; very good	Over; very good	John Austen, Witley Court Gardens, Stourport
	Over; good	Average; good	Under; good	Over; good	Average; good	Average; good	Over; very good	Over; very good	Over; very good	Frederick Hughes, Overbury Court Gardens, Tewkesbury
	Over; very good	Under; good	Over; very good	Over; very good	Over; very good	Under; good	Average; good	Over; good	Over; good	William Crump, Madrefield Court Gardens, Malvern
	Over; very good	Under; good	Average; good	Over; good	Over; good	Average; good	Over; very good	Over; very good	Average; good	John Justice, The Nash Gardens, Kempsey
WALES.										
ANGLESEY.....	Average; very good	Average; good	Average; good	Average; very good	.....	.....	Over; very good	Over; very good	.....	K. Wright, Pasnewydd Gardens, Llanfair
	Over; very good	Average; very good	Under; good	Average; good	Average; very good	.....	Average; good	Average; very good	.....	W. Everett, Penrhos Gardens, Holyhead
BRECONSHIRE.....	Average	Under	Good	Good	Good	Average	Very good	Average	.....	Thos. Clark, Clyso Court Gardens, Hay
	Over; good	Under; good	Over; very good	Average; good	Average; good	Over; good	Over; good	Over; good	.....	John Ballard, Glanusk Park Gardens, Cnekkhowell
	Average; good	Over; very good	Average; good	Over; very good	Average; very good	.....	Average; very good	Average; good	Over; very good	J. Hilbert, Craig yn nos Castle Gardens, Swansea
CARDIGANSHIRE	Over; good	Average	Average	Over; good	Average	Under	Over; very good	Average; good	Average; good	C. Williams, Crosswood Park Gardens, Abryswyth
CARMARTHEN.....	Average	Under; bad	Under; bad	Average	Average	.....	Average; good	Over; good	Average	Lewis Bowen, Eltwinsford Gardens, Llandilo
CARNARVONSHIRE	Average	Under	Under	Average	.....	.....	Over; good	Over; good	.....	John Calder, Vaynol Park Gardens, Bangor
	Under	Under	Under	Over; very good	.....	.....	Over; very good	Over; very good	Under	Thomas Evans, Gwyder Castle, Llanrwst
DENBIGHSHIRE	Average; very good	Average; good	Under; good	Average; good	Average; good	Under; good	Over; very good	Over; very good	Average; good	P. Middleton, Wynnstay Gardens, Ruabon
	Over; very good	Under	Average	Over; good	Average	Average	Over; very good	Average; good	Under; bad	V. Wair, Acton Park Gardens, Wrexham
FLINTSHIRE.....	Average	Average	Good	Very good	Under	Bad	Very good	Very good	Good	John Pugh, Hawarden Castle Gardens, Chester
	Over	Average	Over	Over	Average	Average	Over	Over	Average	J. Bernard, Mottyn Ball Gardens, Mostyn
GLAMORGANSHIRE	Over; good	Over; good	Average	Average	.....	.....	Average	Average; good	.....	A. Pettigrew, Castle Gardens, Cardiff
	Over; very good	Average; good	Average; good	Over; very good	Average; very good	Average; good	Over; very good	Over; very good	Average	L. Milner, Penrice Castle Gardens, Swansea
	Below	Below	Below	Below	Over	.....	Average; good	Average; good	.....	M. Mur, Margam Abbey Gardens, Talbach
MERIONETHSHIRE	Over; good	Average; good	Over; very good	Over; good	.....	.....	Over; very good	Over; good	Average	James B. Meett, Rhaiadr Gardens, Corwen
MONTGOMERYSHIRE	Over; good	Average; good	Average; good	.....	.....	.....	Over; very good	Over; very good	.....	F. H., Garden House, Gregynog
	Over; good	Average; good	Over; good	Over; good	Average; good	Under	Over; good	Over; good	Over; good	John Lambert, Powis Castle Gardens, Welshpool
PEMBROKESHIRE	Over; good	Under	Over	Over	Average	.....	Average; good	Over; good	Under	Geo. Griffin, Slebeck Park Gardens, Haverfordwest
	Average; good	Under; good	Under	Under	Average; good	.....	Average; good	Over; very good	.....	W. B. Fisher, Stackpole Court Gardens, Pembroke
IRELAND—										
9, Ireland, N.										
ANTRIM	Under; bad	Average; very good	Average; very good	.....	.....	.....	Average; very good	Over; good	.....	Geo. Porteous, Garron Tower Gardens, Belfast
ARMAGH.....	Under; good	Under; good	Under; good	.....	Average; good	.....	Average; very good	Average; very good	.....	Charles Crombe, The Palece Gardens, Armagh
CAVAN.....	Under; good	Average; good	Under; very good	Average; very good	Not grown out-of-doors	Not grown out-of-doors	Average; very good	Over; good	.....	Edward Reilly, Castle Sander son, Belturbet, co. Cavan
DOWN	Under	Under	Average	Over	.....	Under	Over	Over	.....	Jas Taylor, Mountstewart Gardens, Newtownards
DUBLIN	Over; good	Average; good	Average; good	Over; good	Over; good	Average; good	Over; good	Over; very good	Average; good	James Patterson, Malabide Castle Gardens, Malabide
	Under	Under	Under	Over	Average; good	Average; good	Over; good	Average; good	.....	G. Smith, Vice-Regal Gardens, Dublin
GALWAY.....	Over; very good	Over; very good	Average; very good	Average; good	.....	.....	Over; very good	Over; very good	.....	John Cobbin, Garbally Gardens, Pallinascree
KERRY.....	Over; good	Average; good	Average; good	Over; very good	Over; good	Average; good	Over; very good	Over; very good	.....	John H. Kemp, Dromore Gardens, Kenmore
	Over	Under	Average	Average	.....	.....	Average; very good	Over; very good	Average	Geo. M. Brezze, Kenmore Gardens, Killarney
LONGFORD	Average	Average	Average	Average	Average	.....	Average	Over	Average	J. R. fferty, Castle Forbes Gardens, Newtown Forbes
MEATH	Average; good	Under; good	Average; good	Average; good	Under; bad	Under	Over; good	Average; good	Average	Jas. Hounslow, Headfort Gardens, Kells
WESTMEATH	Over	Under	Average	Over	.....	.....	Very good	Very good	Under	H. Clarke, Pakenham Hall Gardens, Castle Pollard
WICKLOW	Under; good	Under	Under	Under	Under	.....	Good	Average	Average	J. Igoe, Garden Vale, Athlone
	Average; good	Average	Over	Average	Under	Under	Over; good	Average; good	.....	Levi Childs, Killruddery Gardens, Bray
10, Ireland, S.										
CLARE	Average	Average	Average	Over; very good	Average	.....	Average; very good	Over; very good	Under	John H. Carter, Dromoland Castle Gardens, Newmarket-on-Fergus

CONDITION OF THE FRUIT CROPS—(Continued).

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAW-BERRIES.	NUTS.	NAME AND ADDRESS.
10, Ireland, S.										
CORK	Over	Over	Over	Average	Under	Under	Over; very good	Over; very good	Average	R. Wilson, Mitchelstown Castle Gardens
KILDARE	Under	Under	Under	Under; good	Under	Under	Over; good	Over; very good	Walnuts under	John Wyke, Bishop's Court Gardens, Straffan
	Average; good	Over; very good	Average; good	Over; good	Average; good	Under; good	Over; very good	Over; very good	.....	Frederick Bedford, Straffan House Gardens, Straffan Station
KILKENNY.....	Over; good	Under; good	Failure	Average; good	.....	Average; good	Average; very good	Under; bad	Average; good	H. Carlton, Kilkenny Castle Gardens, Kilkenny
KING'S COUNTY.....	Average; good	Under; bad	Average; good	Over; good	Average; good	.....	Average; good	Over; very good	Average; good	J. T. Hart, Birr Castle Gardens, Parsonstown
WATERFORD	Over very good	Average	Average	Under; very good	Over; very good	Under	Over; very good	Over; very good	.....	Thos. Singleton, Curraghmore Gardens, Porteau
CHANNEL ISLANDS.										
JERSEY	Over; good	Average; good	Under; good	Average; very good	Under; good	Under; good	Over; very good	Average; very good	.....	Correspondent
	Over; very good	Under; very good	Under; good	Average; very good	Average; very good	Average; good	Currants over, very good; Gooseberries under, good	Average; very good	.....	X., St. Lawrence, Jersey

ORCHID NOTES AND GLEANINGS.

ODONTOGLOSSUMS FROM THE HIGHLANDS.

Flowers of *Odontoglossum crispum*, to the number of fifty, and cut from different plants, have been sent by R. Brooman-White, Esq., Arddarroch, Gairloch-head, Dumbartonshire, which afford an idea of the excellence of the strain which has been imported by him. While all are of good form, no two are exactly alike, some being pure white with a little red and yellow colouring at the base of the lip and the tip of the column. Some few have a decided sulphur-yellow hue, while others are almost entirely of a pale lilac colour. In all the varying shades of ground colour, spotting of either brown or purple appears, and in two of the flowers the inner halves of the segments are thickly sprinkled with very small red-purple dots. The variation in the different flowers is remarkable, and when they are ranged side by side it appears still more evident than would be the case if the plants were viewed as arranged in the Orchid-house. Mr. White says of them:—"We have had over 1500 spikes on our *O. crispum* this year, and not a single bad one among them, as I think you will agree when you see the blooms I send, which are a fair sample. From some cause, however, I do not think them quite up to the standard of last year, and several other growers have made the same remark about their *Odontoglossum*. Possibly the protracted hard winter may account for it. We grow our plants on open woodwork stages close up to the glass of the roof, and nothing could be more satisfactory."

A very remarkable *Cattleya Mendeli* with rose-purple petals almost as dark as the lip is also sent. If constant, it will be a distinct variety.

CYTROPIDIUM ANDERSONI, R. Br.

This Orchid is a native of Trinidad, and grows in open spaces fully exposed to the sun. The fusiform stems are some 2 to 3 feet in height, from which the plaited leaves die away after becoming mature. The plant flowers in April and May, from the base of the growing stem, and produces a scape some 3 feet in height, bearing a panicle of brownish yellow flowers. The centre of the basal lobe of the lip is quite yellow, with a crenulated and brownish margin. It is best grown in well-drained pots filled with vegetable refuse, dried cow-dung, and broken bricks, and requires plenty of water in the growing season. *Bulletin, Trinidad Botanic Garden.*

THE WEEK'S WORK.

FRUITS UNDER GLASS.

By RICHARD PARKER, Gardener, Goodwood, Chichester.

THE PINERY.—If arrangements have been made, as recently advised, as to bottom-heat, &c., for starting a fresh stock of plants, the suckers may be potted forthwith, so that they may become established in the pots before the end of the autumn. The suckers should be twisted off the old stool, and a few of the lower leaves stripped off, so as to expose

about 1 inch of the stem. A suitable size of pot is one of 6 inches in diameter. This size will be large enough for most suckers, though very strong ones may require rather larger pots. Dirty pots should never be used, and the drainage should be good. Place the suckers low down in the pots, and make the soil very firm about them. The loam used should contain a fair amount of sharp-sand or grit, its presence favouring the formation of roots. Plunge the pots up to the rim in a bed of Oak-leaves or tan, having a bottom-heat of from 85° to 90°, and if the plunging material be moistened by syringing its surface once or twice a day, and the air is also kept moist, the suckers will require but little water before they have made roots. A slight dewing of the leaves on bright afternoons will assist the suckers in forming roots. The house should be shaded in the middle hours of the day in sunny weather, but, as a rule, shading should not be much afforded. The suckers will not need to be much ventilated; still, a certain amount will be required by them on very hot days. The temperature at night may be kept at about 70°. Plants of the Queen variety intended for fruiting in June, 1896, should now be in full growth, and will require to be regularly afforded tepid water, and once a week a mild manurial aid to growth. The plants should not be much shaded, and what shading is used should be of very thin material; moreover, a fair amount of air should be admitted, so as to ensure a sturdy plant. Those plants on which fruits are swelling, but which have not begun to ripen, may have manure-water occasionally, and a brisk temperature with a moist air afforded them.

STRAWBERRIES.—The recent rains have greatly assisted rooting of the runners, and when it is seen that a sufficient number are well rooted, no time should be lost in placing them in the pots in which they are to bear fruit. The soil used should be a rich turfy loam, enriched by a one-third addition of decayed stable manure; and the pots should be clean ones, with a fair amount of drainage material carefully laid-in and covered with a handful of the fibry lumps of the loam. The potting should be done firmly, using a rammer, so as to get as much soil into the pots as possible, but leaving sufficient space for water. Place them in a partially shady place for a week, then remove them to one fully exposed to sunshine. They may stand close together for a time, affording them more and more space as the crown of leaves grows.

TOMATOS.—The batch of Tomato plants for affording winter fruit should be forthwith placed in their fruiting-pots, and stood in a sunny position. If a diseased Melon-house can be devoted to them, they may be planted out in the old beds, abundant ventilation being afforded.

THE FLOWER GARDEN.

By BAILEY WADDS, Gardener, Birdsall Gardens, York.

RANUNCULUS ASIATICUS.—For making a late display in the spring garden, the *Ranunculus* is a useful plant, the flowers lasting a long time in good condition. Many of them are fragrant, and all are useful for cutting. The plants require a rich soil, and to

be planted in sheltered situations. The double-flowered French Turban varieties have large flowers of bright colours, and they are good growers. Nica varieties are *Brutus*, *Empereur de Maroc*, *Florian*, *Grand Mastr*, *La Grandessa*, *L. Saltana*, *L'Etincelante*, *Lord Macanlay*, *Mont Blanc*, *Prince of Wales*, *Princess of Wales*, *Queen Victoria*, *Robert Bruce*, *William III.*, *Yellow Gem*, *Yellow Queen*. There are also the *Double Persian*, *Double Scotch*, *Double Turban* or *Turkish* varieties in fine colours.

BRODIÆAS.—These beautiful free-flowering bulbs deserve a place in every garden of spring flowers, being very hardy. The *Brodias* are useful for planting in clumps or beds, and for cutting. Suitable species are *congesta*, *coccinea*, and *vulbilis*.

LILY BULBS for planting in beds or borders should now be ordered from the florists, autumn-planting being the best for species of *Lilium* which are hardy. *Crocium aurantiacum*, the common orange Lily; *L. davuricum*, *d. erectum*, *d. fulgidum*, *d. grandiflorum* and *multiflorum*, *d. incomparabile*, *L. Thunbergianum atrosanguineum*, *L. pictum*, *L. Prince of Orange grandiflorum*, *L. Van Houttei*, *L. candidum*, *L. longiflorum* and the variety *Harrisii*; *L. neilgherrense*, *L. eximium*, *L. Martagon* or *Turk's-cap* Lilies, in several beautiful varieties, orange-yellow and scarlet-coloured; *Lilium tigrinum* and its var. *L. Fortunei*; and *L. aratum*, which is very satisfactory when planted in good rich, well-drained soil in a sheltered situation.

IRIS.—The brilliant varieties of English, Spanish, and Persian Iris, are excellent for planting in borders; also *Iris reticulata* and *rubro-cornuta*, whose flowers are fragrant, deserve a prominent place in the bulb garden. Then there are the German, Japanese, Siberian, and other beautiful varieties, which are deserving of cultivation.

TIGRIDIAS should be grown as "dot" plants by themselves among other plants, or in clumps or beds.

THE HERBACEOUS BORDER.—The rain and warmth now prevailing in this district (4 inches of rain since July 16) are causing rapid growth in all kinds of plants, and where tall annual species are planted for the sake of an autumnal display, much care will be required to preserve the herbaceous perennials from injury by over-crowding. Attention should be frequently given to weeding the land, and securing all tall-growing plants to stakes, &c. In some cases the fastenings made during the drought will require easing. Hollyhocks should have special care in this respect, the stems being apt to get injured by tight ligatures. Phloxes of the tall-growing species, perennial Asters, &c., should be made secure, and freed from dead leaves and flowers.

SHOW VARIETIES OF THE DAHLIA.—The plants will now be making strong growths, and regular and constant attention in the matter of staking and fastening will be necessary. If flowers are being grown for exhibition more than one stake will be required to a plant, in fact, it is prudent to put a stake to each main shoot, one flower only being allowed to each shoot, the side shoots and buds being reduced in number, those flower-buds that are of

perfect form being retained. For shading the flowers bags of light-coloured muslin are the best. The Dahlia beds should be heavily mulched with short litter, and manure-water afforded once a week. Dwarf, single, and double-flowered Dahlias, planted in masses, may be left to grow unrestrained; provided the beds are covered by them. Traps must be set forthwith for earwig, collecting the insects daily.

ROSES.—Plants which were cut down to the ground in the spring have, in many instances, made very strong growth, and it will be prudent in exposed gardens to fix them to short stakes, with tarred twine or willows. Most of our dwarf Roses that were hard pruned, made fine shoots, which flowered well. Keep the Rose-beds tidy by removing spent flowers, cut away thin flowerless growths, and shorten back those shoots of H.P.'s which have carried bloom, thus assisting the later blooming of the plants. Teas of strong growth and Roses on walls, hedges, or pillars should be trained so as to keep the shoots from injury by the wind, but should not be tied too stiffly, a certain degree of freedom being favourable to growth. Proceed with the budding of Roses, and look to the fastenings of buds put in some time ago.

THE ORCHID HOUSES.

By W. H. WHITE, *Orchid Grower, Burford, Dorset.*

CYPRIPEDIUMS.—Of late years no *Cypripediums* have received more attention from our hybridists than the species *C. niveum*, *C. concolor*, *C. Godefroyæ*, and *C. bellatulum*, and so far as my recollection goes of the crosses already obtained, the characteristics of this section invariably predominate in each hybrid. Of the numerous crosses raised I may mention *C. Ayllogii*, Muriel Hollington, Gertrude Hollington, Tautzianum, Lawrebel, Concolours, The Pard, Aphrodite, and tessellatum porphyreum. There are cultivators who find the species more difficult to manage than most *Cypripediums*, but as regards the crosses they, as a rule, conform readily to cultivation, but should any one of them become unhealthy, much patience and close attention are required to bring them round. Any of these plants that are in need of rooting-space or fresh material in consequence of the old having decayed, should now have attention. As regards repotting, this should not be done more often than is absolutely necessary, because the roots are very brittle in their nature, frequently snapping off when disturbed in the least degree. Instead of turning well-rooted *Cypripediums* out of their pots, break the pot by gently tapping it, and pick out the rotten compost, and if this can be done without disturbing the drainage materials, there will be still less fear of injuring the roots. Place the entire mass in a larger pot, allowing plenty of space for filling up to two-thirds of its depth with pieces of chalk or limestone, or failing these, with pieces of tufa, bricks, or thick crocks. The plant should be kept on a level with the rim of the pot, which should be filled up with good fibrous loam, freely mixed together with the bits of limestone, &c., and a small quantity of sphagnum-moss. The repotted plants may be placed in a light part of the East Indian house, and shaded with thin scrim at all times. All of the above species and crosses need water in abundance at all times, especially when in full growth. Great care is needed to prevent water lodging in the centre of the growths or in the leaf-axils, where it causes the decay of the leaves; and instead of affording water with a can, it is best to dip them in a pailful of water, lowering them so as to just cover the surface of the compost, and allowing them to remain in the water sufficiently long to ensure saturation. Thrips infest the young foliage of *Cypripediums*, and do much harm, and the gardener needs to be always on the alert sponging the leaves, but taking care in so doing not to raise them higher than is necessary, or they will crack.

AERIDES.—Any plants which from exhaustion following the production of flowers or other cause have lost some or all of their lower leaves, may now be lowered in the pots, while those which have lost but a few may have additional drainage afforded, and the cone of sphagnum-moss raised up to the lowermost leaves. Any of the long fleshy aerial roots may be pegged down on to the surface of the moss, which in time they will root into, helping the plants to retain their leaves during the season of rest. It is necessary after disturbing the roots to shade the plants rather heavily for a time, frequently damping between the pots, and being very careful in affording water. The cool-growing *Aerides japonicum* and *Angraecum falcatum* should be kept in the least airy part of the

Odontoglossum-house till the commencement of the winter.

The pretty bright blue *Rhynchostylis* (*Saccobium*) *colestis* is a plant that attracts attention whenever exhibited, but it is one that is seldom seen in a flourishing condition, the cause of failure in most cases being that it is grown in too much heat. The *Cattleya*-house would seem to be the best place for it the whole year. It is now sending up its flower-spikes, and should be placed near to the roof-glass, and be thinly shaded. Cock-roaches often injure the young spikes; it is, therefore, a good plan to hang it from the roof, or stand it on a pot in the middle of a pan of water.

PLANTS UNDER GLASS.

By W. H. SMITH, *Gardener, West Dean Park, Chichester.*

DUTCH AND OTHER BULBS FOR EARLY FORCING.—It is time that bulbs for forcing, if not for planting out-of-doors, should be obtained from the dealers, remembering that those who send early are often the best served. If Roman Hyacinths are grown, these should be the earliest to place in their pots, the bulbs soon beginning to make roots either in or out of the earth, entailing the loss of many roots if the potting be deferred. *Freesia refracta* has delightfully fragrant flowers, and the ordering of a number of the bulbs of this plant should not be forgotten. If they are potted early, and consist of continental-grown produce, they will show flowers much earlier than those which are of home growth. The soil which suits these, and indeed most other bulbs cultivated in pots and boxes for early flowers, is a friable turfy loam (passed through a half-inch sieve), two-thirds; leaf-mould, three-sixths; and dried cow-dung, three-sixths, with enough silver-sand to make the whole porous. The siftings from the loam may be used as a drainage-layer over the crocks, and in the case of *Freesias*, Lilies, *Brodias*, *Ixias*, and similar small bulbs, peat may take the place of the cow-dung. Bulb pots should be deeper than they are wide.

CHRYSANTHEMUMS.—The plants must have daily attention, looking out for black-fly, which is prevalent this year, dusting the shoots, &c., with tobacco-powder at night, and syringing it off the next morning. Mildew if noticed may be prevented from spreading by the use of flowers-of-sulphur used with a dredger. The fastening of the shoots must be attended to at frequent intervals. Any plants whose roots filled the pots, may be afforded weak soft-water, or a light dressing of Clay's or some other fertiliser, but it is not advisable to feed them over-much until the flower-buds are set.

CINERARIAS.—Continue to re-pot as the soil fills with roots, 3^{rs} and 2^{ds} being useful sizes in pots in which to flower them; but if plants larger than ordinary are desired, the main flower-stem, on commencing to rise, should be nipped off, the plants being shifted, and eventually coming into 16^s. If green-fly infests them, fumigation should be resorted to, or tobacco-powder be dusted on the lower sides of the leaves.

HERBACEOUS CALCEOLARIAS.—At this date another pan may be sown, keeping it rather close and shaded till the seeds have germinated. The first sown batch of seedlings should now be pricked-off into pans or boxes as soon as large enough to be handled, placing them close to the glass in a cold frame, affording a slight amount of shade in sunny weather.

CAMPANULAS.—Pricked-off seedlings may be potted into large 6^{os}, using loam, leaf-soil, cow manure, and sand. Place outside on coal-ashes and afford plenty of water at the root when established, syringing them frequently in sunny weather. Those that are in flower, if of exceptionally good quality, should be placed by themselves for seeding purposes.

SEASONABLE HINTS.—The boilers and hot-water pipes should be examined for defects, leaks, &c. Last winter will have severely tried many heating apparatus, and from the present time till the middle of August is a good time for carrying out repairs and renovations. In fact, it is good practice to empty them and clean old and new boilers of sedimentary incrustations, well washing them out.

THE KITCHEN GARDEN.

By JOHN LAMBERT, *Gardener, Powis Castle, Welshpool.*

CELERY.—Where the space at command will permit of it being done, some rows of the dwarf red or white varieties sown in May or even later may

be planted. Such Celery, if not earthed-up much before the winter, will frequently go through the winter without much loss, turning in most usefully late in the spring.

TRIPOLI ONIONS.—The ground for this crop may now be prepared, preference being given to a piece of stiff soil that is well exposed to the sun. Although Onions do best in soil which is rather heavy, it should not be waterlogged. Before digging the land, afford it a heavy coat of stable-dung, and some fresh soot at the rate of one peck per square rod; and if it be light make it firm by tramping it evenly and regularly all over, doing this when the surface is dry. Another dressing of soot may be raked into the surface before the drills are drawn. The drills should not be a less distance apart than 1 foot, or deeper than 1 inch. Having sown the seeds, cover-in the drills, and again tread the land or pass a light roller over it. Sow about one-half of each variety in the second week in August, the other half being kept over for sowing in the last week. Very large-growing varieties of Tripoli Onions do not, as a rule, stand our winters, and a few varieties need only be grown to meet the home requirements. Nearly all the so-called "spring Onions" will withstand the frost of an ordinary winter, and they serve the same purpose as the Tripoli varieties. Early White Naples, Giant Rocca, and Giant Lemon Rocca, are useful Tripoli Onions.

SALADS.—A last sowing of Endive may now be made, planting out beds in a warm border of earlier raised Endives. Plant out Cos and Cabbage Lettuces at intervals of a week; sow Lettuce seeds and tie up such Cos varieties as may need it. Mustard and Cress, also Land Cress seeds should be sown, not forgetting a pinch of that of Dandelion.

THE HARDY FRUIT GARDEN.

By W. POSE, *Gardener, Highclere Castle, Newbury.*

RIPENING FRUIT APRICOTS AND PEACHES.—Trees with ripening fruits should be daily examined, and all which with a gentle pull part freely from the stem should be placed in a cool room on clean white paper. They will keep in good condition for three or four days. Peaches show the slightest bruise, needing therefore careful handling. It is desirable to place a sheet of wadding or some fine wood wool under the paper on which these fruits are laid. In most gardens the trees will have to be covered with muslin or hexagon netting when the fruit begins to get ripe, fastening it at the edges, so as to exclude wasps and flies. If ants are troublesome, some means should be devised for their extermination before this date. They may be trapped by smearing the insides of a few small flower-pots with honey or treacle, and laying about in their haunts. These should be examined two or three times a day, and immersed in boiling water for a few minutes. Fresh guano sprinkled about and over their nests will sometimes cause them to seek fresh quarters, or they may be destroyed by watering the nests with a fairly strong solution of soft-soap and petroleum.

OUTDOOR GRAPE VINES.—Grape Vines on walls should now have all the superfluous shoots removed entirely, the lateral growths being pinched at the points as may be necessary to ensure plenty of light being admitted to the principal shoots. The bunches should be placed close to the wall, and if they are intended for dessert, the berries should be thinned more or less according to the setting. For wine-making, thinning the berries will not be necessary. As soon as the fruit commences to ripen, it must be protected from the birds and wasps; the latter are especially destructive to the ripening fruit. Bags made of hexagon or muslin, drawn over the bunches, will save them. Earwigs should be trapped with bits of bean-stalks, or flower-pots hung about the trees, or laid at the foot, with a little dry moss at the bottom, with a boiled Potato or similar bait placed under the moss; these baits being examined every day, and frequently renewed. Keep a sharp look out for mildew, and on the first sign of it, dust the Vine with flowers of sulphur.

OPEN FRUIT QUARTERS.—Keep the hoe at work in the fruit quarters whenever the weather is dry, killing weeds and aerating the soil; bushes and others carrying heavy crops of fruit should be assisted with copious doses of liquid manure; and if a slight mulching of strong manure be applied beforehand it will prevent the soil being washed away from the roots that are near the surface.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER. Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Letters for Publication.—All communications intended for publication, as well as specimens and plants for naming, should be addressed to the Editor, 41, Wellington Street, Covent Garden, London. Communications should be WRITTEN ON ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.

APPOINTMENTS FOR THE MONTH.

MEETINGS.

TUESDAY, AUG. 13 { Royal Horticultural Society's Committees, Drill Hall, Westminster.
TUESDAY, AUG. 27 { Royal Horticultural Society's Committees.

SHOWS.

SATURDAY, AUG. 3 { Royal Horticultural Society of Southampton, at Westwood Park (two days).
MONDAY, AUG. 5 { Northamptonshire Horticultural Fête, at Northampton.
Harrow Weald Horticultural Society.
Carshalton Horticultural Society.
Fawsley Cottage Gardening.
TUESDAY, AUG. 6 { Leicester Floral Fête, in Abbey Park.
THURSDAY, AUG. 8 { Taunton Deane Horticultural Society.
TUESDAY, AUG. 13 { Flower Show at Blagdon.
West Malvern Flower Show.
WEDNESDAY, AUG. 14 { Bishop's Stortford Horticultural Society.
Cardiff Horticultural Society (two days).
Eastbourne Horticultural Society.
Wiltshire Horticultural Society, at Salisbury.
THURSDAY, AUG. 15 { Martock Horticultural Society.
MONDAY, AUG. 19 { Felling Floral and Horticultural Society (two days).
Shrewsbury Great Horticultural Exhibition and Floral Fête (two days).
WEDNESDAY, AUG. 21 { Kingswood, St. George's, and West Gloucestershire Horticultural Society.
THURSDAY, AUG. 22 { Aberdeen Royal Horticultural Society (three days).
Lily Exhibition in the Manchester Botanic Gardens, Old Trafford (three days).
FRIDAY, AUG. 23 { National Co-operative Horticultural Show, at the Crystal Palace, in connection with the Eighth National Co-operative Festival.
TUESDAY, AUG. 27 { Brighton New Horticultural Society (two days).
WEDNESDAY, AUG. 28 { Reading Horticultural Society.
Bath Floral Fête (two days).
Harpden Horticultural Society.

SALE FOR THE ENSUING WEEK.

FRIDAY, AUG. 9 { Imported Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT OHISWICK.—63°.

The Fruit Crops. THE courtesy of our correspondents in all parts of the British Islands has enabled us once more to present a tabular statement indicative of the state of the fruit crops in the present season. The wide area involved, and the number of reporters, many of whom have obliged us in this way for many years in succession, afford guarantees that the report is a close approximation to the truth.

Taken as a whole, the report is singularly uniform in its character, and decidedly favourable. Apples promise to be abundant in all districts. Pears, unlike last year, are deficient. Plums are a medium crop. Cherries are, or have been, unusually abundant. To a less

extent this may also be said of Peaches. Apricots are much below average. Small fruits and Strawberries have been very plentiful, with the general exception of Raspberries; and Nuts yield a fair average.

These results may be seen in the following table, showing the number of records in each case, and the proportionate numbers of cases in which the yield is of an average character, or over or above the average:—

		SCOTLAND.			ENGLAND AND WALES.			IRELAND, ETC.		
		Ap. plee. (79)	Pears. (75)	Plums. (75)	Cherries. (77)	Peaches and Nectarines. (33)	Apricots. (43)	Small Fruits. (78)	Strawberries. (77)	Nuts. (11)
	Number of Records	30	37	35	34	19	13	26	24	8
	Average...	26	9	28	36	3	3	52	50	1
	Over ...	14	27	12	7	11	27	0	3	2
	Under ...	..	..	..	..	..	..	..	..	..
	Number of Records	269	114	108	131	114	41	79	83	105
	Average...	116	21	51	102	48	8	133	166	56
	Over ...	29	130	110	28	45	151	5	15	29
	Under ...	..	..	..	..	..	..	..	..	..
	Number of Records	33	21	27	19	16	11	21	20	11
	Average...	6	8	13	8	7	4	9	5	8
	Over ...	10	3	2	8	3	0	12	14	0
	Under ...	7	10	0	3	6	7	0	1	3

We must leave it to our meteorological friends to compare these results with the climatal fluctuations of the late autumn, winter, and spring. One thing seems clear, and that is, that the severe weather of early spring had no malign influence on our fruit crops, unless perhaps the deficiency in the Apricots is to be attributed to this cause. It seems also evident that local con-

ditions are less potent in affecting the general result over a large area than climatal influences. Fruit culture is extending in this country, and the discussions of the last few years have made it evident that, setting apart the inflated estimates of some persons, there remains a reasonable prospect of success open to those who know their business, and exercise industry, foresight, and care, without which no business can be profitable. In future issues we shall publish a series of comments on the fruit crops in various districts, with which we have been favoured by our correspondents.

WE are surprised at the great length of time that the specimens of these plants, which Messrs. VEITCH & SONS, Chelsea, exhibited at the Temple Show last May, have remained in bloom. During the period of two months which has elapsed since that show, other varieties of plants, which have some resemblance to them as regards their flower and stature, namely, Gloxinias, have come into flower and passed away; but the Streptocarpus continue to make a brave show, and promise to throw up bloom for some time longer. It is, therefore, a better "paying" plant for the gardener with a small amount of house-accommodation to grow, if it be a less beautiful flower than the Gloxinia. These self-same plants were wintered in low pits from which the frost on several occasions was scarcely excluded, but suffered no harm therefrom, as their past and present floriferousness amply testifies, which is another point in their favour. Moreover, they have been successfully used as bedding plants, and if in a dry border and protected by a thick mulch, they might even survive the winter in the open. These pits are at the present time planted with a generation of seedlings of Streptocarpus, the results of carefully determined crossings of the best of this year's flowering. We may therefore expect to have disclosed to us in the size, substance, and markings of the flowers some remarkable improvements on known varieties, much as these latter have hitherto responded to and rewarded the efforts of the cross breeders. We may say that the raising of new varieties offers no more difficulties, once a good strain is obtained, than in the case of Calceolarias or Pelargoniums, the same precautions holding good against self and chance fertilisation. The seeds may be sown when ripe, that is, in early autumn, or in the spring—better at the former season. The compost should consist of two-thirds peat, one-third loam, and plenty of sharp sand; size of pot large 60's or small 48's, so as not to have too many plants in a mass together, crowding each other to their detriment; and the drainage very small crooks placed over one large flattish piece to the depth of 1 inch. The seeds germinate in a moderately warm moist house or pit. The pots, when the seedlings have appeared, should be placed on a shelf pretty near to the glass, shading them only from hot sunshine. Pricking-off may be done at any time during spring and summer, with the proper precautions of keeping the plants close and shaded till re-established. As with other seedling plants, Streptocarpus should not remain in the pots in which the seed was sown till they get weak and drawn by being crowded together, but they should receive timely attention as regards pricking off. After staying in the pricked-off stage for a month or six weeks, they are fit to come into "thumbs," and when these are filled with roots, into still slightly larger pots, or to be planted

out in beds of soil in pits capable of being heated when necessary. If not planted out in this manner, the plants should continue to be repotted till they reach a small 32-sized pot, in which they ought to be left to flower. Plants of more than one year old will of course need, after they have been rested, to be potted into pots of larger size than this.

GROUP OF AZALEA INDICA ALBA AT PENRICE CASTLE.—The illustration (fig. 25), shows a group of *Azalea indica alba*, grown outside at Penrice Castle in the ordinary soil of the garden, to which a small quantity of leaf-mould was added

to open on the 5th inst. is postponed till the 22nd. Special facilities are offered to gardeners who may feel disposed to visit this the first special exhibition of Lilies held in the country. There will also be a special exhibition of Grapes.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.—The Worshipful Company of Fruiterers have given a donation of £10 10s. to the funds of the Gardeners' Royal Benevolent Institution.

— H.R.H. Princess Louise (Duchess of Fife) and the Duke of Fife have graciously signified their interest in the work of the Gardeners' Royal Benevolent Institution, by adding their names to its list of Vice-Presidents.

MR. F. MOORE, of Glasnevin, has been elected a corresponding member of the *Société Nationale d'Horticulture* of France.

SHIRLEY AND SURROUNDING DISTRICT GARDENERS' AND AMATEURS' MUTUAL IMPROVEMENT ASSOCIATION.—At the monthly meeting held on the 15th ult., Mr. R. D. SPENCER gave an interesting lecture on "British Herbs, and their uses." There was a fair attendance of the members, and at the close of the lecture a cordial vote of thanks was accorded to Mr. SPENCER. On the 17th ult., a large number of the members and their friends, numbering ninety-two, had what is hoped may prove to be the first of a series of annual outings. On

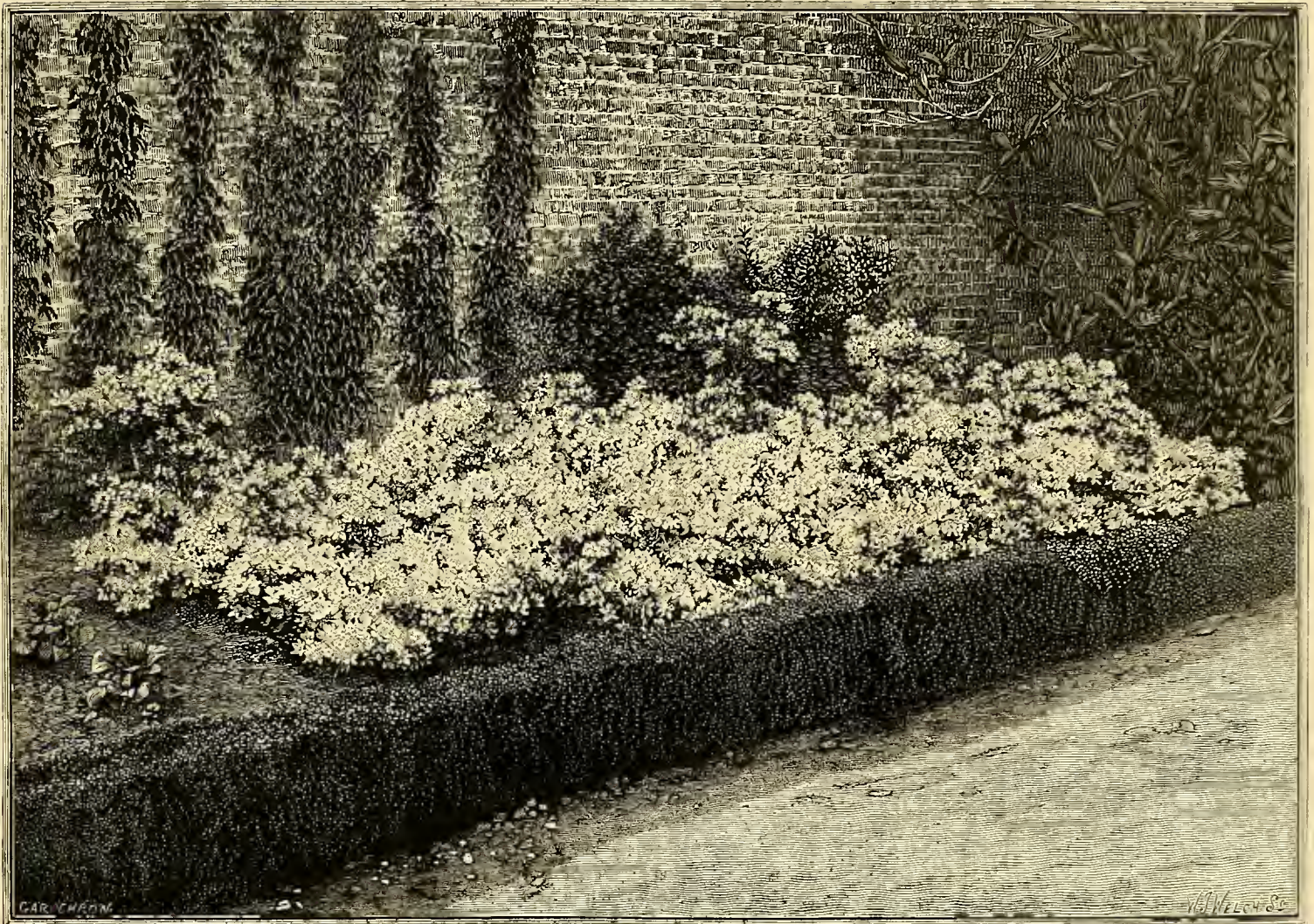


FIG. 25.—GROUP OF AZALEA INDICA ALBA, AT PENRICE CASTLE, SWANSEA.

when the plants were put out. They have now been planted five years, and, with the exception of a top-dressing of leaf-mould afforded after they have finished flowering each year, they have had no other attention. No protection whatever was afforded them during last winter, and whereas in other parts of the garden at Penrice Rhododendrons, Portugal Laurels, Wellingtonias, Taxodiums, and many other trees and shrubs have suffered severely, these are not hurt. The aspect of the border is west. The photograph from which the engraving was taken was kindly sent by Mr. MILNER, the gardener at Penrice Castle.

ROYAL BOTANIC SOCIETY OF MANCHESTER.—It will be seen by our advertising columns that the great Lily and Grape show which was announced

THE ROYAL GARDENERS' ORPHAN FUND.—The usual monthly meeting of the committee took place on the 26th ult., W. Marshall, Esq., in the chair. The following special receipts were announced: The Wimbledon Horticultural Society, sale of flowers at the annual show, £5 5s.; proceeds of Rose fair at the Croydon Rose Show, per Mr. G. W. CUMMINS, £7; Mr. W. A. MILLER, The Gardens, Underley Hall, box, £1 18s. 8d.; and Mr. C. HESSIN, The Gardens, Dropmore, box, 17s. 6d. The death of Mr. JOHN WILLS, a member of the executive committee, having been reported, the Secretary was instructed to convey to Mrs. WILLS the deep sympathy of the committee in her bereavement, and their profound regret on the loss of so noble a supporter of the fund, and of such a sincere and valued friend.

this occasion the Royal Gardens, Kew, were visited, and a most enjoyable day was spent in examining the great collections of plants from all parts of the world; we hope some experience was also gained. The President, Mr. W. F. G. SPRANGER, accompanied the party, and by his kindness and that of a few friends, the members were provided with luncheon and tea at the pavilion in the grounds.

AGRI-HORTICULTURAL SOCIETY OF MADRAS.—The last number of the *Proceedings* contains an account of the annual flower show, held on February 24, which seems to have been up to the average standard.

"**TRAITÉ DE CULTURE POTAGÈRE.**" Par J. DYBOWSKI (Paris: G. MASSON).—A second edition of Mr. DYBOWSKI's excellent treatise on market gar-

dening and kitchen gardening has lately been published. It contains in substance the lectures given by this well-known practitioner at the National School of Agriculture at Grignon. The plants treated on are arranged in alphabetical sequence, and not only are the details of cultivation explained, but the cost of production is minutely examined, and the best methods of packing and marketing supplied. Of course, the book is written for French readers mainly, but the treatise is so practical that much of what it contains may be turned to account here.

A GARDEN OF PLEASURE.—The author of *Day and Hours in a Garden*, has, in this new work, presented to the reader a fresh series of chapters on "The Garden" during the varying changes of the year. It is a discursive chronicle of garden progress, under the varying influences of the changing seasons. We shall take an early opportunity of alluding to it more at length. Mr. ELLIOT STOCK is the publisher.

"VORGESCHICHTLICHE BOTANIK DER CULTUR UND NUTZPFLANZEN DER ALTEN WELT AUFGRUND PRÄHISTORISCHER FUNDE." Von GEORG BUSCHAN (Breslau: MAX MÜLLER). Prehistoric Botany.—The origin of cultivated plants is a fascinating subject of enquiry, greatly facilitated of late years by researches into prehistoric collections, whether in the Egyptian tombs, Assyrian monuments, or in post tertiary geological strata of various nature. In the present volume the author collects the information derived from these several sources, and presents it in a form which will be very serviceable to students. He deals with the principal food plants, European trees, and miscellaneous plants of interest. The oldest traces of Vine-culture go back to the time of the builders of the Pyramids. In the neolithic and bronze periods, the Vine was also known; whilst a Vine is shown to have existed in the mid-tertiary period by the remains found in the brown coal formation. This fossil Vine is said to have had nearer resemblance to the American *Vitis cordifolia* of MICHAUX than to *V. vinifera*. It is to be hoped that a translation of this useful work may be published.

LETTER CARDS.—Messrs. LANOLEY & SON, George Street, N.W., have forwarded us some letter cards which enclose a small sheet of paper which allows much increased space for writing. They will be very convenient for tradesmen's orders, and most useful for travellers. Long-winded correspondents for the press are earnestly recommended to avail themselves of this device.

KEW GUILD.—We have received a copy of the *Journal of the Kew Guild* for 1895, the publication of which has been delayed on account of domestic bereavement. It seems to be as interesting as its predecessors, but we must defer fuller notice till another issue.

MIDDLESBROUGH FLOWER SHOW.—The fifth annual show of the Middlesbrough Floral, Horticultural, and Industrial Society, was held at Linthorpe on Wednesday, July 24. The show was pretty much on the same lines as last year, the size of the exhibition, number of entries, and quality of the specimens shown being about the same, and there was a good attendance considering the uninviting weather.

CIDER.—We are pleased to find that the National Association of Cider Makers is taking energetic measures to ensure more attention being given to the cider competitions at agricultural shows. The arrangements at present in vogue leave much to be desired, and consequently do not attract the more important makers to compete; nor can visitors be expected to evince much enthusiasm in the cider shed, where only a distant view of the casks and bottles is vouchsafed. The cider itself is tasted only by the judges. In order to utilise the experience of others, Mr. E. SAMSON, the Secretary, of 27, Clement's Lane, Lombard Street, E.C., is going to attend some of the cider competitions on the Continent, for this is one of those things they manage better in France.

THE WEATHER OF THE PAST SEASON.—Under the title of *The Weather of the Past Season* (1894), and its *Effects on the Garden*, a little brochure has been published by the Rev. Canon ELLACOMBE, containing the subject-matter of a paper read by him before the Bath Natural History and Antiquarian Field Club last December. The writer mentions the great difference in the climates of the years 1893 and 1894, and the effect of the variations in temperature of the latter season upon various plants. The general conclusions arrived at appear to be that great extremes of weather are always more or less injurious to vegetation, and that any variety of moderate weather, while favourable to most plants, is sure to prove prejudicial to some few of them, or to the development or retardation of certain of their organs or functions.

PROFESSOR EATON.—We regret to hear of the death on the 29th of June, of Mr. EATON, the recognised authority on American Ferns. Professor EATON, who was in his sixty-first year, had been Professor of Botany at Yale College for more than thirty years. He came of a botanical family, and a graceful tribute to his memory will be found in a recent number of *Garden and Forest*.

THE DANGER OF WEED KILLERS.—We would draw the attention of all who handle weed-killers to the exceedingly poisonous elements sometimes included in such preparations. Messrs. SPIERS & POND were recently fined £5 and £5 5s. costs for selling what was alleged to be a preparation of arsenic, without entering the signature and address of the purchaser. The preparation was sold as a weed-killer, and is said to have contained 75 per cent. of arsenic, and 25 per cent. of caustic soda, in all 2 lb. 13 oz., or sufficient to kill 6000 persons. Apart from the danger which might result to those buying such mixtures without due knowledge of their contents, there is no small risk involved if such violent poisons are left lying about in positions easily accessible to children and others ignorant of their nature or contents.

PHYLLOXERA CERTIFICATES.—Some communications have reached us referring to our recent note on this subject, and requesting us to do our utmost to get these vexatious restrictions removed, except in the case of Vines. Our powers are naturally very limited in such a case, but we have never hesitated in this matter from the first, and shall be pleased to support any scheme for the removal of these futile and obnoxious regulations. On the occasion when we placed ourselves in communication with the late Lord GRANVILLE on the subject, we received the usual polite "*non possumus*;" but times are changed, and if those interested will only combine and make their views known, the circumstances are now more propitious, as the foreign Governments at length are beginning to see how useless the rules are.

MR. BATEMAN'S GARDEN.—The sale of Mr. BATEMAN'S villa and garden at Worthing is announced for August 14. The garden, as we have had occasion to state more than once, is small, but unique in character, highly pictorial, and filled with the choicest hardy plants. It is to be hoped that this horticultural gem will fall into the hands of some appreciative possessor. That it should become an ordinary suburban villa garden again would be a very unfortunate occurrence.

AGRICULTURAL MACHINERY IN RUSSIA.—Some two years since we drew attention, in a "Stock-taking" paragraph, to the uncontradicted statement that the authorities at St. Petersburg had done a stroke of "imperial" business by importing from the United States a number of complete sets of agricultural implements—to encourage agriculture in certain districts much needing the same. This might have been termed walking over the heads of nations, parties to tariff arrangements with the Russian Government. Surprise was also expressed that the opportunity was not taken advantage of to stimulate engineering enterprise at home. After a time the opinion gained ground, especially among

manufacturers in Lincolnshire, that "this sort of thing" should be put an end to, and a chance given by the lowering of import duties to "outside" makers and vendors; but this opinion did not obtain hold in Germany, some capitalists there having entered into negotiations with the Russian Government for the acquisition of land on which to build factories for the production of the above-named implements, and such also as are required in horticulture. As to the success of the application we know nothing; but it is now stated that the existing tariff will be so modified as to nearly totally exclude foreign-made goods; and this "for the purpose of giving encouragement to native industry." Verily, the ways of some Governments are wonderful!

FLORA OF THE SEQUOIA REGION.—Mr. GEORGE HANSEN, of the Foothill Experiment Station of the University of California at Jackson, Amador County, California, has prepared for sale sets or single dried specimens of illustrations of the Flora of the Sequoia region. These plants will be of great service to students of the Flora of California. A pamphlet entitled, *Where the big Trees grow*, gives some interesting details in the form of letters to a correspondent, and comprises a complete list of the plants.

THE METRICAL SYSTEM.—The report of the select committee of the House of Commons recommends:—(a) That the metrical system of weights and measures be at once legalised for all purposes. (b) That after a lapse of two years the metrical system be rendered compulsory by Act of Parliament. (c) That the metrical system of weights and measures be taught in all public elementary schools as a necessary and integral part of arithmetic, and that decimals be introduced at an earlier period of the school curriculum than is the case at present.

NEW YORK BOTANICAL GARDEN.—The 250,000 dols. for an endowment fund having been all subscribed, New York city is to give 250 acres of land in Bronx Park, and 500,000 dols. for buildings, improvements, stocking up, &c. Efforts are still being made to increase the endowment fund by subscriptions to 500,000 dols. or more.

THE PLANTS NEAR THE NATIONAL GALLERY.—The Palms and Musae planted out on the narrow strip of turf in front of the National Gallery give a very welcome relief to the rather severe style of architecture of that building, affording a hint that might be acted upon with advantage in connection with other public buildings, where space allows of it being done.

THE GARDENS OF THE CITY OF PARIS.—The committee of the Paris Municipality, to which is entrusted the ornamentation and maintenance of the parks, squares, and gardens of Paris, the total area of which, reckoning only the lawns, plantations, flower-beds, and borders, is about 75 hectares (1 hectare = 2.471 acres), possesses nurseries, situated some in the Bois de Boulogne, others in the Bois de Vincennes, and the Fleuriste still at La Muette, at Passy, and the transfer of which to the Parc-aux-Princes is in progress. The nurseries supply a number of young trees for avenues and for ornament, about 2000 a year destined for the streets and walks, and about 50,000 woody and shrubby plants to be used in forming and refurbishing clumps. At the Fleuriste de la Ville, with its branches, the decorative plants necessary for furnishing the gardens are raised. The annual production of miscellaneous plants, raised for the decoration of the municipal gardens, amounts to more than a million of specimens. *Revue Horticole*.

LIVERPOOL WINDOW GARDEN ASSOCIATION.—In *The Liverpool Daily Courier* we read that the twenty-first annual exhibition of flowers and plants, under the auspices of this association, was held Monday, 22nd ult., in St. George's Hall. The number of exhibits surpassed that of last year, this year's total being 850. In the front-garden competition there were 129 exhibits, and the judges reported that there was a decided improvement in

the gardens. Mr. R. R. MEADE-KING, who usually supplied the prizes, intimated that in future, unless entirely new districts competed, the competition would not be repeated. Therefore entries from fresh parts of the city were invited, and the committee will have pleasure in sending competent judges to determine if gardens to be included in the competition are situated in a suitable neighbourhood. In the class for windows and window boxes, there were eighty-six entries, and the judges reported that in some of the districts the work was very good.

Chronicle on May 11, a correspondent, Mr. FRED. TURNER, F.L.S., &c., Sydney, New South Wales, June 15, 1895, obligingly writes as follows: "I notice you ask for information about the 'ti-tree' bark that is used for packing fruit. One of the 'ti-trees' ('Tea-trees') referred to is *Melaleuca leucadendron*, Linn., the thick spongy bark of which is easily peeled off in layers, and when cut up fine is as light, if not lighter, than cork dust, and makes good packing material. Several species of the genus *Melaleuca*, *Leptospermum*, and even *Callistemon*, are commonly called 'Tea-trees,' though for some

on wild flowers as they are found when growing, and is intended for the use of children of about the age of twelve years. The author aims at writing such books as shall prove interesting as well as amusing to little folk, and he is avowedly careful in his use of scientific terms and long names, lest, by their excessive use, he should disgust his readers. Those who like reliable information conveyed in an informal manner should appreciate Dr. COOKE'S style. The hand-book before us is written entirely in the form of dialogue, light enough considering the subjects treated of, and interspersed with quotations. Needless to say, the children ask most convenient questions, which lead up with supposed innocence to instructive answers, so gradually bringing out the information which "Uncle Matt" is evidently most desirous of imparting. The book contains a coloured frontispiece, various illustrations in the text, and is got up in a coloured cover likely to please youthful critics.

BLOTTING PAPER.—We have received from Messrs. R. CRAIG & SONS, samples of "an entirely new electric absorbent Spongia blotting paper." It is very good blotting paper, and the heavier qualities would do well for drying delicate flowers, mosses, &c.

FRUTTA MINORI.—Del Prof. A. PUGGI (ULRICO HOEPLI, Milano). A handbook containing careful descriptions and cultural directions relating, as the title tells, to Strawberries, Melons, Currants, Gooseberries, and Raspberries. The figures illustrative of the habits of the plants and of the fruits peculiar to various species are good and clear; bringing out the salient characteristics of each very distinctly. The little work may be recommended to those who read Italian, and who appreciate a small volume of convenient size for the pocket.

"THE HORTICULTURIST'S RULE BOOK," by L. H. BAILEY (London and New York, MACMILLAN & Co.).—An excellent manual, which should find a place in every nurseryman's office—indeed, in every garden library. It contains articles on the nature, preparation, and mode of application of insecticides, fungicides, notes on plant diseases, injuries from birds and various animals, weeds, lawns, cements, seed and planting tables, and we know not what besides. It is written for Americans chiefly, but nine-tenths of the book are equally applicable here.

"HISTOIRE DES PLANTES."—M. BAILLON'S remarkable work was nearly completed before his death. The last issued part contains the monographs of the Pandanaceæ, Cyclanthaceæ, and Araceæ. In the latter order M. BAILLON follows the indications of ENGLER, without, however, attaching the same degree of importance to the histological characters as the German Professor does.

BELLIS PERENNIS THE BRIDE.—A Daisy which is useful to the bouquet-maker and floral artist has been hitherto an unfulfilled want, but a strong variety, which will be sent out this autumn by Messrs. J. Lambert & Son of Trier, is said to answer every requirement of the florist (fig. 26). The blossom is semi-globular, of an enormous size for a Daisy, furnished with a tall stalk, and pure white. In the opinion of gardeners who have seen the plant it should prove of value in bedding-out, and, owing to its inability to produce seeds, will not become such a troublesome weed as other double-flowered Daisies. The agents for the sale of the plant in this country are Messrs. Cannell & Sons, Swanley.

NATIONAL CHRYSANTHEMUM SOCIETY.—A very enjoyable outing was experienced by the members of the above society on the 22nd ult., when a party of 140, including a number of ladies, paid a visit to the grounds of Barford Lodge, Dorking, by the kind invitation of Sir TREVOR and Lady LAWRENCE. Reaching there at noon, the company, after a short interval, sat down to dinner in a large tent erected in the grounds of the Barford Bridge Hotel, Mr. B. WYNNE, the chairman of the general committee, presiding. An excellent repast having been



FIG. 26.—A NEW DAISY: THE BRIDE.

M. ED. ANDRÉ.—The last volume of the *Garden* is dedicated to M. ED. ANDRÉ. The Editor has availed himself of the opportunity of enumerating the many titles to the honour and gratitude of horticulturists which M. ANDRÉ has won. M. ANDRÉ has, indeed, won a foremost place as a landscape gardener of the first-class, a traveller, a garden-director, a botanist, an author, and an editor. At the present time M. ANDRÉ, in spite of his work as a landscape-gardener, finds time to act as editor of the *Revue Horticole* in association with M. CARRIÈRE.

TREE BARK USED IN PACKING FRUIT.—In answer to an inquiry that appeared in the *Gardeners'*

unaccountable reason many persons of late years have erroneously called them 'Ti-trees.'"

APPLE GRAFTS ON PEAR STOCKS.—Mr. GAFNEY, writing in the *Agricultural Journal of the Cape Colony*, recommends the practice of grafting Apples on the Pear stock, especially with a view to circumvent the American blight, which, it seems, does not injuriously affect the Pear.

"THROUGH THE COPSE." Another Ramble after Flowers with Uncle Matt. (T. NELSON & SONS, London, Edinburgh, and New York).—This little book is one of a series written by Dr. M. C. COOKE

served and full justice done to it, the houses, gardens, and grounds were then visited, the whole of the glasshouses being thrown open to inspection, the condition of the Orchids and some charming floral features in the gardens calling forth well-deserved praise. Many then found their way to the summit of Box Hill, while others, at the kind invitation of Lady LAWRENCE, looked through the mansion, and at five o'clock the whole party assembled for tea on the lawn provided by Sir TREVOR and Lady LAWRENCE. Tea over, a meeting was held in front of the mansion, at which Sir TREVOR LAWRENCE presided as one of the vice-presidents of the society, and in the name of the members presented to Mr. ROBERT BALLANTINE, the late chairman of the committee, an illuminated address and a handsome silver inkstand, the first having engrossed upon it the resolution passed at the annual general meeting in February last, recording the thanks of the members for Mr. BALLANTINE'S great services to the society in that capacity, and the inkstand also bore a suitable inscription. Mr. BALLANTINE having replied, a hearty vote of thanks was passed to Sir TREVOR and Lady LAWRENCE, emphasised by three hearty cheers, and the company returned to town late in the evening, having experienced one of the most pleasant outings yet arranged.

CIDER.—The hot weather reminds us of a beverage which is highly acceptable at this season, and that is Norfolk Cider. Messrs. GAYMER & SON, of Banham, Attleborough, some months since sent us samples of various kinds for trial. All were fresh, clear, sparkling kinds, but the "driest" were to our taste the best. There is no doubt that with increased care in the manufacture, the quality of the cider may be greatly improved and rendered more uniform. Messrs. GAYMER evidently are abreast of the times in this respect. Tasting their cider in comparison with some of a similar quality from Devonshire, Norfolk took the palm.

VEGETABLE ASSIMILATION AND RESPIRATION.—Mr. F. FROST BLACKMAN publishes in the *Philosophical Transactions*, 1895, B, p. 503, an account of his experimental researches on this subject. The point specially to be determined was the channel through which vapours enter or leave the leaves; that is to say, whether through the cuticle or through the stomata. The general results are as follows:—

1. Under normal conditions, practically the sole pathway for carbonic acid gas into or out of the leaf is by the stomata.
2. In young leaves the cuticle seems to be more permeable to carbonic acid gas than in mature leaves.
3. If the stomata be mechanically blocked, an appreciable osmosis of carbonic acid gas may take place through the cuticle, provided that the tension of the carbonic acid gas be great enough.
4. The normal amount of carbonic acid gas in the atmosphere is not sufficient to produce any appreciable osmosis into a leaf with its stomata blocked; assimilation, therefore, cannot continue under these conditions.
5. The experimental optimum of carbonic acid gas for assimilation depends on the structural porosity of the leaf, so that, if this be reduced by blocking the stomata, even pure carbonic acid gas may not quite effect optimal assimilation.
6. To this, and not to the stomata being inoperative in gaseous exchange (which was BOUSSINGAULT'S view), is due the fact that, in concentrated carbonic acid gas, a leaf with its stomata open assimilates less than one with the stomata blocked.
7. In bright light a fully green leaf assimilates all the carbonic acid gas that it is forming by respiration, and none escapes from it. GARREAU'S demonstration to the contrary is only an expression of the imperfection of the conditions under which it was made.

THE EVOLUTION OF A LAKE.—Whilst Nature manages to create lakes of magnificent proportions in her own way, artificial lakes are usually less grand,

though in relation to surroundings often as bold and effective, and sometimes even more ornamental. There is to be seen just now on Mr. BERTRAM W. CURRIE'S fine estate of Minley Manor, North Hants, a good example of the process of evolution in lake formation artificially. The site is of a wild swamp-like character, and prior to the commencement of operations, about as unpromising a site for the creation of anything artistic as could well be conceived. The idea seems to have been Mr. CURRIE'S own, and the working of it out that of his bailiff, Mr. G. PROFIT. The water area, almost the whole of which is completed, though begun but some sixteen months since, is about 50 acres, but it looks to be fully double that expanse. The margin is of a most circuitous outline, the ground having been managed so that where highest capes or promontories have been retained, whilst on the lower parts numerous bays or recesses have been formed. This feature in the formation of so marked a kind that the entire circuit of bank can be hardly less than 3 miles. Some islands have also been formed, that will be planted next autumn, as also will the extensive margins. Footpaths and a turf carriage-drive will encircle the lake. On one bay a fine boat-house is being erected. The entire surface is now full of water that will in flood-time rise some 2 feet higher. The banks are of peat clods, solidly built, and into the curves Willow slips have been thickly inserted. The soil is of bog, sand, and clay. In a few years a large area of swamp will have been converted into a grand ornamental lake.

NEW PUBLICATIONS.—We understand that M. P. P. DÉREMAIN has just published a book entitled *Les Engrais, Les Fermens de la Terre*. The first part of this work is devoted to organic manures and mineral fertilisers, and the second to the fixation and utilisation of nitrogen in the soil. It is specially stated that the instruction given in this book is of a thoroughly practical nature, and that it is not merely thoroughly up-to-date, but also so worded as to bring its contents within the comprehension of all classes of readers. The publishing-house is La Librairie RUEFFET CIE., 116, Boulevard St. Germain, Paris.

COLONIAL NOTES.

JAMAICA.

The *Bulletin of the Botanical Department, Jamaica*, for June, 1895, contains, among other interesting matter, papers on "Coffee Peelers for Hand Power," and on "Coffee Separators." It also includes a chemical analysis of the Orange tree, potash and phosphoric acid being the chief constituents of the fruit, an article on "Pimento and its Insect Foes," as well as the result of some lectures and demonstrations given throughout the parish of St. Mary by Mr. W. Cradwick, who has travelled with the aim of instructing the inhabitants concerning the uses and properties of the plants possessed by them, of whose values they were often found to be utterly ignorant. By thus stimulating local enterprise and attracting attention to native resources, much good work is done in quarters hitherto neglected and unworked.

KEW NOTES.

UTRICULARIA RENIFORMIS.—A plant of this fine Bladderwort, obtained a few years ago from Messrs. F. Sander & Co. as *U. Humboldtii*, is now flowering at Kew, and, as I believe, for the first time in cultivation. It is a native of Brazil, Gardner having found it in 1837 in the Organ Mountains at an altitude of 5000 feet. Probably Messrs. Sander & Co. obtained it along with *Catleya labiata*. It has uniform leaves 5 inches wide on stalks 18 inches high, which spring from slender creeping rhizomes bearing hair-like roots and numerous tiny bladders. The flower-scape is more than 2 feet high, and it bears four or six pale lavender-coloured flowers

at the apex 1 inch long and wide, the apron-like lip notched and channelled in the middle with an inflated chin-like crest bearing two streaks of white, margined with purple, and the short hood-like upper segment is blotched with the same colour. The plant is likely to be more prized by botanists than by gardeners, for it is not so good a garden plant as *U. montana*. The *Roraima* species, *U. Humboldtii*, differs from the above in having spatulate leaves 4 inches wide on stalks 9 inches long, and a scape 12 to 18 inches high, bearing about twenty flowers, which open three or four together, and are of a rich purple-blue colour, fully twice the size of those of *U. reniformis*. Mr. Im Thurn, who collected *U. Humboldtii* on *Roraima*, says that it grows among rank grass in wet swampy parts, the flowers mingling with the grass, and its roots in the ground. Here it is far more beautiful than when in the water contained in the sheathing leaf-bases of *Brocchinia cordylinoides*, to which it is strictly confined in some parts of British Guiana. We have had it imported in plants of the *Brocchinia*, but it never did any good, although the host plant lived, and is now represented by fine examples in the collection of *Bromelias* at Kew.

AMASONIA ERRECTA.

This plant differs from *A. calycina*, introduced and distributed a few years ago under the name of *A. punicea*, in having larger broader leaves and shorter wider bracts coloured bright scarlet, while the flowers are nearly white with streaks of purple. An example of it is now in flower at Kew, and a figure of it will shortly be published in the *Botanical Magazine*. Mr. Sander, who imported this species from Brazil, says that it was described by his collector as being much more ornamental than *A. calycina*, but so far it falls short of that species in being more difficult to cultivate. It is described as forming a shrub 2 feet high, and as being common in woods near Rio. A specimen collected in British Guiana on mountains near Kaieteur is labelled as growing to 4 or 5 feet in height. Possibly we are wrong in keeping *A. erecta* in a hot stove.

CRINUM ROOZENIANUM.

This is a valuable addition to stove *Crinums*. It has already been fully described and figured in the *Gardeners' Chronicle*, and I refer to it here chiefly for the purpose of identifying it with the plant introduced from Jamaica by Mr. Worsley, and described by him in his *Notes on Amaryllidaceae* (1895), p. 8, under the name of "*C. Jamesense* = *erubescens*, var." The typical *C. Roozenianum* and Mr. Worsley's plant have lately flowered side by side at Kew, and they are exactly alike. One of the Kew plants bore an umbel of twelve white flowers, each five inches across, and deliciously fragrant. I can strongly recommend this *Crinum* as an easily-managed, free-flowering stove plant, first-rate in every point.

HIPPEASTRUM BRACHYANDRUM.

When Mr. Baker described this distinct and handsome species in *Gardeners' Chronicle*, 1890 (2), p. 155, we knew it only as having flowers "like *Amaryllis Belladonna* var. *blanda* in the upper half and coloured deep blackish-red in the lower half of the segments." Plants of it flowered in the open air at Kew, where it proved to be nearly hardy, and a figure of it was published in the *Botanical Magazine* last year, t. 7344. Seedlings raised at Kew from seeds ripened by the plant figured have just flowered; but in these the flowers are of a pale pink colour in the upper half, pale green in the lower half of the segments—the deep blackish-red colour having quite disappeared. Here is a striking colour variation in the first batch of seedlings raised from a good species introduced from Parana in South America by Mr. Bartholomew of Reading in 1890.

EUGENIA MALACCENSIS.

There is a fine specimen, 12 feet high, of this handsome tropical shrub in the Palm-house at Kew, which has borne annually for the last five years a crop of fruits. This year it has been exceptionally prolific, the lower branches being literally packed

with glossy purple-rose egg-shaped fruits, about 2 inches long. They are fleshy, and not unpalatable; I have tasted worse Apples, but they were very bad ones. The flowers are even more ornamental than the fruits, the large brush-like clusters of stamens, of a rich crimson colour, being the chief attraction. *W. W.*

POTATO-DIGGING IN IRELAND.

WHILST near Tipperary in 1892, Mr. W. G. Smith made the accompanying sketch of Potato-digging. It represents the very worst position for growing Potatoes, viz., a swampy bog. The plant in flower in the background is *Lythrum Salicaria*. On the left are rolls of peat from the position where the attempt was made to grow Potatoes. The stump in the foreground is that of a hog Oak *in situ*. The Potato-lifting was going on in rain and wind. The cottager and his daughter were clothed in rags, and both were helpless and hopeless. In travelling

made a practice of cutting everything they have in bloom—good, bad, and indifferent. It was pitiable to see poor little bunches of half-developed Anemones and Ranunculus forming a foreground to an exhibit, and these were only too representative of others. The crowded arrangement imparted an ordinary and monotonous appearance to the collections, and they lost much of their attractiveness and interest in consequence. The Council have such an ample choice of material with which to make this show that they should be eclectic; a certain number of bunches only being asked for, and these should consist of the best flowers in good condition at the time. The largest allowable number of bunches might be fifty, and these should be of good size, so as to adequately represent the plant; and there should be no duplicates. A limit being thus put to the number of bunches shown, the exhibitor should be required to effectively display them in such a manner that the individuality of each might be brought out. Further, where several varieties of one species are shown, or different species of one genus, they should be placed in juxtaposition for the purposes of comparison. This would make the Temple Show more

to be. It is a profuse cropper, some of the trusses producing from seven to nine full-sized Tomatos. It is very firm and solid, with flesh of good flavour and unusual depth, and very little seed space. Mr. Ryder informs me that he gets the best price for it in the market. This year he has planted twenty houses of this one variety, and here it can be seen in all stages of growth, both from seed and cuttings; in fact, Mr. Ryder tells me that he gets heavier crops from cuttings than from plants raised from seed. Amongst other Tomatos that are cropping freely with no signs of disease are Frogmore Selected, which is another good variety, of short-jointed, sturdy habit, and good-sized trusses of fruit, and which is likely to become a reliable market sort. Polgate is another variety doing well; but I fail to see any difference between this sort and Perfection, and Mr. Ryder tells me it is quite a fortnight later with him than Duke of York. Chemin, a French variety, is good, and fruiting freely; also Golden Sunrise, a yellow variety, carrying good trusses of large handsome fruit. All the above are growing side by side in one long house, to test their cropping qualities. Mr. Ryder never stops his Tomatos, but grows them on the single stem right over the houses. *F. London, The Gardens, Beechwood, Farnborough, Kent.*

GARDENERS' CHARACTERS.—I am glad "H. M. C." is calling attention (through your issue for July 13) to one of the most serious circumstances, namely, the refusal of employers to give characters. I have been gardening for seventeen years, and I find, generally speaking, the most promising youths and the most able men are those most unfortunate in this respect; consequently, they are prevented from following the occupation they were especially fitted for. I wish some of the candidates for parliamentary honours would make it a test question, so that it may be dealt with effectively in the House of Commons. *One Interested.*

THE HARDY-FRUIT PROSPECTS.—I think we shall be favoured with a very fine fruit season. The scarcest being Apples in orchards. These, upon some trees, are very thin, notably Blenheim and Ribston Pippins, Wellingtons, amongst the most useful varieties we have. Trees of Lord Derby, Warner's King, and some smaller varieties are loaded with fruit. Pear-trees have an excellent crop on the walls; have had to thin heavily, especially Pit-maston Duchess, Catillac, Marie Louise, Louise Bonne, Knight's Monarch, Doyenné du Comice, and Ne plus Meuris. Cherries are good. Peaches and Nectarines are an extraordinary crop. Out of curiosity, I counted 500 fruits thinned from a four-year-old tree of Sea Eagle. Apricots very good and large, the Shipley being the best. Plums are a wonderful crop, both Greengages, culinary, and dessert varieties, and we have had to thin them. Gooseberries, Raspberries, black, red, and white Currants are a good crop. Strawberries have been, and are very good—in fact, the best that I have had here for the last seven years. Cobnuts and Filberts are bearing heavily, and Walnuts very abundantly. The Quinces and Medlars have only a fair crop of fruits. A good rain would be very beneficial, as the rainfall for the last two months has been considerably below the average. We only had rain on six days in May and early June, and it practically did good only on three days, and the whole was under three-quarters of an inch. *W. A. Cook, Compton Bassett, in June.*

PLANT DECORATION.—Few men did more in their time to promote higher and more artistic taste in relation to plant decoration than did the late John Wills. It is perhaps poor praise to say of some of those beautiful efforts seen in days past at South Kensington, that they were revelations. Practically, Mr. Wills revolutionised our style of plant decoration; very likely, had he not done so, some one else would, but at least he was the pioneer, and immediately he found myriads of disciples. Still, he did not convert every one from their heavy stereotyped methods. Twenty years of persistent illustrations of the higher art in plant decoration by Mr. Wills or other able imitators have not sufficed to eliminate much of the old Adam of decorative effort from gardening, just because there are so many would-be gardeners or decorators who have no more care for taste, elegance, or harmony in plant decoration than has the merest tyro. Try all they may, they produce a jumble, or a mere stiff, formal bank of plants or flowers, and no more. Wills went to Nature for his conception of a plant group. If we conceive of tropical life, with its overhanging Palms and Ferns, and beneath its



FIG. 27.—POTATO DIGGING IN TIPPERARY.

by rail across Ireland, many scenes agreeing with this may be seen from the carriage windows. It is little use telling such "cultivators" that the Potato disease is caused by a *Phytophthora*, which reproduces itself by asexual spores, and that the aerial hyphae carry conidia whose contents sometimes differentiate as flagellate zoospores! The poorer cottagers of Ireland sadly need practical instruction in the best methods of growing and storing Potatoes. *Our Special Correspondent.*

than it is at present—a means of education. I thought Messrs. Kelway & Son's method of showing cut blooms of Paeonies capable of great improvement when exhibited as at the Temple—the petals of one flower largely overlapping those of another—the confusion was great. Surely blooms of *Pyrethrum* would be much more effectively staged in bold bunches, than as at present, dotted about singly on boxes of moss, with the utmost regularity. Then, the collections of *Begonias* were too crowded; they presented masses of colour it is true, but good varieties suffer by contact with inferior ones—and a crowd of plants is seen in but little order or methodical arrangement; and as collections grow in extent rather than diminish, and as tent space cannot well undergo expansion, the evil is likely to grow. Only let the novelty of the Temple Show wear off a little, as will certainly happen in a few years, and then, if the present methods of exhibiting continue, complaints will be heard of their sameness and monotony. Surely it is possible to introduce occasionally some change of feature; and no one would suppose that on the part of the eminent horticulturists of which the council consists, there is any lack of originality or capacity for designing and imparting some better features to future shows at the Temple Gardens. *R. D.*

TOMATO DUKE OF YORK.—I saw this last year, and thought it would be a valuable addition to our market varieties, and such it has proved itself

HOME CORRESPONDENCE.

THE TEMPLE SHOW.—Your editorial remark on page 654 of the last volume, in reference to the collections of herbaceous plants at the above exhibition, that "much more vigorous pruning is required," was a timely pronouncement. It is most important that much which is little better than floral rubbish be taken out of them, so that more space should be afforded for the really good and desirable things. At present, exhibitors seem to crowd into a given space as much again as there is actual room for, and the result is confusion, whilst the naming generally is so faulty, that it is difficult for visitors who may admire a certain subject to ascertain its correct name. There are far too many inferior things, for it does seem as if exhibitors

carpet of flowers and leafage, or even of our own woodland or forest scenery, with its panoply of leafage, and carpet of bracken or other undergrowth, we get a fairly good idea of the origin of his design. He, however, had at his disposal choice material, yet he never sought to make too much of his colouring, or fell into the common error of making everything subsidiary to floral effect. His larger groups were made so as to resemble glades and vistas, and they were always as cool and refreshing as they were beautiful, yet they were never gaudy. Disciples have since his day given to us at flower shows many charming groups, though only the few have stood out as real decorative artists. Too much of the beauty and taste we do see is rather imitative than natural, but we may be thankful for so much. Some day, perhaps, in these things the higher tastes may universally prevail. *A. D.*

LUCULIA GRATISSIMA.—This handsome shrub, when grown well, may be described as one of our best greenhouse plants. It thrives best when planted out in a bed in a mixture of fibrous loam, peat, and sand, and requires abundance of water during the summer months when it is making its growth. Opinions vary considerably regarding the pruning of *Luculias*, but naturally enough, if they are pruned well back after flowering, and the plants kept dry until growth commences, surely this must be the right way. We have two fine specimens here which were treated in this manner last winter, and which now present an appearance which justifies the said treatment. The propagation of *Luculias* is by no means an easy task, but the best method I know is to insert cuttings of young shoots into small pots about midsummer, place in gentle heat, and keep enclosed under a bell-glass. Seedling plants grow very rapidly, but seldom flower so well as those produced from cuttings. *Geo. Burrows, Warwick College.*

LARGE CEDARS OF LEBANON.—Apropos of the enquiry which appeared in these pages a few weeks ago, I may say that some of the finest Cedar trees in this country are to be found at Goodwood, Chichester. In an old book I have before me I find that in the month of April, 1760, the third Duke of Richmond planted 1000 Cedars in various parts of his domain, the plants being then four years old. Of course, in the period that has elapsed many have succumbed to gales and other mishaps, but many noble specimens remain, and appear to be in great vigour, forming one of the glories of Goodwood. One specimen in particular is a very grand one, and it is figured in Messrs. J. Veitch's work on the Coniferæ, though evidently the measurements given there are incorrect; as I find, by passing the tape round it to-day, the girth, at 3 feet from the ground, is 25 feet 8 inches. The tree has a diameter of crown, measuring from tip to tip, of 128 feet, and is more than 90 feet in height; it has a clear stem of 6 feet, from which spring a number of enormous branches, and the form of the tree is quite symmetrical. Three other large trees growing in close proximity to this one have clear stems of from 6 to 8 feet, and girths, at 3 feet from the ground, of 22 feet 2 inches, 22 feet 9 inches, and 21 feet 8 inches respectively. These trees have been measured from time to time, and a record kept; and the earliest I can find is 1857, when the second largest girthed 19 feet 7 inches; 1863, 20 feet 4 inches; 1892, 22 feet 7½ inches. *Rich. Parker, Gardens, Goodwood, July 8.*

SEEDLING FUCHSIAS.—The abundant rain is putting new life into vegetation, and the *Fuchsias* are making up for their hitherto tardy growth. I am sending a few blooms gathered chiefly from the open garden, of crosses of the *Fuchsia*, which you will observe differ much from the ordinary varieties in colour and shape of bloom; the growth is vigorous, and flowers are abundantly produced. No. 1 has coppery or dark foliage with veins in the leaf; No. 2 is a seedling of this year, and should prove a very telling variety, the colour being quite novel. August is the best month in which to see *Fuchsias* in bloom. *P. F.* [These blossoms were peculiar in the colour of the sepals and corollas, but that they are improvements in the best sense we can scarcely admit. *Ed.*]

HEAVY RAINFALL IN YORKSHIRE.—Heavy rain fell in this district from 9 A.M. on Thursday, July 25, until the same hour the following morning, and the depth of rain registered was 2.70 inches, which is the most that has fallen here in twenty-four hours in my recollection. The heaviest fall occurred in

the afternoon and evening, and was accompanied with thunder. Whether it was merely local I have not yet ascertained; but it is probable that such a downpour extended for a few miles around. The ground is thoroughly saturated, and vegetation in gardens and fields will be greatly benefited, especially the fruit trees. If we get fine warm weather, this will be the finest fruit year we have had for many years. *J. Easter, Nostell Priory Gardens.*

NATIONAL CARNATION AND PICOTEE SOCIETY (Southern Section).—I notice in the report of this society, the question is asked, for what purpose are Carnations shown with a single spray of foliage? The words are these: "Blooms of any single Carnation with a single spray of foliage were also shown. One can scarcely help asking, for what purpose, as they suggested nothing new in design or use." What does the *Gardeners' Chronicle* reporter want? The public has more than once been informed in these pages, that showing Carnations on cards is very bad taste indeed. It was, therefore, suggested that the blooms be shown as cut from the plant, with a spray of foliage; there was no other purpose. The Carnation is almost universally used as a coat-flower, and showing different varieties with foliage might suggest to those interested the best varieties for this purpose, and to those interested in the cultivation of Carnations, it would show the flowers just as they are. Varieties that split the calyx are no use to exhibit with a spray of foliage. *Jas. Douglas.*

RUBUS PHŒNICOLASIVS (WINEBERRY).—Within fifty yards of West Malling gas-works, in a private garden, the produce of which is sold in the town adjoining, we find a row of the Wineberry of the Japanese growing in the finest luxuriance, 5 to 6 feet in height, and clothed to the ground with its clusters of fruits like the specimen enclosed. The gardener informed me that three years ago he purchased a packet of Wineberry seeds for a few cents from the Continent. These were sown; and after waiting nine months, the plants here came up. Is it that the dry summer has been favourable to the growth of this plant? Seen as it is here growing, one cannot but think why it is not grown in the herbaceous border and in our shrubby borders, for its soft copper-colour tints of the stems, and the whiteness of the under-side of its Raspberry-like leaves, forms an object that the eye catches at once. My informant tells me it fruits abundantly, and that the Mulberry-like fruits are relished at the end of August, when they are either sold or made presents of by the proprietor. Propagation appears to be from seeds or layers; there do not appear to be many suckers from the bottom. *P. F. A.*

THE PHYLLOXERA LAWS.—It is to be hoped now that the Belgians [French] and Italians are meeting for the express purpose of expunging or moderating the obligations and restrictions hitherto imposed upon them by the Berne Convention many years ago, that England will now endeavour to free herself from these burdensome regulations, and not fail but hasten to throw her influence into the matter of securing the free exportation of plants into all countries. Nurserymen and cultivators of plants generally have been severely punished during the last fifteen years by these useless regulations, and probably for absenting ourselves from the above convention instead of attending it and showing the absurdity of including this country among those likely to spread the Phylloxera. Even the curators of our botanical gardens have since had their plants ruthlessly returned by Vine-growing countries, no matter how necessary or important for the well-being of mankind they may have been, and that too occasionally when the certificate had been duly signed by a commissioner for oaths. I hope the council of the Royal Horticultural Society and our botanical societies, as well as the horticultural trade generally, will lose no time in selecting an influential delegate to represent England at the meeting to be held on the 4th of this month, and in doing all that lies in their power to confine the restrictions, if any are imposed, to Vines only, so that our plants and bulbs may go free from all hindrances, and from useless expense and obligation. *H. Cannell, Swanley.*

CINERARIAS.—Mr. J. Miller, late of the Durdham Down Nurseries, Bristol, sent me up to Isleworth in 1833, to Mr. J. Willmot to learn market gardening, but asked me if I saw anything new or good to let him know, which I promised to do; and as I had a little leisure, I made a tour of all the nurseries of any note; Mr. A. Henderson was then famous for Cape Heaths, I remember. Of these,

Mr. Miller had about 110 species and varieties, so that was a place of interest to me; at Messrs. Lee's of Hammermith I saw some 200 or 300 *Fuchsia fulgens* just ready to be sent out at 21s. each, and so all round. Mr. Loddiges was then at Hackney, Mr. H. Low at Clapton. But it was at Mr. Knight's of Chelsea that I saw a whole house full of *Cinerarias* in full bloom, and one blaze of bright colour, mostly rose of various shades, some almost scarlet. I still remember it as a sight I had never witnessed before. Of course, the person who was showing me round saw my amazement. But I am not certain if he told me that they were crosses between *cruenta* and *populifolia*, or if it was only my conjecture. I have, however, the impression they were crosses, but this particular lot must have been several generations old even then; at least this was my impression, or I was told so, perhaps. *Cruenta*, as I knew it at the Durdham Down Nurseries, was of a much dwarfer habit than the one figured some little time since in the *Gardeners' Chronicle*, and had a larger flower, but *populifolia*, as I remember it, was a sort of half shrubby species, with shorter, wider petals, of a violet-purple hue. The above stated visit was in the spring of 1838, when Kew was quite a contrast to what it is now, and when the Horticultural Gardens at Chiswick were much larger than now. I have always thought that Mr. Knight was the first to work upon the *Cineraria*, and had no idea to the contrary. *George Lee, F.R.H.S., Clevedon.*

WHEAT-EAR PELARGONIUMS.

Mr. C. G. TERRY obligingly sends us a specimen of a zonal Pelargonium (fig. 28, p. 135), in which each flower of the truss is represented by a spike of densely packed linear green bracts, no trace of the flower being apparent. We have occasionally met in Pelargoniums with this malformation, which is identical with that in Sweet Williams and Carnations. Our forefathers used to speak of "Wheat-ear Carnations," and we may extend the epithet to Pelargoniums.

DEVON AND EXETER GARDENERS' ASSOCIATION.

THE fourth annual outing of the Association took place on Wednesday, July 24, when about sixty members started from Exeter in brakes, and visited Poltimore Park, Bradfield, and Knights-hayes. At Poltimore, Mr. J. Martin, the gardener, met the visitors, and conducted them over the gardens and grounds. Outdoor fruit has always been a feature at Poltimore, and the prestige is well maintained. Apples were particularly fine, abundant, large in size, and even now showing fine colour. The Grape Vines are well cared for, and are cropping heavily. The kitchen garden of 8 acres was in excellent trim. In the grounds the Lime tree avenue, of 1000 feet in length, which forms a delightful canopy of foliage, was worth going a long distance to see.

The avenue of *Cedrus Deodara* is a fine one, the trees averaging 65 feet in height, and about 10 feet in girth. Several of the trees were bearing cones, one having 100 to 200 on it. The *Wellingtonias* at Poltimore are well known. They were amongst the first planted in this country. One of them is 82 feet high, with a girth of 16 feet; and another is 85 feet, with a girth of 20 feet 6 inches. *Abies nobilis*, 56 feet, with a girth of 9 feet; *Pinus insignis*, 72 feet, girth 12 feet 6 inches; and *Pinus tuberculata*, 56 feet. This specimen shows the peculiarity of the variety in having its cones dotted all over the trunk and main branches. A few cones were found underneath the tree, but it was pointed out these had not dropped off, but had come down with fallen branches—*P. tuberculata* does not drop its cones. *Liriodendron tulipifera*, *Magnolia Soulangiana*, *Taxodium distichum*, and Hemlock Spruces are good here. Before leaving, Mr. Martin, by desire of Lord Poltimore, entertained his visitors to lunch.

Continuing the drive through the town of Col-lumpton, in which, in Col. Foster's garden—an old-fashioned one—there was pointed out a splendid clump of *Osmunda regalis*, quite 10 feet through, and

over 5 feet in height, flowering profusely. It was close to an old well, hence its vigour. The next halt was at Bradfield, where Sir William Walrond's agent (Mr. C. E. Hay) was waiting to give a hearty welcome to the voyagers. Under the guidance of Mr. T. Heath, the gardener, a tour of inspection was made. Grapes were found to be first-rate. Gros Colman, Black Alicante, Lady Downes' Seedling, Foster's Seedling, and Barbarossa, all very fine. Outside, Marie Louise and Winter Nellie Pear were showing heavy crops, and one or two Apple trees were well hung with Mistleto. In the grounds were remarked *Retinospora squarrosa*, 20 feet; *Salisburya adiantifolia*, 30 feet; *Sciadopitye*

another nine-mile drive was made to Knightsayes, Mr. J. Dickson, who came from Keir House, Bridge-of-Allan, only six months ago, was in waiting for his *confères*, and piloted them round. Everything in the fruit line that was in bearing was the very pink of perfection, Peaches and Nectarines on screens being masterpieces of cultivation. Grapes were equally good, Muscat Grapes splendid; indeed, the "glass" was about as well done as it could be. In the open, things were equally creditable. The crops and the tidy appearance of the place, taken as a whole, were such as to show that the race of Scotch gardeners is not a thing of the past.

A drive to Tiverton to tea, and a 15 miles drive

of the inner whorl was perfect, with a curved filament bearing a two-celled anther. The other two were absent.

Lavandula dentata Foliage.—Dr. Masters also drew attention to a peculiarity in the venation of the lobed leaves of this species, in that the "median" cord of each lobe was not central, but close to one side. From this a cord ran round the sinus, giving the appearance of the cords running from the midrib to the base of the incisions, instead of to the apices of the lobes. It recalled the arrangement in a leaf of the common Hawthorn, but this has median cords as well as cords running to the base of the incisions; or, again, that of the cords in the petals of the Compositæ, which run up between the petals and round the margins of the divisions. A very similar occurrence is in the receptacular tube and calyx-limbs of the Cherry, though here, too, each sepal-lobe has its proper median cord as well. Marginal cords are general in the calyx of *Salvia* and other Labiætes, and appear to be supplied for strengthening purposes.

Æcidium Nymphæoides, D.C.—Dr. C. B. Plowright forwarded specimens of this parasitical fungus, with the following observations:—"This *Æcidium* has been stated by Chodat to be connected with the Puccinia on *Scirpus lacustris*. In November, 1877, Puccinia *Scirpi* was found floating in the river Ouse at King's Lynn. During the past winter I found it on the Bulrushes (*S. lacustris*) in the 'Old Bedford' at Earith, Huntingdonshire. On revisiting the spot this July, the *Æcidium* on *Villarsia* was met with in great abundance. The *æcidial* cups occupy the upper surface of the leaves in the form of sufficiently obvious circular yellow spots. After the affected leaves have been removed from the water for a short time the mouths of the cups close by a process of inversion, as if they were immature; but when the leaves become thoroughly dry the cups again open. The *Scirpus* in the immediate vicinity of the *Æcidium* was affected with the uredospores."

Æcidium Chenopodii.—Dr. Plowright also sent specimens of this fungus, with the following remarks:—"In the summer of 1893 Mr. Herbert G. Ward found on the mud flats of Terrington, St. Clements, an *Æcidium* on *Suaeda maritima*. Shortly afterwards I met with the same fungus on the muddy shore on the opposite side of the estuary of the Great Ouse, near Babington Sluice. It was accompanied by uredospores and a *Uromyces* (*U. Chenopodii*, Duby) on the same plant. By some botanists this fungus is regarded as identical with *U. salicorniæ*, D.C., on *S. herbacea*. Doubtless the host plants are allied, but it does not, therefore, follow that the parasitic fungus is the same. *Salicornia herbacea* grows abundantly in the above-named localities, but hitherto I have been unable to find the *Uromyces* upon it, although it is a British species."

Flies attacked by a Fungus.—With reference to the specimens brought before the last meeting, it is reported from an examination made at Kew that "the fungus is *Empusa conglomerata*, Thaxter (a somewhat rare species), parasitic on Diptera, especially the larvæ and imagines of *Tipulæ*, *Dipter.*—Europe and United States. This is the first record for Britain."

Grapes Diseased.—With reference to the samples sent to the last meeting, the following report has been received from Kew:—"The Vines are attacked by a fungus called *Glæosporium ampeliphagum*, Sacc., a well-known pest in vineyards. The mycelium of the fungus is perennial in the branches, and passes into the new shoots as they are developed. The first fruits formed by the fungus in the spring are found on the old wood, and the spores carried by the wind or rain or syringing, reach the flowers and young fruit; the mycelium also travels along the tissues of the branches into the inflorescence. A mixture of equal parts of sulphur and powdered chalk should be applied to every part of the Vine, dating from the commencement of branch formation until the fruit is set. All shoots that are more or less covered with minute black specks should be cut away and burnt at once, as these are the fructification of the fungus."

Thornless Gooseberry.—MM. Letelletier et Fils forwarded from Caen some growing plants of this variety, from which they have issued some kinds raised by M. Ed. Lefort, of Meaux, France. The usual triple spines were either quite absent, or represented by mere rudiments only.

Potatoes grown in "Jadoo" Fibre.—*Jadoo* fibre appears to be peat-moss saturated with chemicals. The Potatoes were very clear, clean, and apparently thin-skinned, but small. The Committee could pass no opinion upon their value, as no information was received as to the composition of the material in which they were grown.

Sweet Williams, Sudden Reversion of.—Mr. Cannell sent some trusses, with small jagged-edged petals of a crimson colour, which had appeared among his long-selected beds of Sweet Williams, the margins of the petals being rounded and smooth. The form which, on its appearance, is never allowed to set seed, approximated to the original wild condition, as described by Gerard, this being apparently the only known form in his day (1597); but Lawrence (1726) describes many kinds, and observes that similar whole or self-coloured forms occasionally appeared. The following are quotations from these two authors:—Gerard (*Herball*, p. 479, A.D. 1597) figures and describes the "Sweet William" as of a "deep red colour," but gives no varieties of the broad-leaved kind. Lawrence in "A New System of Agriculture" (p. 423, A.D. 1726) says:—"There are two or three sorts of this pretty flower; and, indeed, the sorts are almost infinite if you nicely observe the diversity of stripes and colours, and the sportings of nature even in flowers on the same stalk, there being hardly to be found two exactly of the same sort, except they prove (as they do sometimes) self-coloured. The single ones differ only in the colour of their flowers, some are red and white prettily intermixt; others are mixt with a deep crimson, and from their seeds great varieties have been raised. There is also a double flowering kind of a beautiful red."

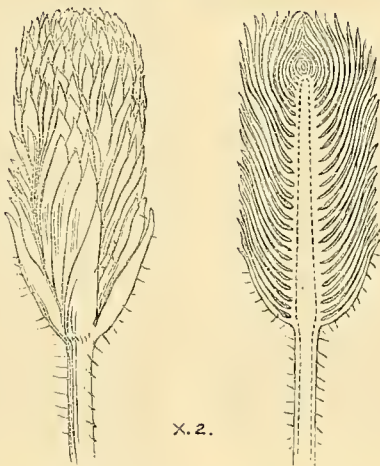


FIG. 28.—WHEAT-EAR PELARGONIUMS. (SEE P. 134.)

verticillata, 8 feet (a grand piece); *Abies grandis*, 65 to 70 feet (planted in 1871); and *Chamærops excelsa*, 12 feet, were noted. Near a comparatively recently-formed Arboretum were some subtropical subjects doing well. *Funkias*, *Osmundæ*, *Spiræa Lindleyana* (a grand shrub), and other such plants were most effective.

In the flower garden the Golden Yews were uncommonly fine. Some seventeenth-century English Yews planted on the site of an old chapel, dating back to May 17, 1332, were pictures of health and contentment, and were trimmed in the old-fashioned fantastic style. There is at Bradfield a fine avenue of *Cedrus Deodara*, and another of Oak.

Sir William Walrond, with his usual hospitality, had arranged for an excellent lunch for the party, and they having had a long drive and a long ramble, this was much appreciated.

Having again got the travelling inspectors aboard,

home, ended one of the most pleasant and instructive outings the Association has yet held. The arrangements, carried out by Mr. A. Hope (Hon. Sec.), Mr. W. Mackay (Hon. Treas.), and a committee, gave general satisfaction.

SOCIETIES.

ROYAL HORTICULTURAL Scientific Committee.

JULY 23.—Dr. Masters, in the chair.

Cypripedium Malformed.—Dr. M. Masters described a curious case received from Messrs. Sander & Co., in which the sepals were normal, but the two petals and lip were absent. The column was erect, terminating in three tabular stigmas, and bearing three petaloid, two-lobed, imbricated staminodes, on the edge of one of which was an anther. They appeared to represent the three outer stamens. One of the three stamens

nations, containing shades of bright scarlet to almost pure white. The plants were well grown and profusely flowered. He showed likewise a group of some hundreds of *Lilium longiflorum*, which were the admiration of all.

Messrs. VEITCH & SONS, Chelsea, staged one of the finest groups of plants the firm has ever sent to the Midlands, and comprised a collection of new Carnations, *Rhododendron jasmiflorum* well flowered; the newest *Nepenthes*, and *Caladiums*. New varieties of *Canna*, for which a Gold Medal was awarded. The same nursery firm staged a fine collection of fruit, and a collection of 100 vases of cut flowers.

Messrs. F. SANDER & Co., St. Albans, staged a choice collection of new plants, for which a Gold Medal was awarded. The group included a fine specimen of *Dracena Saederiana*, a new *Begonia*, *Alocasia Watsoniana*, *Eriocnema Sanderæ*, a fine new variegated plant; new *Palms*, *Orchids*, &c.

Messrs. DICKSON, Ltd., Chester, were awarded a Silver Medal for a collection of cut flowers, consisting of *Roses*, *Gladioli*, *Carnations* in variety, *Phloxes*, and other flowers of perennial plants.

Messrs. CUTBUSH & Sons, Highgate, had a Silver Medal for hardy cut flowers, including *Carnations*. Messrs. WHITE & SON, Worcester, a Silver Medal for thirty-six varieties of herbaceous cut flowers, *Gladioli*, *Gaillardias*, *Pompon Dahlias*, and their new *Petunia*, Brilliant.

Messrs. ECKFORD & Son, Wem, were awarded a Silver Medal for fifty varieties of Sweet Peas, arranged in vases with foliage.

Messrs. CLIBBON & SON, Altrincham, had a Silver Medal for a collection of cut flowers; Messrs. HILL & Co., Spotaeca, a Silver Medal for a collection of shrubs in pots; and Messrs. PRITCHARD & SON, Shrewsbury, a Silver Medal for a collection of eighty varieties of border Carnations.

HAMMERSMITH HORTICULTURAL.

THIS part of suburban London has, of course, its Horticultural Society, which doubtless contrives to keep up a love of gardening amongst its heterogeneous population. The district was once well dotted over with large residences in the times when rich citizens were not conveyed as now by rail and coach so far afield to their homes, and there are still existent legends of fine old gardens in and about Hammersmith. Did not the mother of the present President of the Royal Horticultural Society possess a garden but a short way from Hammersmith, that was famous for rare plants and good gardening; and Kensington, Chiswick, and Turnham Green were peopled with nurserymen, florists, and market gardeners. Who has not heard of the celebrated firm of C. & J. Lee; or of Salter of *Chrysanthemum* fame, who escaped with Louis Philippe's fine china dinner service in 1848, which he let select visitors behold in his parlour at Versailles Nursery, Hammersmith, down to 1869, for the deposed King gave it to him, after it was brought over to this country; or of Gleany, of Glendaniag; or of the famous Williams' *Boa Chrétien* Pear that has made people affluent both here and in the United States of America, and which was found in a Turnham Green garden? Many of the former owners of these gardens are dead and gone, and the land once theirs carries, alas, a crop of houses instead of fruits and flowers!

The Society held an exhibition (the eleventh) on Thursday, July 25, at which were groups of plants shown by amateur and professional gardeners. Mr. WOODHOUSE being 1st among the former, and Mr. BROMLEY among the latter. Nice exotic Ferns came from Mr. Addison, Mrs. LLOYD's gardener, Merton Lodge, Chiswick; and good *Fuchsias* were shown by Mr. BUTTERFIELD, a gardener.

Some non-competitive exhibits came from Messrs. C. LEF, of the Royal Vineyard Nurseries, and from Mr. PREWETT, Swiss Nursery.

CARNATION AND PICOTEE UNION.

JULY 27.—The annual show took place as usual in the garden of the Cottage, Stanley Road, Oxford, on the above date, under the management of Mr. Medhurst, son-in-law and successor of the late E. S. Dodwell. A fine lot of flowers were staged, and admirers of the flower came from various parts of the country.

Carnations.—As at the Crystal Palace, so here, Mr. Robert Sydenham, Birmingham, took the 1st prize in the leading class for twelve Carnations, there being six exhibitors; Messrs. Thomson & Co., Birmingham, were 2nd, with a stand only just below the other. Four other prizes were awarded. There were nine competitors with six varieties, Mr. C. E. Thurstan, Wolverhampton, being 1st, and Mr. A. R. Brown, Birmingham, 2nd, six other prizes being awarded.

Picotées.—There were five collections of twelve *Picotées*, Mr. A. W. JONES, one of the Birmingham amateurs, taking the 1st prize with superb blooms; Mr. R. SYDENHAM was 2nd; and four other stands received prizes. There were twelve stands of six *Picotées*: 1st, Mr. A. R. BROWN; 2nd, Mr. C. R. THURSTAN. Nine prizes were awarded.

Selfs, fancies, and yellow-grounds.—These were superb, and perhaps finer than were ever seen at Oxford. There were eight stands of twelve blooms, Mr. A. W. JONES taking the 1st prize with a splendid lot, some of the finest being *Gladys*, a pink self; *Stadgrath Bil*, y.-g. very bright; *Miss Audrey Campbell*, a yellowish self; *Germania*, very fine; *Janira*, and Mrs. R. SYDENHAM. Mr. R. SYDENHAM was 2nd, and six prizes were awarded in all. There were thirteen stands of six blooms: Mr. W. SPENCER, Jun., New Barnet, was 1st with a very fine lot; and Mr. A. R. BROWN 2nd; six other prizes being awarded.

Yellow Grounds only.—There were thirteen stands of six blooms: Mr. W. READ, the gardener at the Cottage, taking the 1st prize; Mr. A. W. JONES was 2nd, and so good were they, that nearly every stand received a prize.

Single blooms.—A large number of these were staged, and many prizes awarded.

Premier blooms.—The premier Carnation was C. B. J. S. Hadderley from Mr. R. SYDENHAM: the premier *Picotée*, *Madeline*, N. R. E., from Mr. A. W. JONES: the premier self *Germania*, from the same: the premier *Fancy*, *Firefly*, scarlet and maroon, a sport from S. B. C. H. Herbert, from Mr. C. F. THURSTAN; and the premier yellow ground, Mrs. R. Sydenham, from Mr. W. SPENCER.

An excellent collection of bunches of hardy plants were staged by Mr. B. LADHAMS, Southampton; *Dahlias* by Mr. JOHN WALKER, Thame, and Mr. T. ANSTISS, Brill; and seedling border Carnations of excellent quality from Mr. W. Hovell, gr. to G. H. MORRELL, Esq., M.P., Headington Hill; Certificates of Merit being awarded to each.

A large party partook of luncheon in the grounds under the presidency of the Mayor of Oxford.

FLOWER SHOW AT WELLINGBOROUGH.

JULY 28.—This exhibition took place in connection with the periodical meeting of the Northamptonshire Agricultural Society's show, and was the means of bringing together, in the classes open to all England, exhibits of a high order of merit. Handsome money prizes were offered for twelve stove and greenhouse plants, dissimilar.

Mr. J. CYPHER, nurseryman, Cheltenham, took the 1st prize with grand examples of *Kentia australis*, *K. Belmoreana*, *Lantana borbonica*; a magnificent *Croton Sunset*, *C. angustifolius*, and *Cycas circinalis*; a remarkably good plant of *Erica Austiniana*, *E. tricolor vera*, *Phenacoma prolifera*, *Barrisii*, *Ixora Williamsii*, &c. Mr. W. Finch, gr. to J. MARIOTT, Esq., Coventry, was 2nd, with a collection of similar character.

The best plant group came from Mr. W. VAUSE, nurseryman, Leamington; Messrs. H. & E. LACK, nurserymen, Wellingborough, were 2nd.

Mr. FINCH had the best six fine-foliaged plants; Mr. VAUSE taking the 2nd prize.

The best specimen plant was a magnificent example of *Zamia Vroomi*, some 16 feet in diameter, and having seventy to eighty finely-developed leaves, shown by Mr. C. WILKINS, Wellingborough; so large was it that accommodation had to be found for it in the open. Ferns were well shown in both divisions; in the open class by Mr. J. COPSON, Cottisatree, who was 1st; and in the gardeners' division by Mr. D. WALKER, Wellingborough. In the gardeners' division Mr. FINCH had the best six stove and greenhouse plants, all in flower; Mr. COPSON taking 2nd place. Foliage plants, *Caladiums*, *Gonolias*, *Fuchsias*, *Coleus* were good.

Cut Flowers.—The open class for twenty-four *Roses* brought a good competition, the Rev. J. H. PEMBERTON, Romford, taking the 1st prize, having fine examples of Mrs. J. Laing, A. K. Williams, Comte Rainaud, *Caroline Testout*, *Ernest Metz* (Tea), &c.

With twelve varieties of Teas, the Rev. E. G. KING, Gayton, was 1st, having good examples of *Princess of Wales*, *Madame Cusin*, *Marie van Houtte*, and *Hon. Edith Gifford*.

The best twenty-four bunches of cut flowers came from Messrs. T. PERKINS & SONS, nurserymen, Northampton. In another division for twelve *Roses*, some good cut blooms of *Zonal Pelargoniums* and double and single *Begonias* were staged.

Fruit in quantity was limited, but in quality good. The best collection of fruit came from Mr. HAYES, The Gardens, Castle Ashby, who had *Grapes*, *Pine-apple*, a *Melon*, *Peaches*, *Nectarines*, and *Gooseberries*. Mr. D. PERCIVAL, Wellingborough, had the best three bunches of *Black Hamburg Grapes*. Mr. J. CLIPSTONE, Dingley, was the only exhibitor of white *Grapes*, having *Foster's Sealing*. Some good *Peaches* were shown by Messrs. IRONS, SPRATTON and COPSON, also good early prolific *Plums*.

T. H. RABONE.

IN our last issue we confined ourselves perforce to the mere mention of the decease of Mr. T. H. Rabone, the well-known gardener at Alton Towers. A full account of his career up to the date of publication was given in our issue for October 14, 1876. From this it appears that Mr. Rabone was born in 1833. In boyhood and youth he served in the gardens at Wellesbourne Hall, Walton House, and Packington Hall. In the last-named place he tells us he had eleven fires to see to on a winter's night, but where he nevertheless educated himself by dint of perseverance. From Packington he went to Shrubland, and thence to Trentham, where he came under the tuition of Fleming. From Trentham he went to Barlaston, where the lessons he had learnt were turned to account, and he became a distinguished exhibitor, as also when he was at Hart's Hill and Woodseat. At the great Horticultural Show at Leicester he took the 1st prize for every dish of fruit he exhib-

ited, six in number. Thence he proceeded to Alton Towers, where he had the superintendence of the garden, the woods, and the estate generally. The closing paragraph of the autobiographical note, from which the above particulars are taken, ends thus—" . . . it may be that when you are dead and gone your memory will be recalled with gratitude and tears." How true this was of himself is shown by the following extracts from a local paper:—"The Earl of Shrewsbury came down specially from London on the 19th inst., on hearing of Mr. Rabone's serious illness, in order to see him and express his deep sympathy with the family. Telegrams were despatched and received several times each day from the Earl and Countess, and other members of the family. On hearing the sad intelligence on Saturday of his death, the Earl ordered the flag to be hoisted half-mast high on the Towers, and so it remained till after the funeral. All the blinds at the Towers were drawn, and the grounds closed till after the funeral. By all denominations the deceased was greatly respected. He was on the Board of Guardians for Chedale, was district Councillor for Farley, and a parish councillor. He was a Freemason, and Past Master of the Foresters' Lodge, Uttoxeter, and Past Provincial Grand Swordbearer, Staffordshire. The deceased, though a Wesleyan, retained the greatest affection and love for the Church of England, and was by his own request buried with the rites of the Church in the consecrated portion of the additional churchyard at Alton. The coffin was sent by Mr. Mynors, his lordship's agent at Ingestre, and was made on the estate there. The procession was headed by Mr. W. C. T. Mynors, representing the Earl, and Dr. Hall. At the church gates the body was met by the local clergy and dissenting ministers, and the Rev. R. Barrett (Wesleyan minister, Chedale), the Rev. W. C. Greene (vicar of Oakamoor), the Rev. C. J. Winaer (vicar of Market Drayton), the Rev. C. B. Tyrwhitt (vicar of Candon), and the Rev. W. T. Norton (Denstone College). On reaching the church, Mr. Barlow, his lordship's organist, played "O rest in the Lord." The mourners were the Rev. T. H. Rabone, Mr. Henry Rabone, Mr. Frank and Charlie Rabone, the Rev. R. Murphy, and a large body of tenantry and friends. Amongst those who sent floral tributes, numbering nearly sixty, were the Earl of Shrewsbury and Talbot, the Countess of Shrewsbury, Viscount Ingestre, Lady Viola Talbot, Theresa Countess of Shrewsbury, the estate workmen, the gardeners at Alton Towers and Ingestre, the servants at the Towers, and many others.

Mr. Rabone earned for himself the proud title of the gardener's friend. Letters from some of his "young men" are before us testifying to the essential goodness of the man and his kindness of heart. In *Dean Hole's Memories* is the following passage:—"Solace comes to you with the real enthusiast, who shares your admirations, your successes and disappointments, as though they were his own; who is as anxious to receive, as he is willing to give information; as grateful as he is generous. How quickly and happily the hours go, as in his garden, or in yours, or wherever your favourites grow, you suggest to each other new charms, new combinations, new methods of culture. I went to one of the most beautiful of our great English gardens, and meeting the head gardener, asked permission to walk through the grounds, and told him my name. To my momentary surprise he made me no answer, but turning to one of his men at work close by, bade him 'set the fountains playing.' That was his brotherly welcome; and it stirred other fountains beside those which suddenly arose and sparkled in their silvery sheen, and made my heart glad. In this delightful garden there stands a statue of the noble owner who reclaimed it from the waste, and underneath an inscription, 'He made the desert smile, and so our love of flowers and florists makes green spots on the path of time.' In this land of gardens the gardener has troops of friends, and even in places which the world calls desolate, he shall find companions to cheer him, so long as there are Lichens on the mountains, Ferns in the valley, or Algae on the shore.

'The wilderness and the solitary places shall be glad for him, and the desert shall rejoice and blossom as the Rose.'

Mr. Rabone rarely came among his Metropolitan colleagues, but he was well known among them as a good gardener and a most conscientious sympathetic man, ever ready to do good to others.

MR. A. F. BARRON'S RETIREMENT.

THE announcement that Mr. BARRON is shortly to retire from the direction of the hallowed gardens at Chiswick will come as a surprise to many and a shock to some. No doubt the Council of the Royal Horticultural Society have given the matter the most anxious consideration, and have convinced themselves of the expediency of the step in the interests of the Society and of Horticulture generally. Moreover, they cannot have failed to remember the prolonged and unique services which Mr. BARRON has rendered to the Society, and the retiring pension offered to him will doubtless be proportionate to the means at their disposal and to their sense of the value of his services. The older members of the Council have surely not forgotten the staunch, unwavering loyalty which Mr. BARRON displayed during those wretched years of the South Kensington management, when Chiswick was allowed to fall into a miserable state of disrepair. At that time the direction of the garden must have been a constant source of depression to the Superintendent, intensified as it was by an abiding sense of the precariousness of his position. This state of things has happily passed away. Chiswick has been put into good order, and horticulturists long to see it the exponent of progressive horticulture, and the trial ground for all that is promising and instructive. They do not care to see it competing with market-growers in the sale of Grapes, and they think the services of the staff might be more profitably employed than in growing for distribution among the Fellows plants which are readily to be purchased for a few pence at the nearest florist's.

But leaving these matters aside for future consideration, the one uppermost feeling in the minds of those who are familiar with the work of the Society is, that Mr. BARRON should not be allowed to retire without a tangible expression of goodwill and admiration on the part of those who have witnessed his efforts or benefited by his help. His name has been synonymous with staunchness and loyalty. Under circumstances always difficult, not unfrequently perplexing, and sometimes, as we have said, depressing, BARRON has set a fine example of steadfast devotion to duty, whilst outside his official duties his work as the author of the most popular book on Vine culture and his services to the Gardeners' Orphan Fund have given him a claim to the warmest acknowledgments on the part of his friends and associates. In this matter we feel we are but expressing the feelings of many others, for even before the matter was publicly known we have been in receipt of many letters, expressing the same views. It is needless to say that we shall feel it a privilege to co-operate in the matter and to assist in whatever may be determined upon.

NURSERY NOTES.

MR. DOUGLASS' CARNATIONS.

THE little station of Bookham on the L. & S. Western Railway, about 20 miles from London, and in one of the prettiest districts of Surrey, is but

little frequented except by school-children and others from the metropolis, who have found the place to be a suitable one for their annual excursion. Since, however, Mr. Douglas has commenced his nursery within five minutes' walk of the place, there have been attractions to the florists also, and these are likely to become stronger each season. It was Mr. Douglas' Carnations we journeyed to see last week, wondering as we did so, what kind of a display we should witness after the extraordinary character of the weather since Christmas. A peep into the first house to be seen, however, was sufficient to assure us that the result of unfavourable weather was not very evident, and after passing through two of these all filled with excellent pot plants, with large stout flower-stems much branched, and bearing countless blooms of striking quality, the conviction was forced upon us that the journey was little compared with the return to be found here, which was such an one that any admirer of these flowers would be satisfied with. Mr. Douglas has long been known as a raiser of new Carnations, and judging from the far greater number he has of seedlings this season, he will be better known in the future; but the varieties at present superior to any others of their sort are those which have been raised in the garden of Martin R. Smith, Esq., Hayes Common, and which are sent out by Mr. Douglas. Each of these admirable varieties is grown in numbers here, and from the abundance of bloom, the effect of each compared with the other can easily be noted. Mrs. Eric Hambro is the most meritorious of all. Its flowers are pure white, very large, being 3 inches in diameter, and of the most perfect form possible; the petals are flat, and the bloom nearly circular. This handsome new variety is one of the finest white varieties ever sent out, and the habit of the plant is strong and free-flowering. Lady Ridley will, perhaps, be equally admired; the flowers are not smaller than the one just described, but the form is not quite so perfect, and the colour is less pure, inclining to cream. Its habit, however, is very commendable, especially the stout fontetalks, which make the plant so erect in flower. A charming new rose-coloured variety is found in Sadek; the rose is rich and deep, rather peculiar in tint, and very pleasing. A large quantity of bloom was in perfect condition, and its erect and vigorous habit make it specially desirable. Bendigo has violet or bluish-purple flowers, grows less tall than many kinds, but in habit it is very sturdy, erect, and vigorous. Braw Lees has brighter rose flowers than Sadek, and they are of large size and good form. Some of the very largest had split calyces, but the occurrence was not frequent, and was not to be seen at all in cases of secondary or smaller blooms.

Only four new yellow-ground Carnations and Picotees are to be sent out during the coming season, and of these were noticed George Cruikshank and Cowlip. To speak of the last-named first, Cowlip is a yellow-ground Picotee, with edging of bright rose. It is a good grower, and we could detect no split calyces; the blooms are of commendable form, and apparently the variety is a late one, as there were fewer blooms expanded on these plants than on others. George Cruikshank is an excellent Carnation, of the type of Victory, and although distinct from Cardinal Wolsey, which was sent out last season, it is of the same type. It has a buff-ground, and is flaked with crimson or blood-red. The flowers are very large and extra full, calyces good. In addition to these that have not yet been sent out were the collection of the new ones of last season, such as Cardinal Wolsey, which we have just mentioned, Hayes' Scarlet, which is certainly the finest scarlet Carnation ever raised; Duke of Orleans, dark shade of yellow; Miss Audrey Campbell, brimstone-yellow; The Hunter, rich Ajricot-yellow; Corona, pleasing golden-yellow; Waterwitch, extra large, and of the most delicate blue; Mephisto, lovely crimson, and notably good form; and King Arthur, an exceedingly large flower, 5 inches in diameter, of scarlet-crimson, extra good for a border. Other good Carnations are Snowdon, a large white flower of rather

indifferent form, but valuable for a border; Endoxia, a large flatish flower of salmon-rose; Pride of the Garden, another rose-coloured variety, specially suitable for borders. These last three were raised by Mr. Douglas, as were also the following Picotees: Ladas, clear yellow ground with thin scarlet edge, good flower and stout petals; Mrs. A. Tate, yellow ground, edged and marked with rich red; President Carnot, yellow ground, heavily edged with rosy-scarlet, flowers of considerable size and good in form; Mrs. Douglas, one of the most attractive, having a pale yellow ground, with rose edge, and of very fine form; Mrs. Drafield, with yellow ground, is rather heavily edged with pale rose. A new velvety-crimson Carnation of exquisite form, named Henry Irving, and raised by Mr. Douglas, well deserves notice; and also a sport from the new yellow-ground Picotee Mrs. Gooden, which we think will be a valued one. Considerable work has been done in the nursery since we last saw it. Roadways have been made, and a dwelling-house is in course of erection. More space than heretofore has been planted with seedling varieties of Carnations; and in spite of a season remarkable for its lack of moisture, the whole collection looks healthy, the plants are well flowered, and there are many amongst them to which the future belongs.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.					RAINFALL.		BRIGHT SUN.		
	Above (+) or below (-) the Mean for the week ending July 27.	ACCUMULATED.				No. of Rainy Days since Jan. 1, 1895.	Total Fall since Jan. 1, 1895.	Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1895.	
		Day-deg.	Day-deg.	Day-deg.	Day-deg.					
0	3 -	74	0	+ 125	+ 262	0	127	22.9	14	30
1	3 -	83	0	+ 17	+ 415	8	103	15.2	12	36
2	1 -	111	0	+ 65	+ 277	19	103	16.2	21	34
3	1 +	141	0	+ 37	+ 233	10	93	11.9	32	39
4	1 +	134	0	+ 59	+ 373	6	85	12.9	32	37
5	0 aver	139	0	+ 3	+ 333	13	81	11.2	28	39
6	2 -	94	0	+ 35	+ 334	8	108	16.0	20	34
7	1 -	116	0	+ 50	+ 303	12	94	15.7	22	36
8	0 aver	125	0	+ 26	+ 337	7	88	16.3	28	44
9	2 -	97	0	+ 4	+ 268	7	119	18.6	15	33
10	2 -	119	0	+ 52	+ 195	15	99	19.1	21	35
*	1 +	141	0	+ 23	+ 248	3	100	13.5	34	50

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

- 0, Scotland, N. Principal Wheat-producing Districts—
- 1, Scotland, E.; 2, England, N.E.; 3, England, E.;
- 4, Midland Counties; 5, England, including London, S.
- Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.;
- 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending July 27, is furnished from the Meteorological Office:—

"The weather was again dull and unsettled very generally, with frequent and heavy rain in nearly all parts of the kingdom. Thunder and lightning also occurred from time to time in almost all districts.

"The temperature slightly exceeded the normal in England, E., and the Midland Counties, as well as in the Channel Islands, and just equalled it in England, S. and S.W.; elsewhere, however, it was below the mean value, the deficit amounting to as much as 3° in Scotland, N. and E."

and 2° over 'Ireland.' The highest of the maxima were recorded on the 26th over England, but on varying dates in Ireland and Scotland; they ranged from 78° in 'England, E.,' 77° in 'England, S.,' and 76° in the 'Midland Counties,' to 69° in 'Ireland, N.,' and 56° in 'Scotland, N.'

"The rainfall just equalled the mean in 'Scotland, N.,' but greatly exceeded it in all other parts of the kingdom. In many districts the total fall for the week was about three times as much as the mean, while in 'England, N.E.,' it was more than four times the mean.

"The bright sunshine exceeded the mean in some parts of the north of Scotland, but was very little prevalent elsewhere. The percentage of the possible duration ranged from 34 in the 'Channel Islands,' and 32 in 'England, E. and the Midland Counties,' to 15 in 'Ireland, N.,' 14 in 'Scotland, N.,' and 12 in 'Scotland, E.'"

MARKETS.

COVENT GARDEN, August 1.

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

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

Table with columns 's. d. s. d.' and 'Orcchid-bloom in variety'. Includes items like Arums, Asters, Bouvardias, Carnations, Cockscombs, Endorhizas, Gardenias, Lappagerias, Lilium Harrisii, etc.

PLANTS IN POTTS.—AVERAGE WHOLESALE PRICES.

Table with columns 's. d. s. d.' and 'Fuchsias, each...'. Includes items like Adiantum, Aspidistra, Calceolarias, Coleus, Cyperus, Dracenas, Evergreen Shrubs, Ferns, Ficus elastica, Foliage plants, Fuchsias, Heliotrope, etc.

FRUIT.—AVERAGE WHOLESALE PRICES.

Table with columns 's. d. s. d.' and 'Melons, each...'. Includes items like Apples, Cherries, Figs, Grapes, Red Currants, Melons, Pine-apples, Peaches, etc.

VEGETABLES.—AVERAGE WHOLESALE PRICES.

Table with columns 's. d. s. d.' and 'Tomatoes, Home-grown...'. Includes items like Beans, Cauliflowers, Cucumbers, Marrows, Mushrooms, Peas, Tomatoes, etc.

POTATOES.

Trade not nearly so good, and prices lower. Best samples from £4 to £5; good ordinary (amp. £). J. B. Thomas.

SEEDS.

LONDON: July 31.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report an increasing sowing demand for Mustard and Rape seed. Prices for both articles stand at a moderate level. Rather higher prices for Trifolium are reported from France.

The new English Trifolium comes cheap and good. New home-grown Rye and Rape seed are appearing. Haricots scarce. Peas unchanged. Bird seeds slow. Buckwheat offers at tempting figures.

FRUITS AND VEGETABLES.

BOROUGH: July 30.—Quotations:—Peas, 2s. 6d. to 3s. per bushel; Horseradish, 1s. to 1s. 3d. per bundle; Onions, foreign, 3s. per bag; Cherries, 4s. to 6s. per half-sieve; Currants, 2s. to 6s. do.; Gooseberries, 2s. to 3s. do.

SPITALFIELDS: July 30.—Quotations:—Carrots, 2s. 6d. to 3s. per dozen; Turnips, 2s. to 2s. 6d. do.; Marrows, 5s. to 7s. per tally; Scarlet Beans, 3s. 8d. to 4s. 6d. per bushel; Broad do., 1s. to 1s. 3d. do.; Cabbages, 2s. 6d. to 3s. 6d. per tally; Onions, Spring, 1s. 6d. to 2s. per dozen bunches.

STRATFORD: July 30.—Quotations:—The supply to this market during the past week has been good, and, with plenty of buyers, a brisk trade was done as under:—Cabbages, 2s. to 5s. per tally; Turnips, 2s. to 2s. 8d. per dozen bunches; Carrots, household, 2s. to 2s. per dozen; Mangels, 20s. to 24s. per ton; Greens, 4s. to 4s. 8d. per bag; Onions, Port, 5s. to 5s. 6d. per case; do., Dutch, 3s. 6d. to 5s. per bag; Apples, English, 2s. 6d. to 4s. per bushel; Cherries, 6s. to 5s. 6d. per half-sieve; Currants, black, 4s. to 5s. do.; do., red, 2s. 6d. to 3s. 8d. do.; Plums, foreign, 4s. to 6s. per basket; Peas, 1s. 6d. to 2s. per half-sieve; do., Millies, foreign, 2s. to 4s. do.; Tomatoes, English, 4s. to 4s. 6d. per peck; Scarlet Runners, 3s. to 3s. 6d. per bag.

FARRINGTON: Aug. 1.—Quotations:—Cabbages, 6s. per tally; Parsley, 3s. 6d. per dozen bunches; Carrots, 4s. do.; Turnips, do.; Currants, black, 8s. per half-bushel; red do., 6s. do.; Marrows, 2s. 6d. per dozen; Peas, 3s. 6d. per bushel; Scarlet Beans, 4s. do.; Apples, English, 3s. to 4s. do.; Tomatoes, 4s. to 4s. 8d. per 12 lb.; Grapes, 1s. to 1s. 3d. per lb.; Cherries, white, 11s. per half-bushel; black, 7s. to 7s. 6d. do.; Plums, 6s. 6d. to 6s. do.; Peaches, 7d. per box; foreign Grapes, 9s. per barrel; Green Gages, 4s. per basket (15 lb.); Pine-apples, 2s. each.

POTATOS.

BOROUGH: July 30.—Quotations range in price from 75s. to 120s. per ton.

SPITALFIELDS: July 30.—Quotations:—Snowdrops, 80s. to 100s.; Puritans, 90s. to 100s.; Hebrons, 70s. to 90s. Suttons' Regents, 70s. to 95s. per ton.

STRATFORD: July 30.—Quotations:—Beauty of Hebron, 80s. to 90s.; Snowdrops, 80s. to 90s.; dark soil, 70s. to 80s.; Dutch, 60s. to 70s. per ton.

FARRINGTON: August 1.—Quotations:—White Hebrone, 90s. to 100s.; Red do., 90s. to 100s.; Magnuma, 80s. to 90s. per ton.

LONDON AVERAGES: July 31.—Hebrons, 80s. to 100s.; Snowdrops, 80s. to 100s.; Kidneys, 70s. to 80s.; Early Regents, 70s. to 80s.; Puritans, 80s. to 90s.; Early Rose, 75s. to 85s. per ton.

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 90s. to 115s.; do., inferior, 50s. to 80s.; hay, best, 80s. to 95s.; do., inferior, 36s. to 60s.; mixture, 70s. to 92s. 6d.; and straw, 20s. to 38s. per load.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending July 27, and for the corresponding period last year:—1895: Wheat, 24s. 1d.; Barley, 19s. 10d.; Oats, 15s. 11d. 1894: Wheat, 24s. 8d.; Barley, 22s. 6d.; Oats, 20s. 5d.

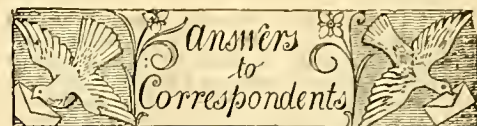
TRADE NOTICE.

We understand that Mr. A. EVANS, head gardener at Lythe Hill, Haslemers, has begun business as a fruiterer, florist, and seedsman, in Haslemere.

ENQUIRY.

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

"WELLINGTONIA."—Will any reader who is in a position to do so kindly forward to the Editor a few young cones or female flowers of Sequoia gigantea? They must be as small and young as can be obtained at this season; larger ones are of no service. Only a very few are required.



Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.

PLANTS, FRUITS, ETC., TO BE NAMED.—Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists varieties cannot, as a rule, be named.

ADDRESS: W. T. Published by M. Doin, Paris.

A RED-COLOURED CARNATION USED IN AUSTRIA AND SWITZERLAND FOR FILLING WINDOW-BOXES: Florist. Probably Carnation Margaret (Margarethen Nelke), large-flowered, dwarf of habit, but various in colouring.

BEAUTY OF BATH APPLE: Geo. Cooling. An excellent dessert fruit, pleasant in appearance and flavour.

CANNAS: A. W. M., Austria. The blooms reached us in such a withered condition that it was impossible to pronounce any opinion upon them, save that the flowers were smaller than those we are now accustomed to see.

SEEDLING CARNATION: G. B. A good variety, orange-pink, but we cannot say it is better than others.

CORRECTION.—Among the list of candidates placed in the First Class at the recent examination at the Royal Horticultural Society, the name "Micklethwaite" was erroneously spelt "Mucklethwaite."

FOREIGN WOOD AND NUTS: J. P. If you will kindly send your full address we will communicate with you by letter.

GRAPES: A. J. B. and A. S. Your Grapes are affected with "spot," the work of a fungus. Another year try the effect of spraying with Bordeaux Mixture when the berries are small.

GREENHOUSE FERNS FROM SPORES: J. W. Many species such as Pteris tremula, P. serrulata, P. aspericallis, Adiantum capillus-veneris, Asplenium, several species, viz., alatum, erectum, and flabellifolium; Cystopteris tenuis, Lomaria gibba, Nephrodium molle, Polypodium pectinatum, Scolopendrium in variety, Woodia obtusa, and others. In a damp house the spores germinate abundantly, and can be made to attach themselves to suitable substances, such as lumps of peat, soft bricks, porous plaster, and dead wood; or they may be sown in pans thinly, the pans being filled with sandy peat or peat and loam, over abundant drainage materials. Asplenium of some species, for instance, may be 18 months in appearing, and there should be no hurry to throw a pan of spores away; on the other hand, there are species which show the prothallia in a fortnight.

LACHENALIAS: T. T. The bulbs are attacked by a fungus—Sclerotinia bulborum. Leave all affected bulbs for fifteen minutes in a rose-red solution of potassic permanganate, shaking well so as to insure the wetting of every part. Afterwards dry in a current of air. G. M.

MELONS DISEASED: Ed. M. Phoma lagenicols, a minute fungus, is destroying the Melon plants. Wash the diseased parts with 1 part parasitic in 70 parts water, although it is probably too late to do anything with the present crop. Burn all diseased portions, and either change the soil or sterilise thoroughly before planting again. G. M.

NAMES OF PLANTS: Correspondents not answered in this issue are requested to consult the next number.—Constant Reader. 1, Campanula latifolia; 2, Deutzia crenata, double-flowered variety.—A. W. Mayer, Nied. Stanhopea tigrina.—Rio. Androsace lanuginosa.—W. J. Lysimachia thyrsiflora.—W. D. H. Staphylea pinnata.—X. Y. Z. Cuscuta epithymum, Lesser Dodder.—E. M. Echinopsium sp., perhaps E. Lappala. Look at the burs

with a magnifying glass.—*No name.* Eryngium alpinum, Chrysanthemum lacustre, Lobelia cardinalis.—*A. J. B.* 1, Inula sp.; 2, Riccarton Fuchsia; 3, Bocconia cordata; 4, Helianthus rigidus; 5, Chrysanthemum lacustre; 6, Stipa pennata.—*N. C.* 1, Achillea Ptarmica, double; 2, Centaurea moschata, Sweet Sultan.—*W. H.* Eria stellata.—*J. I.* 1, Polystichum vestitum; 2, Laetrea glabella; 3, Gymnogramma ochracea; 4, Gymnogramma (Dictyogramma) japonica variegata; 5, Pteris haastata; 6, Laetrea atrata; 7, Woodwardia radicans; 8, Doodia caudata; 9, Asplenium fœniculaceum; 10, Laetrea serra; 11, appears to be a weak, barren frond of Pteris tremula; 12, Pteris longifolia. You have sent double the number we undertake to name; a small contribution to the Gardeners' Orphan Fund would be a graceful compensation on your part for our trouble and time.—*F. Y.* Celsia cretica.—*Constant Reader.* 1, Maranta zebra; 2, Pandanus graminifolius; 3, Dieffenbachia nobilia; 4, Dracœna Lindenii; 5, Anthurium Scherzerianum.—*R. C. Filey.* Dendrobium Bensonsæ and Epidendrum fragrans.—*F. P., co. Monaghan.* The best form of Epidendrum fragrans and Bletia Shepherdii.—*W. Macdonald.* Your variety of Odontoglossum Uro-Skinneri is the finest we have seen. The flowers of Cattleya labiata Gaskelliana exhibit a curious departure from the normal form. We will refer to them at length in a later issue.—*S. Maddox.* We do not undertake to name florists' varieties of any plant.—*Disca.* Eryngium alpinum.

THORLEY'S POWDERS FOR HORSES AND MUSHROOM DUNG: *Head Gardener.* We have no experience in the matter, but we should suppose that if the horse-food consists of chaff, hay, Beans, and Oats, the manure would not be rendered unsuitable for making Mushroom beds. The litter from beneath horses treated medically should be discarded.

TOMATOS: *Burbach.* Your Tomato fruits are attacked with "Black-rot," caused by the fungus Peronospora lycopersici, but the damage to the foliage is due to the presence of another fungus, known as Cladosporium fulvum. The best antidote is the Bordeaux Mixture, the formula for making which was given in our issue of last week in this column.

VINE ROOTS DECAYED: *Market Gardener.* A soured soil, with water probably stagnant in it.

YELLOW RASPBERRY "BRIDE OR SUPERLATIVE": *J. Merryfield.* A fine vigorous plant, with large fruits that were however almost flavourless, from having been exposed to heavy rain for a long time. Send again when in better condition. There are too few yellow varieties in cultivation.

COMMUNICATIONS RECEIVED.—*D. Melville,* in good time.—*C. H. M. A. A., F. C. S., J. Mackinnon, E. D., E. J., F. W. S., G. W., W. M. W., W. S., D. T. F., W. B., H. M., R. L. H., F. R., Marywether & Son, C., H. C. F., F. de M., Gurosey, C. de C., W. M., E. de L. Contich, T. H. R., W. T. T., F. B., Otto Ballf., J. H. K., J. W., W. D., L. B., E. W. B., L. L., W. M., Nied, Austria, T. C. H., E. A. M. W., J. B., T. B., E. L. J., F. S. & Co., C. S. S., Boston, Mass., G. H. B., J. B., M. M., T. C., H. Dunkin (too late)—*J. A., W. C., and H. L.* (next week).*

PHOTOGRAPHS, SPECIMENS, & C. RECEIVED WITH THANKS.—*W. Bull., F. C. H., R. P.*

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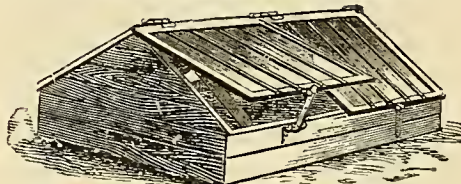


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A Weekly Illustrated Journal

(ESTABLISHED 1841)

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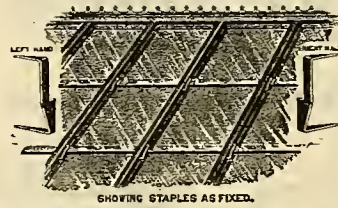
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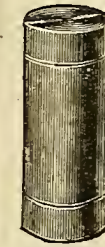
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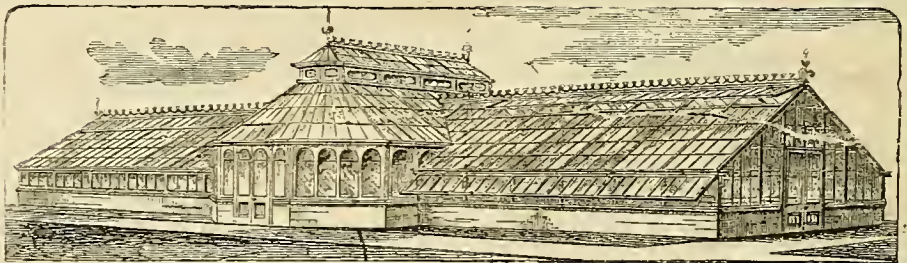
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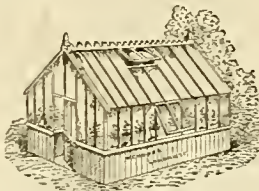
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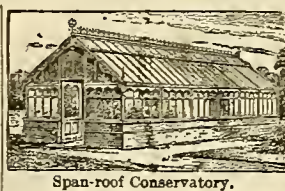
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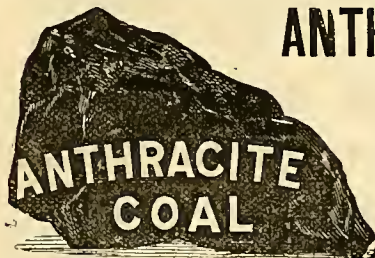
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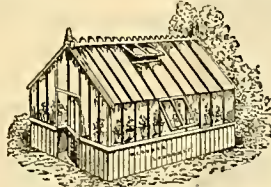
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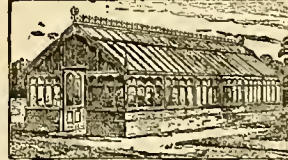


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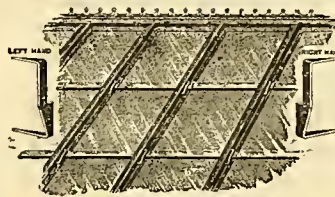
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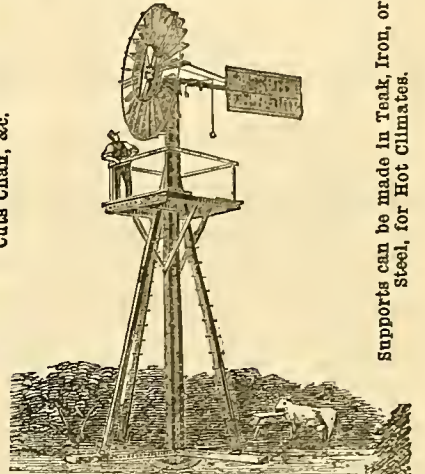
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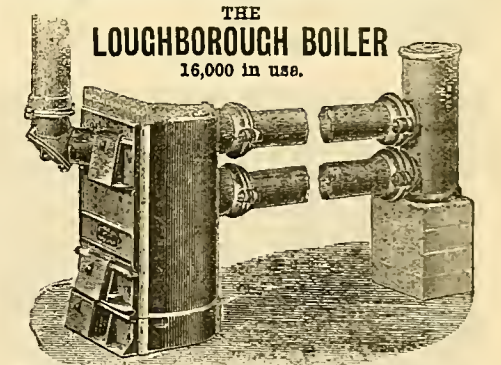
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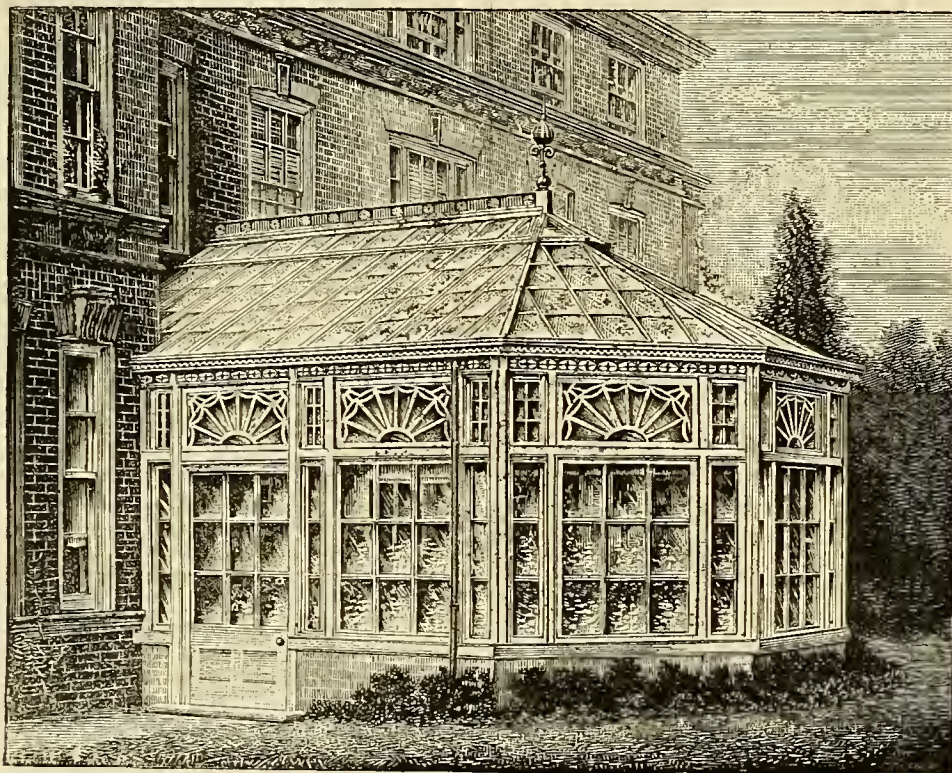
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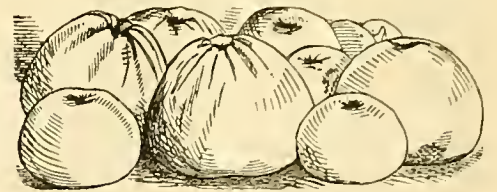
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THE

Gardeners' Chronicle.

SATURDAY, AUGUST 10, 1895.

STREET PLANTING.

AVENUES in the country, if but once rightly planted on the right soil, and then left to themselves, are sure to reward succeeding generations. No country in the world boasts so many superb Beech, Birch, Oak, and Elm as does our own land. Our parks, royal and private, are one of the principal attractions for our American cousins, and not less for the dwellers in Europe generally, since a tract of country almost equal in extent to all England may be searched for in Germany or even in 'fair' France without finding one such vista through a double series of fluted columns as scores of our nobles' and even commoners' seats afford.

But the question to settle here is—how far can we succeed in cultivating avenues in a great city? Can we keep horses alive and well in mines? Time was when such an idea would have been ridiculed. To habituate them even to city life might well have been deemed a hopeless undertaking by those who knew them only in prairie freedom. But first by accident, and then by science, the one and the other doubtful point has been cleared up, and the tree has been found to be as ready to adapt itself to painful circumstances as was the horse.

It behoves us, however, to know precisely to what extent such conditions of life must be painful in the case of the tree, and what is nowadays being done to alleviate at once its own lot, and that of the human and equine denizens of the town. As regards the initial step towards the attainment of our object—planting—look at the splendid boulevards which have sprung into existence on or close to the site of ancient bastions in continental towns, such as Florence and Geneva. One might suppose that the planting of these was effected with no technical knowledge. But the fact is, that masonry rubbish, though valuable in admixture, is fatal in all but the wettest seasons to trees, even suburban; and unless precautionary measures are adopted during the levelling, great expense is afterwards entailed in removing the soil and refilling upon the planting sites. In some towns on the Continent, the pleasure-grounds authority shoulders all such expense, and co-operates with the street-building department in economising labour of this kind; and it is this fundamental preparation which, in unconfined places at least, amounts to a guarantee of future Champs Elysées.

Money will do almost everything. It is all but omnipotent; and the London County Council is proving that sufficient of it can be raised in London to execute any highly important improvement. If it be possible in London to widen streets, lying quite near the City, sufficiently to plant them with trees, it cannot be impossible in any other of our great centres to purify, moisten, cool the air for such unfortunates as must pursue their avocations throughout the hot months. The indispensable

widening of streets with a view to leafy avenues is doubtless costly, and may, in a few cases, be beyond the reach of the community, but for each noble tree-lined thoroughfare penetrating our most densely populated urban districts, there has been, and will ever be, a notable decrease in our doctor's bills—an advantage, to say the least, inversely proportionate to the outlay on such a street. To dweller and worker in the adjacent houses, equally with the pedestrian or the traveller by vehicle, the benefit is admittedly immense. This embellishment, this hygienic improvement of our towns, should be more cultivated by all local bodies as an "art of peace" of vast, if not of paramount, importance. Were the true economy of this art better understood by such authorities, the rates, even though slightly increased, would be more cheerfully paid.

It should become true of every city, that there be within it no important point of street-intersection from which no green leaf is visible. Where little has yet been done, it will be necessary to set aside annually the sum of £1300 for a town of 50,000 (this is an average sum, and must vary with the extent of pleasure grounds), and from £200 to £250 for each 10,000 additional inhabitants. Let a good gardener be selected—one to whom much freedom may safely be accorded in the management of all the public pleasure-grounds, as well as of the street plantation. Then, not even the poorest soil need present any real difficulty. The most arid sand, or the stiffest clay, no more imperatively than ordinary soils, must be trenched 3½ feet deep, and as wide, before planting. The difference in the former case (bad raw material) consists in the bringing-in of good soil to the extent of from one-third to one-half.

Some large German cities (Dresden and Magdeburg), having to deal with hungry sand, underlain only at a great depth by clay, have boldly inaugurated a system of underground watering, and this, though at present only tentative, has so far (some eight years) given good results.

The system may be briefly explained. The general city water-mains are tapped by a secondary shallow-lying conduit at the head of a street, and from this diverge the tree-feeders at regular distances of 8 feet, their contents discharging themselves slowly through a small bed of old mortar into the prepared ground. The whole system lies only 15 inches beneath the surface, is ventilated by upright open shafts at every 11 yards, and is, of course, emptied by a stop-cock in autumn.

Some fine trees occupying corners or paved square centres are deemed worthy of a separate system—viz., a conduit forming a square around them, with vertical as well as horizontal feeders, each one foot long, approaching the roots on all sides, and at differing depths.

Iron tubes are used throughout, and it is reckoned that these will do service for fifteen years, when the trees would be very strong, and could, perhaps, take care of themselves, if given liberal breathing and drinking space around their stems.

The average cost of tree up to two years, striking the average from all situations within the municipal limits, will be from 18s. to 20s. In small towns less.

As to the best kinds of tree for the purpose, one must, of course, be guided to some extent by knowledge of the locality, but seeing that "variety is the spice of life," and that the trenching must in all cases be thoroughly done, it is to be expected that six out of the eight, comprising Oak, Elm, Horse-Chestnut, Ash, Lime,

Maple, Plane, and Sycamore, find places in the interior; all the rest—the Service, the Mountain Ash, the Hawthorn (red and white), Beech and Hornbeam, Birch, Acer Negundo, black and silver Poplars, Willows, and shade Acacias, the smaller and more pendent trees, in the outlying streets and suburbs.

The laoniate Oaks bear town life almost, if not quite as well, as the favourite *Acer dasy-carpum*, which is at once the most attractive and the most tractable, as far as mere foliage goes. Other *Acers*, such as *picatum*, are much esteemed. *Æsculus*, of course, startles and delights us all in the spring with the grandest flourish, and the most handsome exhibit of its kind in the world; but the Ash, "queen of the forest," deigning also to reign here, outdistances the Horse Chestnut in autumn.

None of these trees, whatever their root advantages, will grow well under the shade of a solid phalanx of high buildings, unless planted at a minimum distance of 6 yards therefrom, and line a street of at least 12 yards between their rows. From the edge of the pavement they must be set back fully 24 inches, or they will, sooner or later, suffer serious damage from overlaid or swaying waggons.

The trees once planted, three gardeners are sufficient to take charge of as many as will be found in an average town of 100,000 inhabitants, unless underground watering be in vogue, when another will be required. The duties of these are the following:—

Spring: Bind the nurselings with list, and syringe. Stake substantially and fasten securely with strips of strongest sail-cloth (sometimes waterproofed), nailing the ends to the stakes. Place iron or basket-work screens around the stems. Whilst sap is rising, tar promptly all barked spots on trunks, including the torn bark edges. Dish the ground twice during the growing season above roots; or, in case of completed paving, lift gratings and remove rubbish. As summer advances, lop some lower boughs of all in vigorous growth, to drive them upward. Syringe as frequently as possible throughout their first year.

In winter, re-stake, re-tie, prune, lop, and see to leaders. In botanical and horticultural matters generally, England is now admittedly in the van of progress; but in forestry, as in urban tree decoration, she has yet to steal a march on some of her continental neighbours. Some few of our towns, of course, form pleasant exceptions. The general richness of our landscape, unrivalled in any country of the temperate zone, makes a treeless town more unsightly by contrast; and the extraordinary rapidity of our journeys—of our transitions from town to country, and *vice versa*—make the contrast yet more noticeable.

Let us yet again in this matter signalise ourselves. In every fresh step towards priority of merit, we shall ourselves reap all the advantage.

NEW OR NOTEWORTHY PLANTS.

TCHIHATCHEWIA ISATIDEA.*

The first thing the English reader will ask when he sees this impracticable name is how to pronounce it. M. de Tchihatcheff was a naturalist of foremost rank, whose work on the geography of Asia Minor is a standard production. To botanists, therefore, he is or was the bearer of

"A name which they all know by sight very well,
But which no one can speak and no one can spell."

* *Tchihatchewia isatidea*.—Boissier, *Flor. Orient.*, i. 310; Micheli, in *Revue Horticole*, August 1, 1895, p. 351, figs. 116, 117; Baillon, *Hist. des Plantes*, vol. iii., 1872, p. 261; Prantl, in *Engler u. Prantl, Die Natürlichen Pflanzenfamilien*, iii. Theil, 2 Abtheilung, p. 208 (1891).

In order to gain information as to the proper pronunciation, we applied to a Russian friend, from whose instructions we arrived at "Tchê-hatch-off," with a strong stress on the second syllable, as the nearest approach of which we are capable. The name was Latinised for botanical purposes as "*Tchihatchewia*!"

For our illustration (fig. 29, p. 151) we are indebted to Mr. Lynch, the Curator of the Cambridge Botanic Garden, in which establishment it flowered this year, as also in Mr. G. F. Wilson's garden at Weybridge. It is a Crucifer, native of the mountains of Armenia on the north side of the Euphrates, where it grows at a height of 5000 to 6000 mètres, and where it was discovered by Tchihatcheff. It was introduced into cultivation by Mr. Max Leichtlin, of Baden Baden. The plant is a dwarf biennial of tufted habit, with a fleshy tap-root, sessile, runcinate leaves, covered with stiff white hairs. The flowers are numerous, in close terminal panicles, 20 centimètres across; each flower is of the size of that of *Hesperia* (Rocket), rosy-lilac or rose-coloured, and fragrant. After flowering the flower-stalk is bent downwards, so that the silicle becomes appressed to the stem. It contains one or two black seeds. M. Marc Micheli describes the plant at length in the *Revue Horticole*, and gives analytical details with which our own sketches, taken from the Cambridge specimen, entirely correspond. M. Micheli says it is without doubt one of the prettiest rock plants yet introduced. It likes full exposure to the sun, and its stout stalks bear innumerable rose-coloured flowers, which contrast with the long white hairs of the leaves. It is quite hardy, having survived the last winter at Geneva without protection.

The plant is one of botanical interest, and appears to be rare. Bentham and Hooker, in their *Genera Plantarum*, say that they had not seen it, and copied the description of Boissier. The co-operation of horticulturists with botanists has here then, as in so many cases, been of special value to science. M. T. M.

THE FRUIT CROPS.

IN our last issue we gave a synopsis of the numerous reports as to the condition of the fruit crops we had received from all parts of Great Britain and Ireland. Taken as a whole, the report is uniform in its character, and favourable as regards both quantity and quality.

The season of flowering was later than usual, and there was a very general immunity from sharp frosts, although the temperature in most parts of the country was dangerously low, and frost of some severity was felt in certain localities in widely separated parts of the country.

The tabular matter already published does not allow of much detail being given, and the great degree of uniformity in the fuller reports we have received from the kindness of our correspondents renders it unnecessary to publish more than a selection of them.

O. SCOTLAND, N.

MORAYSHIRE.—The fruit crops look well, and as a whole they are three weeks in advance of last season; but the weather has been very unsteady; hot and cold in turns, and late-keeping varieties will profit greatly by a warm, dry autumn. *Wm. Ogg, Duffus House Gardens, Elgin.*

I. SCOTLAND, E.

ABERDEENSHIRE.—A few Apple trees on walls have a good crop, but standard trees are under the average, and the weather having been cold and dry when they were in blossom, growth is stunted, and the set was a poor one. Pears had very little blossom, but that which set is fairly good in appearance. Plums and Cherries, fair crops, are doing well. *John Forrest, Haddo House Gardens, Aberdeen.*

— This is not a fruit district at all; only a very few sorts are of any use here. We are very subject to late spring and early autumn frosts. Gooseberries, Currants, and Strawberries are an extra crop and of good flavour. *John M. Troup, Balmoral Castle Gardens.*

BANFFSHIRE.—The fruit crops, on the whole, are a fair average. Peaches and Apricots showed a fair percentage of blossom, but owing to the cold nights and badly ripened wood they set badly. Pears, on the whole, are a good average. Apples were most abundant with blossom, but have set very thinly; the very dry weather prevailing during the flowering seemed to exhaust them, and the fruits have dropped badly. Figs on the open wall, which usually do well, have suffered from the frosts of winter, the temperature having gone down to zero. Small fruits are all good, except Black Currants, which were thinned by the spring gales. *J. Fraser Smith, Cullen House Gardens.*

— The fruit this season with us is good everywhere, but Apples are almost a failure. Pears and Plums, although they suffered in the early part of the season by reason of drought, winds, and low temperature, are a good crop. *William Alexander, Mouniblairy House Gardens, Turriff.*

BERWICKSHIRE.—Our fruit crops are, on the whole, good. Trees healthy, owing probably to the scarcity of fruit last year. Bloom was very abundant, and

as a whole is a small crop. Plums have undergone a severe thinning. Pears only on young trees are a fair crop. I have seen a heavier set of Apples, but these will nevertheless be a large and fine crop. *R. P. Brookerston, Tynninghame, Prestonkirk.*

EAST LOTHIAN.—Pears and Apricots are not a heavy crop, but Apples, Plums, and Cherries are abundant and good. Lord Suffield, Keswick Codlin, Warner's King, Stirling Castle, Hawthornden, Blenheim Orange, Cox's Orange, King of the Pippins, and Worcester Pearmain are amongst the best of the Apples. The small fruits are an extra heavy crop, except Black Currants. All other sorts, especially Strawberries and Gooseberries, are plentiful. *Wm. McKelvie, Broxmouth Park Gardens, Dunbar, N.B.*

FIFESHIRE.—The crop of fruit in this district is extra heavy, and with recent rains the fruit will attain its normal size. The Apples are especially heavy, with the exception of Cox's Orange and Blenheim Pippins on walls and standards, and Ribston Pippin is thin on wall trees. Denyer's Victoria Plum is extra good, and the Damsons are the heaviest crop ever seen here—at least, within the

and caterpillar. Apple and Pear trees are looking clean and healthy, and are carrying fair crops of fine fruit. Plums, especially on walls, are fine. *Thos. Wilson, Glamis Castle Gardens, Glamis.*

MIDLOTHIAN.—The fruit crop is, on the whole, the finest we have had for many years. Apples are fully an average crop, and promise to be much finer in size and quality than usual. Pears, Plums and Cherries are bearing heavy crops of first-rate quality. Apricots, Peaches, and Nectarines are plentiful here, although scarce on open walls in some places in the district. Small fruits of all kinds are very abundant, particularly Gooseberries and Strawberries. The long and severe winter did no injury to the fruit trees, owing probably to the remarkable dryness of the atmosphere and absence of wind all through the storm. The spring was late, and very favourable for the fruit, which set thickly in April and May, and swelled freely with the rains, which came just in time in June to save the Strawberry crop. Trees have made a fine healthy growth, and so far have been very clean and free from insect attack. *M. Dunn, Dalkeith Gardens.*

— For months the fruit crops in this district have suffered from drought, and although growth was almost at a standstill, yet the fruit held on till the welcome rains came. I am glad to report that Apples and Pears, and all kinds of small fruits are now swelling and ripening an abundant crop of good quality. *M. Chapman, Easter Duddingston Lodge Gardens, Portobello.*

ROXBOROUGHSHIRE.—Owing to having had 6° of frost on June 13, the fruit prospects here were considerably altered. Apples, Pears, and Plums set very well, but the fruits of Plums and Pears fell off a good deal, and the Apple crop is falling a good deal at this date (July); still, on some trees there will be a good crop. Strawberries a very heavy crop and good (I had gathered 92 pints one day, and 113 pints another day). Raspberries good and clean. Black Currants good; I was able to gather 120 pints from the bushes, whereas last year I didn't get a pint, owing to the week's frost in May. Damsons are a very heavy crop. Cherry trees have been very clean of black-fly all the season, and all other kinds of fruit trees are clean and healthy. *John Page, Monteviot Gardens, Jedburgh.*

6. SCOTLAND, W.

AVRSHIRE.—The fruit crops in this district promised, in the early spring, to be very abundant. Trees and bushes were very clean and healthy, and covered with blossom, and fruits of all kinds set thickly; but they received a severe check in consequence of the long severe drought. Since the showery weather set in, all fruit trees have greatly benefited, the trees are getting clean and healthy-looking again, and the fruits swelling fast. *A. Wilson, Auchincruive Gardens, Ayr.*

— On the whole the out-door fruit crops are better than they have been for years. Plums especially are exceptionally good, and during my over forty years' experience I have never seen a crop to equal the one I have this year. *Richard Kitchen, Goodham, Kilmarnock.*

LANARKSHIRE.—I have been six years here, and have not previously seen such a heavy crop of small fruit, especially of Strawberries, as is the case here and in most parts of the county. Cherries are very little grown hereabouts; and Peaches, Nectarines, and Apricots are only grown out-of-doors in very favoured localities and under special care and management, as the district suffers much from late spring frosts. *William Castle, Blantyre Lodge Gardens, Blantyre.*

ARGYLLSHIRE.—The outdoor fruit crops in the gardens here are over average. Strawberries were an abundant crop, large and good. We commenced gathering Keen's Seedling on June 22. Plums on walls set so thickly that quite two-thirds had to be taken off. Pears on walls carry an average crop: Louise Bonne of Jersey, Madame Treve, Beurré d'Amanlis, B. d'Arenberg, and General Todtleben are heavily

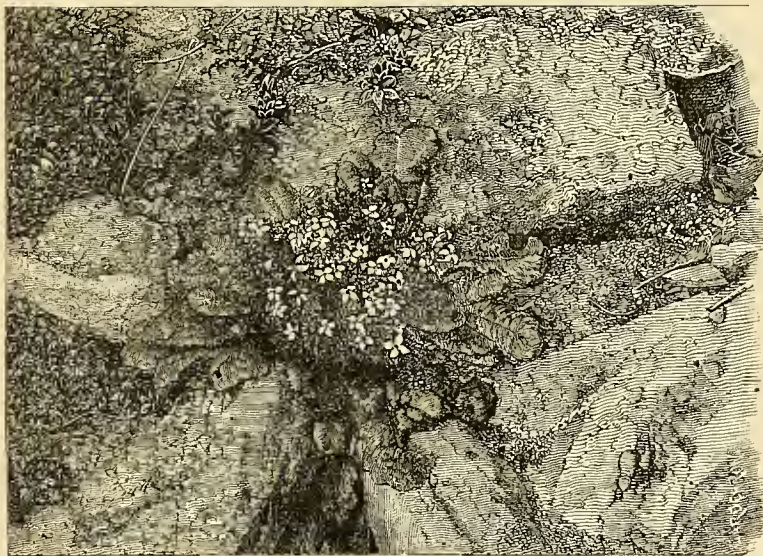


FIG. 29.—TREHATCHEWIA ISATIDEA: FLOWERS ROSY-LILAC, AND FRAGRANT. (SEE P. 150)

we had little or no frost, only spells of sunless cold weather, which would account for much of the blossom not setting, and again the long drought later on had an equally bad effect, causing many of the fruits to drop off of such reliable sorts as Stirling Castle, Ecklinville, Pott's Seedling, Warner's King, &c. We have an over-abundant crop of Apples, and the fruit is swelling fast. We never had such fine crops of Gooseberries and Strawberries as this season, the rain just coming in the nick of time to save the crop. *John Cairns, The Hirscl Gardens, Coldstream, N.B.*

— The fruit crops are in general, in this district, very good, although slightly thinned by 6° of frost on June 13. Cherries have been the heaviest crop I have had in five years. Gooseberries are simply an enormous crop, many of the bushes lying quite flat on the ground under their heavy load, and all of splendid quality. I attribute the heavy crop of small fruits to be greatly due to the absence of bullfinches in spring, as usually they do great havoc amongst the buds. It is premature to say more about the large fruits than that they promise well at the present date. *J. Ironside, Blackadder House Gardens, Edrom.*

EAST LOTHIAN.—Small fruits of all kinds are this year an overflowing crop, and notwithstanding the drought, are large and of good quality. Some Apricots are well set, others almost bare, and the result

last twenty-three years. Gage Plums are scarce, although they escaped injury by spring frost. *W. Williamson, Tarvit Gardens, Cupar.*

FIFESHIRE.—Fruit trees of all sorts flowered most profusely, but owing to the very dry weather and 4° of frost on the mornings of June 13 and 14, Pears and Cherries suffered badly, and dropped a great many of their fruit. Gooseberries, Currants, red and black, Raspberries, &c., are a very heavy crop. Strawberries the same, of extra fine quality, and nineteen days earlier than 1894. *John Clark, Wemyss Castle Gardens.*

FORFARSHIRE.—The fruit crop is generally a fair one, Plum trees that were heavily cropped last season are thin in most cases. Gooseberry bushes are not much infested with red-spider, which was so bad two years ago; indeed, all fruit trees and bushes are more free from insects and healthier-looking than usual. Strawberries are a good crop, the rain just came in time to save the crop, which was ready ten days earlier than last season. *John Ruskin and British Queen, with Garibaldi, are our best this season. W. McDowall, Brechin Castle Gardens.*

— On the whole, the fruit crop is abundant, and of good quality; Strawberries especially are very abundant. Raspberry canes were damaged by the severe frost in February, the crop is consequently scarce, but of good quality. Gooseberries in the early part of summer were infested with red spider

laden. Apples on pyramids have good crops of fine fruit, and on bushes over average. Cherries sweet, and Morellos are laden; also Gooseberries, Raspberries, Brambles, red and white Currants, but black Currants are almost a failure. Peaches, Nectarines, and Apricots, are not grown out-of-doors. *D. S. Melville, Poltalloch Gardens, Lochgilphead.*

STIRLINGSHIRE.—Apple and Plum trees were never more severely attacked with gnats than this year, but these were got under by liberal applications of insecticides. The young growth is now vigorous and healthy, and most of the trees are well cropped. Small fruit-bushes are heavily laden with fruit, and have all along been vigorous and healthy; no insects have been seen on them. The fruit is unusually large, which we attribute to liberal manuring. *M. Temple, Carron House Gardens, Falkirk.*

WIGTONSHIRE.—Apples, Pears, Plums, and Cherries are all good crops, the trees healthy, and almost free from insect pests. Apricots and Figs are below the average; the latter suffered from the effects of the severe frost, which killed much of the fruiting wood. Gooseberries are heavy crops, but the trees are badly infested with caterpillars. Currants and Raspberries are good crops, and the fruit very fine. Strawberries were abundant, but owing to the hot weather were soon over. *James Day, Galloway House Gardens, Garliestown.*

(To be continued.)

AMERICAN NOTES.

ORCHIDS AT TRENTON, N.J.

(From Our Own Correspondent.)

ONE of the most interesting collections of Orchids at present in this country is that of C. G. Roebling, Esq., of Trenton, N.J. It bids fair to excel the position which it has already attained, and preparations are being made for extensive additions; four new glasshouses are being erected, all of which will be devoted to Orchids. Cypripediums, both species and hybrids, form no inconsiderable portion of the whole, but perhaps the chief feature is the large collection of white Cattleyas, to the collection of which Mr. Roebling has directed his full energies, and it is his desire to make his collection of the white Cattleyas as perfect as possible; with such an enthusiastic owner the time cannot be far distant when the Trenton collection will contain specimens of all the known "Albino" forms. It will no doubt be of interest to many to see the list of those already included.

Cattleya Trisraeli alba, forty-five bulbs, ten leads, and a grand variety; C. Gaskelliana alba, twenty bulbs, five leads, fifteen splendid blossoms; C. G. alba Trentonensis, very deep orange throat, six bulbs, two leads; C. Skinneri alba, ten bulbs, three leads; C. Mossiæ alba, twenty bulbs, three leads; C. M. alba Trentonensis, eight bulbs, two leads, a grand variety; C. Aclandiae alba, ten bulbs, one lead; C. Chocoensis alba, two plants, three leads each; C. Percivalliana alba, six bulbs, one lead; C. amethystoglossa alba, seven bulbs, one lead; C. Loddigesii alba, seven bulbs, two leads; C. Bluntii, five bulbs, one lead, part of original; C. intermedia alba, six bulbs, two leads; C. Schroderæ alba, four plants, four leads to best one; C. S. alba Trentonensis, grand variety, ten bulbs, three leads; C. E. dorado alba, ten bulbs, four leads.

Very marked advances on all other white varieties are C. Gaskelliana alba Trentonensis, C. Mossiæ alba Trentonensis, and C. Schroderæ alba Trentonensis.

The C. Gaskelliana has extremely rich orange in place of lemon in the throat; the C. Mossiæ has a nearly green throat; the C. Schroderæ has almost an entire orange lip, save a small white margin. They are three noble white forms, and are probably unique plants, superb in shape, and exquisitely pure, well qualified to bear the name of the home of this splendid collection of white Cattleyas.

The white Lælias include L. purpurata var., parent white, except a few faint lines in the throat,

two plants; L. majalis alba, sixty bulbs, nine leads, true; a splendid healthy specimen; L. anceps alba, Bull's original variety, two fine plants, three and four leads; L. autumnalis alba, twelve bulbs, four leads.

The climate of the district seems to be admirably adapted for the growth of Cattleyas. C. Rex here grows with an astonishing vigour, and in a short time there will be a wealth of blossom; nothing could be finer. One specimen has fifteen flowers from three growths, and the new bulbs and leaves are as large as those of the best grown Lælia purpurata.

C. gigas is represented by some fifty magnificent pieces, all in flower; one piece carrying twenty-eight, and had had more. Among the more distinct species of this variety is one named Lageri in honour of its discoverer, who introduced it and many other excellent forms, through Messrs. Pitcher & Manda. The lip in this variety is very broad, and of the most intensely deep purple-crimson; the remaining portion of the lip is very finely veined, and has no trace whatever of the characteristic yellow spots. The sepals and petals are also exceedingly rich; a plant of C. gigas Sanderiana was noticeable for the fine expanse of its lip. Also in flower was a new Cattleya hybrid, which is named Juno by request of Mr. Roebling; it is described elsewhere (see p. 118, *Gardeners' Chronicle*, August 3).

C. Hardiana, a splendid specimen with four leads, attracts by its graceful form and delicate colouring. Of hybrid Lælio-Cattleyas the one out of L. purpurata and C. Mossiæ known as L.-C. Canhamiana is very attractive. The finely frilled lip and the drooping petals having the peculiar twist of L. purpurata give it an air of distinction.

Lælia tenebrosa Roeblingiana was past its best, but it still stood a worthy reminder of what had been. Its colour, dark rose madder, sepals and petals with an almost black-purple lip, makes it quite free from anything else.

Cypripediums embrace such a host of forms (over 250, all select too) that it is not possible to enumerate the whole; only a selection can be given. Close attention is given the hybridizing in this collection, and hosts of young seedlings are to be seen everywhere, the work in hybridizing being largely carried on as checks on the operations of other hybridists. It is thought, and wisely too, that it is better to reproduce an acknowledged fine hybrid than to wander off into a multiplication of "novelties" of mediocre rank. However, at the same time work is being done along original lines, not only in this genus, but in Cattleyas, Lælias, Epidendrums, &c., and thriving under the skilful care given them by Mr. Henry T. Clinkaberry, who was formerly well known to English orchidists, some highly interesting results may be expected.

One of the most conspicuous of the Cypripedes is C. Gowerianum, with its dorsal sepal 2½ inches across, and finely spotted. Others are, to take them as they come, C. Rothschildianum, with four flowers; C. macropterum (Lowii × Veitchii), very elegant, with its clear rose-coloured sepals; C. Sanderianum, having had four flowers, the piece with six new growths; C. Smithii (Lawrenceanum × ciliolare), very rich in colour, well-balanced flower, with its pretty flat dorsal sepal; C. Chamberlainianum, in fine vigour; C. Curtisi; C. caudatum Wallacei (the albino form of the species) had five flowers; C. Brownii—a glorified leucorhodum—and a whole host of others. Other noticeable species are Cœlogyne pandurata with fourteen leads, C. Dayana in full flower; Dendrobium Farmeri, Lælia Arnoldiana, with four flowers; Brassavola acutis, Epicattleya guatemalensis, with fourteen strong growths; Dendrobium Falcoueri giganteum, with its showy flower larger than that of the largest noble; Epidendrum Watsoni, not often to be seen in these collections, because not sufficiently showy; and Epidendrum O'Brieni ×, which had been in flower for the last eight months, and still blooming profusely! That is the sum of the most noticeable forms at present in the collection. White Lælias, however, are a feature in their season, and must be seen later.

Odontoglossums are grown to a limited extent, but it is a struggle against the climate, which is too hot and too dry. All sorts of schemes are had recourse

to to modify the conditions—sinking the houses, putting them on the north side of the wall, &c., with the result that in this particular case there are fair signs of success. The same may be said concerning Miltonias, but the very circumstances which are detrimental to these groups give to the Cattleyas, &c., strength and vigour, which it is a rare treat to see.

The rapidity with which Cattleya and Lælia seedlings germinate here is very noticeable. Plants are plainly visible to the naked eye five and six weeks after sowing the seed; and, indeed, numbers have been put into tiny baskets six months from sowing. None but the finest varieties are being used in these crosses, of which over fifty have been sown already. *Leonard Barron.*

LÆLIA DIGBYANA.

KNOWN from the time of its introduction from Honduras in 1846 as Brassavola Digbyana, Lindley, a name which it still bears in most gardens even at the present day, despite the fact that its botanical features place it under Lælia and well separate it from the terete-leaved Brassavolae, the plant has always commanded a considerable amount of attention whenever its quaint fragrant greenish-white flowers have appeared. Of late years, additional interest has been taken in it on account of the opportunities which it gave the hybridist of producing novelties showy in appearance and striking in form. The first of these, and one which has been one of the most remarkable strides made by the raisers of hybrid Orchids, was the Lælio-Cattleya × Digbyana Mossiæ (fig. 31, p. 161), raised by Messrs. Jas. Veitch & Son between Lælia Digbyana ♂ and Cattleya Mossiæ ♀, and first flowered by them in May, 1889. The flowers are of a clear rose colour with a few crimson blotches on the lip, the tube of which is yellow with white veining and some small purple dots at its base. In the beauty of its fringed lip and the fragrance of its noble flowers it closely follows Lælia Digbyana, while in their colour and large size they resemble Cattleya Mossiæ. It is certainly one of the best of garden-raised Orchids, and it received a First-class Certificate at the Royal Horticultural Society on May 14, 1889.

The Lælia Digbyana of our illustration (fig. 30, p. 153), was flowered by Walter C. Walker, Esq., Percy Lodge, Winchmore Hill (gr., Mr. Geo. Cragg), and it received a tardy acknowledgment of its merits at the hands of the Orchid Committee at the last meeting of the Royal Horticultural Society, when it received a First-class Certificate.

CHINA ASTERS.

THE China Asters are amongst the best of all the annual garden flowers. They are of the easiest culture, most free of bloom, and comprise a multitude of forms and colours. They are therefore admirably adapted to profuse and generous effects in schemes of planting.

The evolution of the China Aster suggests that of the Chrysanthemum at almost every point, and it is, therefore, a history of remarkable variations. The plant is native to China. It was introduced into Europe about 1731 by R. P. d'Incarville, a Jesuit missionary in China, for [in honour of] whom the genus Incarvillea of the Bignoniæ family was named. At that time it was a single flower; that is, the rays or ligulate florets were of only two to four rows. These rays were blue, violet, or white. The centre of the flower (or head) was comprised of very numerous tubular yellowish florets. Philip Miller, the famous gardener-botanist of Chelsea, England, received seeds of the single white and red Asters in 1731, evidently from France; and he received the single blue in 1736. In 1752 he obtained seeds of the double red and blue, and in 1753 of the double white. At that time there appear to have been no dwarf forms, for Miller says that the plants grew 18 inches to 2 feet high. Martyn, in 1807, says that in addition to these varieties mentioned by Miller, there had then appeared a "variegated blue

and white" variety. The species was well known to American gardeners at the opening of this century. In 1806, McMahon, of Philadelphia, mentioned the "China Aster (in sorts)" as one of the desirable garden annuals. Bridgeman, a New York seedman, offered the China and German Asters in 1837 "in numerous and splendid varieties," specifying varie-

central florets of the head, and the production of the "quilled" flower. This type of Aster was very popular forty and fifty years ago. Breck, in the first edition of his *Flower Garden*, in 1851, speaks of the great improvement of the Aster "within a few years," "by the German florists and others," and adds that "the full-quilled varieties are the most

later days, and the many flat-rayed, loose, and fluffy races are now most in demand, and their popularity is usually greater the nearer they approach the form of the uncombed *Chrysanthemum*.

The China Aster had long since varied into a wide range of colours of the cyanic series—shades of blue, red, pink, and purple. I do not know



FIG. 30.—LELIA DIGBYANA, Bentham (1850): FLOWERS GREEN, LIP WHITISH. (SEE P. 132)

ties "alba, rubra, cœrulea, striata purpurea, &c." In 1845, Eley said that "China and German Asters" "are very numerous" in New England.

This name German Aster records the fact that the first great advances in the evolution of the plant were made in Germany, and the seed which we now use comes largely from that country. The first marked departure from the type appears to have been the prolongation or great development of the

highly esteemed, having a hemispherical shape, either a pure white, clear blue, purple, rose, or deep red; or beautifully mottled, striped, or edged with those colours, or having a red or blue centre." About fifty years ago the habit of the plant had begun to vary considerably, and the progenitors of our modern dwarf races began to attract attention. The quilled, high-centred flower of a generation or more ago is too stiff to satisfy the tastes of these

what its original colour might have been. The modern evolution of the plant is in the direction of habit, and form of flower. Some type varies—generally rather suddenly and without apparent cause—into some novel form, still retaining its accustomed colour. The florist fixes the variation by breeding from the best and most stable plants, and even other colours appear, until he finally obtains the entire range of colour in the species. So it happens

that there are various well marked races or types, each of which has its full and independent range of colours. The Comet type, now the most deserving of the China Asters, illustrates these statements admirably. The Comet form—the loose open flower with long strap-like rays—appeared upon the market about 1886 or 1887, with a flower of a dull white overlaid with pink. The pink tended to fade out after the flower opened, leaving the colour an unwashed white. The rose-coloured Comet next appeared, and the blue was introduced in 1890. The first clear white was introduced in America in 1892, coming from Vilmorin, of Paris, and the China Aster had reached its greatest artistic perfection.

The greatest desideratum yet to be attained in the China Aster is a pure yellow flower. There seems to be some general incompatibility between the cyanic and the xanthic, or yellow, series of colours. Yellow of a pure type has not yet been attained in the annual Phloxes, and many other plants which affect the blues and reds. Yet the Chrysanthemum and various other plants combine the two, and I confidently expect that the China Aster will eventually do the same. We already have distinct approaches to the yellow in the Lemon Gem, in which the flowers are suffused with a lemon-yellow tint, and in a yellow quilled variety introduced this year by Burpee as the Yellow Aster. This latter Aster is one of the crowned type, having a good yellow centre, and a border of whitish rays.

In the immense range of colour, form, habit, and season in the China Aster, the flower-lover can find almost any ideal which an annual Composite flower can be expected to satisfy. In earliness there has been a distinct advance in recent years in the introduction of the excellent French variety, Reine des Halles, which is known in this country as Queen of the Market. This variety blooms early in August at Ithaca, even when the seed is sown out-of-doors. One of the earliest forms of this type of Aster is Burpee's Queen of Spring, which will bloom by the middle of July if started in a frame by the middle of April. This Reine des Halles type of Aster was introduced in 1885 or 1886 by Vilmorin, although it had long been known in the Paris markets, but the stock was controlled by a few persons. This variety also has the freest and most wide spreading habit of growth, and the stems are so long that the variety is very useful for cut flowers. The Candelabra Asters are very like the Queen of the Market in habit, but are later.

In such a range of type, it is impossible to recommend any one of them as superior to all others. If one wants deep and glowing colours, I should recommend the Truffaut Asters, variously known as Perfection and Peony-flowered, and this type has a most beautiful pyramidal habit and a high-centred incurved comely flower. The shades of red are especially good in this type of Aster. Closely allied to this is the Semple strain, which has the distinction of being the only well-marked type of American origin. This type originated with James Semple, of Bellevue, Pennsylvania, who, by continued selection, has brought it to a high degree of perfection. The plant is a tall and robust grower, reaching 2½ and even 3 feet high, with long and strong stems, and very large flowers (often 3½ inches across) with incurved and often twisted rays. Two colours of this fine Aster are now fixed, the pink introduced in 1892 as Mary Semple, and the white, known as Semple White.

For myself, however, I should give the Comet Asters the very first place amongst all the various tribes. The habit is dwarf and compact, although free. But the great merit lies in the flat, soft, spreading long rays, which give the flowers a freedom and novelty of outline and substance which cannot be found in any other Aster. I am particularly fond of the great white Comet, and of the delicate shades of azure-blue. I should place the Truffaut, Semple, and Jewell strains of Asters—all of similar type—in the second place. The Jewell Aster, known as Apple Blossom, has no superior amongst the delicate shades of blush or pink. For

the third place, I should hesitate between the Washington and Chrysanthemum-flowered types. The Victorias are generally given a very high rank, and they are one of the most popular strains in England, particularly for pot-culture, but they have not behaved so well with me. They seem to be untrue and mixed in type, and last year many of them gave flat, open "eyes," or centres. Yet I should place the Victorias fourth or fifth in my list. Beyond these types, it would be difficult to single out one strain as superior to others for purposes of general cultivation. All of them have particular merits. The Queen of the Market is desirable for earliness, long stems, and graceful habit, and it is popular with florists. The Quilled Asters are now so far outnumbered by the flat-rayed section, that they may be almost classed with the curiosities. They are always useful for variety, and many persons admire their prim form. One of the best of these is the Victoria Needle, a variety which distinguished itself on our grounds last year by giving the latest blooms of any Aster. The Lilliput,—a slim-growing sort, with small stiff-petalled flowers—is also one of the favourites of the Quilled section. Reading Beauty is also an excellent Quilled Aster.

Another type of Quilled Aster is represented by the button-headed German Quilled, with its scant fringe of short rays. The best form of this is the Betteridge, an improved strain with large flowers.

Amongst the curious Asters are the Crown or Cocardeau, with a rim of dark colour, and a centre of white or light shades, the Harlequin or parti-coloured, and the many miniature or tufted sorts, some of which grow only 3 or 4 inches high, and bear a close bunch of small dense flowers. The very dwarf types are stiff and bunched, but they are often used for borders, and the plants can be lifted on the approach of frost, and put in pots, where they will continue to hold their flowers for three or four weeks.

It is impossible to construct a satisfactory classification of the China Asters. It is no longer practicable to classify the varieties by colour. Neither is it feasible to classify them upon habit or stature of plant, for several of the best marked types run into both tall and dwarf forms. Vilmorin, however, still divides the varieties into two groups, the pyramidal growers, and the non-pyramidal growers.* The most elaborate classification is that proposed by Barron, from a study of extensive tests made at Chiswick, England.† Mr. Barron has seventeen sections, but they are not co-ordinate, and they are really little more than an enumeration of the various types or classes. After considerable study of the varieties in the field and herbarium, I find the following scheme to be the most serviceable for my purpose:—

I. Flat-rayed Asters, in which all, or at least more than five or six rows of rays, are more or less prominently flat, and the florets open.

A. Incurved or ball-shaped Globe Asters.

B. Spreading or reflexed.

II. Tubular or Quilled Asters, in which all, or all but the two or three outer rows, of florets have prominently tubular corollas.

A. Inner florets short, outer ones longer and flat. Represented by the German Quilled.

B. All the florets elongated and quilled.—Condensed from an article by L. H. Bailey in the *Bulletin of the Cornell University Agricultural Experiment Station*.

ORCHID NOTES AND GLEANINGS.

CATTLEYA SCHILLERIANA DULCOTENSIS.

A BEAUTIFUL and distinct form of *Cattleya Schilleriana* is now in flower in the collection of W. Cobb, Esq., Dulcote, Tunbridge Wells. The flowers are large, and have sepals and petals of a rose-tinted

brown, with darker purplish-brown spots, and in these particulars it resembles other forms; but the broad reniform front part of the lip is of a rich crimson-purple, as clear and bright as that usually observed in *C. Warszewiczii*, and destitute of the whitish stripes or rays usually seen in the species. The only break in the colour of the lip is an almost imperceptible row of white dots inside of the fringed margin. The lip has a resemblance to that of *C. Aclandiae*, but it is of a darker colour. *J. O'B.*

BLETIA SHEPHERDI, *Hooker*.

Of the four species of *Bletia* recorded by Grisebach, this is probably the prettiest and at the same time the one most suitable for tropical cultivation. The Orchid is a purely terrestrial one, and thrives in the ordinary soil of the garden, and responds freely to the application of stable manure. In the floral section of the Royal Botanic Gardens we have a large bed containing some hundreds of this plant, which is now (April 18) in full flower.

It is probably a somewhat unique feature to see a bed of Orchids in bloom in the open air, with over a thousand well expanded flowers at one time. The flowers are, however, not developed at one season only, but are produced at intervals, though in smaller quantities, at several periods of the year, and the plant consequently serves as well for securing a supply of cut flowers as for flower garden decoration. *Bulletin, Trinidad Botanic Garden*.

CORYANTHES LEUCOCORYS.

A few years ago the members of the genus *Coryanthes* were thought to be difficult subjects under cultivation, but latterly, however, they are to be seen thriving and flowering very satisfactorily in some gardens, the improvements in the ventilation of Orchid-houses in recent times having probably something to do with the success attending the cultivation of these plants. *Coryanthes leucocorys*, a Peruvian species, is one of the handsomest and richest coloured of the genus, the large white helmet above the rich rosy-purple pouch of the lip being very remarkable. The yellowish sepals and petals are tinted with purple, and curiously folded. It has flowered with John Moore, Esq., Chardwar, Bourton-on-the-Water, who sends it for identification, and several specimens of it have bloomed with Messrs. F. Sander & Co., at St. Albans. *J. O'B.*

CYPRIPEDIUM KIMBALLIANUM.

A note under the above heading in the *Orchid Review*, August, p. 238, demands some notice.

It runs thus:—"A fine *Cypridium* is figured under the above name in a recent issue of the *Gardeners' Chronicle* (June 29, pp. 800, 801, fig. 125), where the note appears that it is 'supposed to be a hybrid between *C. Rothchildianum* and *C. Dayanum*'—a natural hybrid being intended. It will therefore be interesting to complete the history of the plant. It is in reality *C. præstans*, Rehb. f. (*Gardeners' Chronicle*, 1886, ii., p. 776), a New Guinea species, introduced by Messrs. Linden. It was afterwards figured in *Lindenia* (vi., t. 249) as variety *Kimballianum*, and ultimately became *C. Kimballianum*, through the omission of the specific name. When *Cypridium Rothchildianum* was introduced by Messrs. Sander it was recorded as a native of New Guinea, and Messrs. Linden immediately stated that it was identical with *C. Neoguineense*, which they had previously introduced. A flower from a plant purchased as one of the latter was afterwards submitted to us, and was certainly *C. præstans*, as was also one of *C. Kimballianum* from another source. It has also been re-described as *C. Gardineri*, of Guillemard, and confused with *C. glanduliferum*, Blume, another New Guinea species not in cultivation. The next thing is that *C. Rothchildianum* is not from New Guinea at all, but from Borneo. It is not a little curious that a New Guinea species should have to do duty as a natural hybrid between two Borneo ones, but after the above confusion one is prepared for almost anything, and the least we can do is to thus attempt to put matters straight."

The writer has failed in his laudable object, and only succeeded in introducing further confusion

* *Les Fleurs de Plaine Terre*, 4th ed., 856 (1894).

† *Journal Roy. Hort. Soc.*, xi., part i. 15 (1889); xii., part ii. 401 (1890).

into a subject complicated enough, but previously having no bearing on the present subject, viz., *Cypripedium Kimballianum*. The fact is, the writer of the note has "discovered a mare's nest," and seems to have jumped to conclusions and made erroneous surmises and statements.

There is, comparatively, little resemblance between *C. Kimballianum* and *C. præstans*, and it is therefore not necessary to point out the difference, but it may be said that the leaves of *C. præstans* are generally obtuse, fleshy, and shining plain green, while those of *C. Kimballianum* are acute, thin, and pale green, with a dark green reticulation, like those of some forms of *C. × Harrisianum*. In the flowers the colours are totally different, and in their structure they have little in common which would give the veriest novice an excuse for mistaking the one for the other. The extraordinary large cushioned staminode of *C. præstans* is a feature which places it away from any other species; its twisted angularly-extended petals are totally unlike the flat downward curved corresponding organs in *C. Kimballianum*, and in *C. præstans* the lower connate sepals are invariably larger than the upper—a very peculiar feature, while in *C. Kimballianum* the lower are not much more than half as large. *James O'Brien*. [Flowering specimens of *C. Kimballianum* before us are very considerably different from those of *præstans* as figured. Ed.]

CATTELEYA × HARDYANA.

A great number of fine varieties of this fine *Cattleya* are grown in the gardens at Tring Park, three of the most remarkable of which are *C. × H. marmorata*, whose petals are prettily marbled with crimson on yellow; *C. × Hardyana Laversinensis*, with petals of a rose-purple colour, showing white patches between; and *C. × Hardyana*, Tring Park variety, with sepals and petals wholly of a bright light tint of purple, the labellums in each case being of a dark velvety-crimson colour, veined with yellow, and velvety in texture. Two other varieties are in flower there at the present time, the flowers of each being distinct improvements on the form ordinarily seen in gardens, and they are fragrant. *J. O'B.*

STANHOPEA LOWII VAR. AMESIANA.

This variety, which proves to be one of the most beautiful, fragrant, and distinct of the new *Stanhopeas*, is now in flower in Major Joicey's gardens, Sunningdale Park, Berks. It is of the hornless section of *Stanhopea*, and its large, glossy, ivory-white labellum, and membranous white sepals and petals, constitute it a remarkably attractive flower. It was originally named *S. Amesiana*, but a comparison of the flower with that of *S. Lowii*, given in the *Gardeners' Chronicle*, December 2, 1893, p. 689, shows that it is a white variety of that handsome species. It flowers at intervals throughout the summer, and its flowers, which are fairly lasting, quickly succeed each other. It requires to be grown in a basket like all the other *Stanhopeas*. *J. O'B.*

HAMPTON COURT HOUSE.

As may be inferred by the readers of this note, Hampton Court House is in close proximity to Cardinal Wolsey's famous Palace, and it is in fact only separated from it by Hampton Court Green, both places the resorts of thousands of visitors. Very few, however, of the great crowd that visit Hampton Court have any idea that another beautiful garden is close at hand. Indeed, in the summer the place is so hidden by trees, that only here and there can a glimpse of the fine old residence be obtained. Hampton Court House, with its gardens and pleasure-grounds of some 9 acres in extent, is the property of Aug. de Wette, Esq., C.C., J.P. The main entrance is in a direct line with the London Road from Kingston-on-Thames, with the Hampton Court Green in its immediate front, and the wide expanse of Bushey Park behind and around it, and although in the very midst of life and gaiety, the occupants enjoy the utmost seclusion and quiet.

Once within the boundary, the visitor will not be

long in recognising, firstly, that Mr. De Wette is fond of gardening, and secondly, that special efforts are made to beautify the garden. It is by no means an every-day garden, with its series of flower-beds and borders, filled year by year with plants of a stereotyped order; but a garden rendered beautiful for the greater part of the year by grouping and massing a variety of plants with a view to effect; with this object, it is not surprising to meet with *Rhododendrons* in great numbers, also *Roses*, particularly the *Tea* varieties and hybrids from them. *Azalea mollis*, again, is an especial favourite here, great care being taken to select colours that will harmonise with those already planted. This is accomplished by periodical visits to nurseries in which *Azaleas* form a leading feature when the plants are in flower. This method is very generally followed when making selections of *Azaleas* and *Rhododendrons*. When a new bed is formed for them, the soil has careful preparation, and it is taken out to a good depth, a proceeding which accounts for the exceptional vigour and freedom of growth of the plants. Large banks of *Rhododendrons* form a very conspicuous feature, to say nothing of the many fine standards also to be seen elsewhere. For the most part the *Azaleas* occupy the lower parts of the undulating lawn, receiving shade from some distant Elms, and thus protected from direct sunshine, they last long in flower, and are seen to great advantage. Another charming feature is the Italian garden, in which there are a variety of subjects, mostly permanent in character. Being semi-circular in outline, and upon ground somewhat raised above the general level, views are obtainable. In a central position is a life-size statue called *Daw*, represented in the act of pouring *daw* on the verdure beneath. This garden is encompassed by a *Yew* hedge, with grassy steps here and there as approaches to the lawn. A low hedge of *Cupressus Lawsoniana aurea* constitute an inner circle, with handsome green vases at intervals filled with *Hydrangeas* in full flower, and immediately inside this is a narrow border, the chief occupants of which are *Retinopora squarrosa*, *Eionymus radicans variegata*, and green-leaved *Box*.

A series of beds in the centre on the lawn are filled with *Captain Christy Rose*, and others with *Marie Bauman*. The plants of the first-named are less than 2 feet high, very clean and vigorous, and teeming with buds and blooms. On either side of the grassy steps above noted, and in other equally suitable positions in this garden, may be seen some noble examples of *Golden Junipers*. Every one of these is a handsome specimen, about 10 feet high, well matched and furnished with branches and foliage, and well coloured. As an outer circle to the Italian garden, and approached from it, is the *Rose* garden proper, which contains a choice assortment of *Roses*, of which hybrid *Teas* and *Teas* predominate. One variety may be singled out as a noteworthy instance of a *Rose* for a very dry season on a light soil, viz., *Hon. Edith Gifford*. It is regarded by Mr. W. Neave, the gardener here, as the finest *Rose* of the season. Quite small plants of it were loaded with buds and blossoms, the latter opening perfectly. Festooning throughout this garden is *Clematis montana*, which early in the year is smothered with its snow-white wreaths of starry flowers. It is surprising this beautiful climber is not put to more extensive use in gardens, it flowers so freely, seeming to do best when left alone, or nearly so. For ascending and covering such things as *Wellingtonias* that have become disfigured, it has scarce any equal. In the centre of this *Rose* garden is a recess, from which the golden figure in the Italian garden previously alluded to may be viewed. Among the decorations here are some *Acer Negundo variegatum* standards, with *Clematis Jackmanni* rambling in the branches. In another part of the garden this species of *Acer* is used to form an arch over some circular beds of the bedding *Pelargonium*, *Henri Jacoby*.

The glass department consists of the usual forcing-houses, stoves, and plant-houses, in which a general assortment of the useful plants for table decoration

and cut flowers are grown. Among those grown for cutting are *Carnations*, represented by many hundreds of plants, both border and tree varieties. Indeed, *Carnations* are among the chief favourites of both Mr. and Mrs. De Wette, and apart from quantities of the leading varieties of commerce, are to be found numbers of varieties which have originated in these gardens. Quantities of seedlings are raised yearly, with the result that a strain of considerable merit is now established. Many beds are set apart for *Carnations*; appearances favoured a good display this season.

At the time of my visit, early in June, one house, containing about 600 plants of *Gloxinia*, made a beautiful display. Particularly noteworthy were the selfs, which can scarcely be equalled for size or solidity of bloom. Some massive whites, rich crimson-maroon, and crimson-lake selfs, were quite remarkable in their way. The shades of blue and mauve with the distinctive dottings and markings were very curious. *Elegans compacta* has flowers of a rich crimson-scarlet plush, with mottled tube; this is very free, carrying quite forty fully-expanded blossoms—most of the varieties were raised in the garden. Among the *Orchids* grown here are *Cattleyas*, *Cypripediums*, *Dendrobies*, *Oncidium*, and others; *Oncidium Lanceanum* being found a very useful flower for button-holes and the like.

Outside is a large and well-filled kitchen garden, every inch of space being occupied to meet the demand. Here and there among the trained *Apple trees* in the kitchen garden, the *Mistletoe*, very abundant in the *Limes* in the adjoining *Bushey Park*, finds a congenial home, and quite near to the ground. Quite a large border, between 200 and 300 feet long, is devoted to the bolder kinds of herbaceous plants; noteworthy among these being some fine, well-established clumps of *Pæonies* in variety, *Delphiniums*, *Oriental Poppies*, *Eryngiums*, *Pyrethrum uliginosum*, and such like. Beds are also devoted to some of the earlier flowering *Gladiolus*, *Blushing Bride*, *Prince Albert*, and *Colvillei*.

Not the least fine feature of these gardens is the conservatory, a fine building of considerable size, attached to the mansion. Some fine specimen *Palms* are to be seen here, notably *Areca spida*, fully 20 feet high, and in splendid plumage; *Areca Baueri*, some 30 feet high. *Tæsses*, with many others, together with some artificial rockwork, now beautifully covered with a variety of subjects, trailing and otherwise, all play their part in gracing this handsome building.

A garden like that at Hampton Court House, containing, as it does, so much that is beautiful and interesting, is rarely met with. It is obviously the outcome of much careful study on the part of its owner, ably assisted by his gardener; and from one end to the other the gardens are a pattern of good order and neatness, while the many instances of high-class culture that prevail testify to the ability of Mr. Neave. *E. Jenkins.*

THE SEED CROPS IN THE EASTERN MIDLANDS.

A VISIT to the seed-growing districts of Lincolnshire shows that taking one part of the country with another and striking a balance, the seed *Pea* crops promise to be better than in other parts of the country; the effects of the drought not having been so severely felt, as welcome showers fell in May and June, and during the early part of July. In the more southerly parts the drought was more severely felt, and the crops are in consequence less promising. It is early yet to make anything like an approximate forecast.

Beans.—In the seed-growing districts round Boston a full average crop of *Broad Beans* is expected; at the time of our visit the pods were filling well, the stalks green and healthy, with little appearance of the smother-fly. The *Harlington Windsor Bean* is the variety most grown about here, and especially for market, the white variety being preferred to the green. *French Beans* are a somewhat limited crop,

and Scarlet Runners also, but what are being grown look well. Cultivation for seed is more general in the counties of Bedfordshire, Kent, and Essex.

Cabbage.—As a market Vegetable, Cabbages are largely grown in the Boston and Spalding districts. The plants were injured during the winter, and there was at one time a lack of usable green stuff. Spring Cabbages were cut for market earlier than usual, and it being usual to sow large breadths of Rape in the autumn for sheep feed, the farmers took advantage of the dearth of vegetables, and when the Rape was in full leaf, the leaves were cut and sent to market, finding a ready sale. Plantations for seed appear only in small breadths, but they are healthy, though a good deal of the seed plant was injured by the frost; what remains is expected to yield well. The two leading varieties of Cabbage grown in the Eastern Midlands are the Early Rainham and the Offenham. Boston is famous for the high quality of the stocks of each.

Swede and Turnip crops for seed were also much damaged, and a large acreage destroyed. It was late in the season when the plants commenced to grow; numbers were sickly, and made no progress when the flowering time came. Swedes were found to be much cankered, and the bloom was damaged by the high winds which prevailed in April and May; at one time it appeared probable that a very small quantity of seed would be saved. The rains which fell early in June, however, were instrumental in freeing the plants of a good deal of insect life, and those plants which made a later growth promise now a fair yield of seed. Such samples of seeds already gathered duly winnowed, which we saw, were of an uneven character.

Mustard.—Not very many breadths of brown and white Mustard were sown, owing to the low prices prevailing for seed, the farmers fearing they may produce an unremunerative crop, and so add to their difficulties.

Potatoes.—The early varieties are very extensively planted in the Eastern Midlands, and up to moulding-up time the plants made a strong and even growth. Dry weather following proved prejudicial to the production of ample crops, though samples have proved fairly good, and prices are ruling somewhat high. The sorts chiefly grown for market are Myatt's Ashleaf, Early Paritan, Duke of Albany, Beauty of Hehrton, and Snowdrop. Myatt's Ashleaf furnishes the first crop, growers depending entirely upon this for an early supply, and enormous quantities are sent to all parts of the country from Boston and adjacent stations.

Peas for Market are largely grown in the fine loams found in the Eastern Midlands. For earliest crops the principal varieties are Earliest of All, Blue Alaska, and Harrison's Eclipse—practically three names for the same variety; and these are being replaced by early wrinkled forms of the William Harat type. To follow, come Telegraph, Improved Prizetaker, Harrison's Glory, and Prince of Wales, all dwarf in growth, as the fertile loam causes a vigorous growth of haulm; but the crops are heavy. These are the main crops; for later crops, Veitch's Perfection and Yorkshire Gem are grown. The attention of growers is being turned to the Early Wrinkled Marrows in course of distribution by Messrs. Sutton & Sons, of Reading, and it is expected some of the older sorts will be displaced by these improved types. *Pisum.*

BOTANICAL GARDENS, EDG-BASTON, BIRMINGHAM.

THESE gardens, so delightfully undulating, and so rich in trees and shrubs, well repay a visit at the present time. Since the welcome rains came, everything has brightened up wonderfully—freshness and beauty are on every hand, and the order observed everywhere is admirable, and reflects credit on Mr. W. G. Latham, the Curator. On the terrace the flower beds are becoming gay, while on the sloping bank the beds are not only elaborately planted, but they are effective with varying tints of foliage and flower. In the herbaceous department there is quite

a wealth of bloom, and the High Nettlefold alpine garden is fast becoming furnished. A more delightful lounge can hardly be met with so near that great industrial centre—Birmingham.

The show-house is gay with Fuchsias, which Mr. Latham employs with great effect. Some of the species are very striking, such as corymbiflora, now in full bloom; fulgens, triphylla, &c.; and of the decorative varieties, Rose of Castille Improved, Lye's Cuarming; Albion, a fine dark; Dr. Sankey, very distinct; and a few others are laden with bloom. There is a very fine example of Crinum Macowanii in full bloom; overhead Lapageria rosea and alba are in full bloom, and the huge double-white Camellia, as well as the species reticulata, are seen to be well set with buds.

In one of the greenhouses *Sigmaphyllum ciliatum*—the golden Vine of Brazil, is flowering abundantly on the roof; a very showy climber seldom seen. *Francoa ramosa* is represented by fine plants, the white flowers thickly set on branched inflorescences; *F. sonchifolia* has an unbranched spike of pink flowers, with a darker blotch near the base, the petals not quite so broad as those of *F. ramosa*. *Strobilanthus Dyerianus* deserves to be noticed as a very handsome-foliaged plant, its purple leaves glisten with a bright metallic lustre. *Crossandra undulatifolia* is a plant seldom seen, its reddish-orange flowers produced in spikes, and both distinct and attractive. A very curious plant is *Ceropegia Sandersonii*, from Natal, the flowers pale green, mottled and veined with darker green, with a peculiar translucent appearance, the five petals uniting to form an umbrella-like cap, which is ciliated along the margin with flat capillary processes. It is a vigorous-growing greenhouse climber, resembling an *Allamanda*. What is grown here as *Alonsoa acutifolia*, probably a form of *incisifolia*, is a somewhat dwarf-growing and free-flowering greenhouse shrub, with bright scarlet flowers, having dark centres. There is a collection of *Gloxinia*s that show fine quality, and tuberous-rooted *Begonia*s, of which there is a large collection, are superb and very attractive. *Passeiflora Raddiana* (kermesina) is flowering freely on the roof; *Impatiens Hookeri* is blooming finely on the stage, and plants of *Fuchsia triphylla* exceedingly gay.

In the stove-house, *Odontadenia speciosa* is still flowering; its bright yellow, orange-shaded, Dipladenia-like blossoms, are very showy; *Gloriosa superba* is very striking on the roof; and a huge blossom on a plant of *Aristolochia gigas* had a great interest for visitors. *Phalaenopsis Emeralds*, from Siam, had two spikes of flowers, though the plant is small; and the foliage of *Acalypha tricolor* is bold and richly coloured.

In the aquatic-house the *Nymphaeas* are flowering freely, and in all departments the most painstaking culture can be noted. At all seasons of the year, a pleasurable visit can be made to the Birmingham Botanical Gardens. *R. D.*

THE WEEK'S WORK.

THE ORCHID HOUSES.

By W. H. WHITE, Orchid Grower, Burford, Dorset.

DENDROBIUMS.—The deciduous *Dendrobium*s must be frequently looked over, as many of them are completing this season's growth, and have reached the stage when possibly they may start afresh; it is therefore advisable to go carefully over the plants, selecting those that have finished making their growths, and have the terminal leaf at the extremity of the bulb expanded, to be placed on one side of the house where more light and air can be admitted, and less moisture given them. They should also be gradually exposed to full sunshine, and until the leaves commence to turn yellow the plants should not be allowed to remain dry for long together. So soon as the plants have become used to the extra sunlight, and the new bulbs are fully developed, they should be removed to a cooler and drier atmosphere. They are perfectly safe if put in ainery or any other airy structure where at the present season the night temperature is about 55° to 60°. When fully exposed to the sun's rays, careful judgment should be

exercised in watering the plants, as the sphagnum-moss on the surface appears to be quite dry, when underneath it is not so, and if the roots are thus kept in a constantly saturated condition they will decay. Examine the plants day by day, and immediately any signs of the bulbs shrivelling are detected give them a thorough watering. Plants in small pots or shallow pans which have become pot-bound should be taken down and dipped in a pail of water to ensure a thorough soaking, but they must receive no more until the whole compost has become dry.

THUNIAS.—The *Thunias* which are now fully exposed to the sun are frequently attacked by red-spider and black thrips. These insects must be kept down, or they will soon establish themselves amongst other plants, and, as sponging of the leaves absorbs too much time, the best remedy is to lay the plants down on their sides over a tub or bath, and well syringe the foliage with strong nicotine-soap in the proportion of 3 or 4 oz. of soap to 1 gal. of warm soft water. Allow the plants to remain down for an hour, so that the insecticide may dry on the leaves. Afterwards the plants may be well syringed with clear water, and put back in their places.

HABENARIAS.—*Habenaria militaris*, *H. Susanna*, *H. carnea* and its pure white variety, *nivosa*, are now forming their bloom-spikes, and a sharp lookout must be kept to prevent thrips from disfiguring the buds. Nicotine-soap used at the rate of 2 oz. to the gal. of warm water is an excellent and safe cleansing mixture. Every care should be taken that the solution be thoroughly washed off immediately after dipping, and the plants protected from all sunshine for a few days.

CATTLEYAS, ETC.—Such plants as *Cattleya anrea*, *C. gigas*, *C. Rex*, and *C. Gaskelliana* are now commencing to root freely from the newly-made growths. Now is the best time to repot or to surface-dress those that require it. When repotted the plants should be placed at the coolest end of the Cattleya or intermediate-house, where they may obtain sufficient light and air to thoroughly harden their newly-made bulbs. Very careful watering is necessary until the plants are re-established, and only sufficient should be given to prevent the roots perishing. *Lælia purpurata*, *L. tenebrosa* and *L. cinnabarina* are starting to grow and may also be repotted now. The young breaks quickly send out a number of new roots, which will readily enter the fresh compost. Keep these *Lælias* well up to the light in the Cattleya-house, and give them liberal treatment in every way until growth is completed. In the cooler part of this house *Vandas* of the tricolor and *navis* section are now in full growth, and a decidedly moist atmosphere should be maintained around them, and the ventilators nearest to them may be opened whenever the external air is above 55°. They do not require to be saturated with water at the root, only sufficient being necessary to keep the sphagnum-moss fresh and green. The rare *Dendrobium Falconeri giganteum* will grow well under similar treatment, but a little extra sunlight is best for it. Red-spider is its greatest enemy, and must be kept down at any cost. In the *Odontoglossum*-house such species as *O. grande*, *O. Schlieperianum*, *O. Inceleyii* and its several varieties are making growth, and should be placed in the warmest corner. If they are not already repotted, this should be done before the flower-spikes show.

THE KITCHEN GARDEN.

By JOHN LAMBERT, Gardener, Powis Castle, Welshpool.

SPINACH.—Prepare a piece of good ground in which to sow Spinach for early winter and also spring supply. The second or third week of August will be quite soon enough for early warm districts, but I would recommend two sowings (at the least) to be made at a week or so apart. The same date each season will not always prove to be the right one. Where this dish is very much appreciated, I would make three sowings. Choose, if possible, a piece of sweet, well-drained, mellow ground. If water is stagnant in the soil in winter, the frost will affect the crop greatly. The situation should be well exposed to sun, but not where frost is known to be extra severe. Sow in rows 15 inches apart, and directly the plants are 2 inches above ground, thin them at first to about 1½ inch apart, and before they become crowded again take out every other one, leaving them at 3 inches apart. The thinnings may be used for table, and these sowings should provide plentiful

pickings during October, November, and all through the winter, if a mild season. Soot is a good manure for Spinach. The Improved Victoria broad-leaved is quite equal to the old prickly variety for standing the winter, and produces a much better leaf.

BROCCOLI.—Look over beds previously planted and fill up any gaps that have arisen, dust the plants occasionally with soot or lime to keep vermin in check, and slightly earth up any that require protecting from the wind. A batch of late varieties may even yet be planted, and will prove of good service next spring, if the plants are good when put out. As these are dwarf and of compact habit, do not be tempted to plant them much closer than the larger-growing varieties; plenty of room must be given if they are to stand through a hard winter.

CARROTS.—If pits are not available for these, a sowing should be made now outside. It will furnish small roots for drawing young, and if a mild winter ensues, they will also be of service in the spring, but they must be sown in a warm sheltered position on good land free from wireworm.

GENERAL WORK.—Do not by any means let weeds ripen their seeds, but have them hoed up the first hot sunny day available. Such crops as Runner Beans, if bearing heavily, should be afforded liquid manure occasionally. Onions, Beetroot, young Cauliflower, Turnips, and almost all other root crops should be given a dressing of soot when rain is expected. Make liberal sowings of Orange Jelly and Chirk Castle Blackstone Turnips for winter use. The first wet day will afford an opportunity to string or tie in small bunches Garlic or Shallots. The Mushroom house too, should be cleaned of all refuse, and the walls be freshly washed with lime. Walks must be kept clean, and where box edging is used, this must be done by hoeing or hand weeding.

THE FLOWER GARDEN.

By BAILEY WADDS, Gardener, Birdsall Gardens, York.

LAWNS AND PLEASURE GROUNDS.—Since the recent heavy rains the turf on grass lawns has improved, and in places where it has been killed by the drought and brown patches are seen, a sprinkling of lawn grass seed should be sown, and a slight top-dressing of fine soil given with a small quantity of phosphate manure mixed with it, sweeping the turf well over after, and rolling it well. Newly-sown grass lawns should not be cut closely with the machine, but if they are mown several times over with the scythe the first season, the grass will be better for it. Continue to mow weekly with the lawn-mower old lawns that require to be kept in good order. Where the grass has not been mown during the dry weather it should be scythed over twice to take off the long bents of grass that the machine will not take. The present time is convenient to take out Plantain and other weeds and brushing soil into the holes made; keep grass edgings well clipped. Gravel paths and carriage drives should be kept free from weeds, and the accumulation of silt and rubbish about the openings of drains should be daily removed during stormy weather.

SHRUB BEDS AND BORDERS should be frequently hoed and raked until the falling of the leaves. During the next few weeks beds and borders of shrubs should be looked over and notes taken before the fall of the leaf in regard to the transplanting or pruning back of deciduous varieties that are growing too thickly. The autumn growth of Evergreen shrubs should be encouraged, and all the light and air possible given them. Evergreens are often injured by Lilacs and other quick-growing deciduous shrubs which shade them during the autumn months. The budding of double-flowering Thorns and other deciduous plants may now be done where the bark of the stock is in good condition. Evergreen hedges of Privet or Yew should be cut into the required shape, and edgings of Box, Ivy, and other evergreens trimmed. Ivy edgings of beds recently planted should have the shoots pegged down as they grow until they have formed a good edging, and old edgings of Ivy should be kept as free from weeds as possible. Care should be taken not to cut plants of Ivy growing as edgings or on walls at this season with the garden-shears; if the shoots require cutting a knife or pruning scissors should be used. No large foliage evergreen shrub should have the leaves cut, at this time of the year especially. Make secure strong shoots of Virginian Creepers and Clematis growing on walls.

PROPAGATING.—Cuttings of bedding Pelargoniums should be taken as soon as they can be obtained and struck in boxes out-of-doors in the full sun. Cuttings of Verbenas, Coleus, Iresines, and Alternantheras will strike freely in a closely-shaded pit or house, and if there is a little bottom-heat for them so much the better. Cuttings should afterwards be taken of Pentstemons, Antirrhinums, double-flowering Rockets, Lychnis, Veronicas, &c. These will strike very well in a bed under a cold frame and in pots under hand-glasses if shaded from the sun and given a light rich fine soil, with a good covering of sand.

SEED SOWING.—During the present month seed should be sown of annuals required for planting in beds during the autumn or early spring months, such as Saponaria calabrica, Nemophila insignis, Collinsia bicolor, C. grandiflora, C. verna, Limnanthes Douglasii, and varieties sulphurea and odorata; Silene pendula, Alyssum maritimum, Bartonia aurea, Candytuft, and Virginia Stocks. Brompton Stocks should also be sown on a sheltered border. Prick out Wallflowers as soon as they are ready, also Pansies, Violas, Anemones, and other seedling plants that are required for autumn planting.

THE HARDY FRUIT GARDEN.

By W. POPE, Gardener, Highclere Castle, Newbury.

HEAVILY CROPPED TREES.—Fruit trees that may be carrying very heavy crops, or that have perfected their fruit and show signs of weakness, will be greatly benefited by a good soaking of liquid manure, or failing that, a top-dressing of fish manure, guano, or other good stimulant, which may be applied to the surface and well watered in. Timely attention to this matter will probably ensure a crop of fruit next season, other conditions being favourable, on trees that without such special assistance would require a season of rest to recover from the exhaustion consequent on heavy cropping.

RASPBERRIES.—As soon as fruit gathering is finished on Raspberry plantations the bearing wood should be cut clean away, and if more young canes are still left than are needed for next year's fruiting, these should also be thinned by cutting out the weakest. The remaining shoots should be secured to the trellis or other support, so that they may be fully exposed to light and air, and be safe from damage by high winds. Any loose manure left from the mulchings may be raked off, and the surface-soil thoroughly loosened by hoeing. If the surface-soil be left rough, it will be considerably sweetened. Should the canes be making only poor weak growth, they require to be assisted by good waterings of sewage or liquid-manure from the farmyard.

GATHERING EARLY PEARS.—Early Pears, such as Jargonelle, Williams' Bon Chrétien, &c., as they approach maturity, may be gathered a few at a time and laid on the shelves of a cool fruit-room for a few days until required for use. By growing these early sorts in different aspects, and gathering a few fruits daily as they approach the ripening stage, the early Pear season may be greatly prolonged.

PLUMS.—Plums now ripening must be afforded some protection against birds, and as far as possible from wasps, which are this year much too plentiful. A few trees of the choicest dessert kinds should be covered with hexagon or other fine netting, fastened closely at the sides so as to entirely exclude wasps. Many may be trapped and destroyed by hanging wide-necked bottles about the walls half filled with syrup, or a capital trap may be made with a couple of hand-glasses, standing the lower glass on bricks, one at each corner, and putting a few half-rotten Apples or other fruit inside as a bait; the other glass must be placed on the top, taking care to fit it nicely round the junction of the two glasses. Make a small hole at the top of the underlight so that they may ascend into the trap, from which they are not likely to return. No effort should be spared, however, in searching for and destroying every nest possible, as during a fine warm autumn they increase at an astonishing rate.

PLANTS UNDER GLASS.

By W. H. SMITH, Gardener, West Dean Park, Chichester.

IXORAS.—These plants will require plenty of water at the root, and a sprinkling of Clay's Fertiliser on the soil. Ixora plants in flower should be placed apart from others, the blooms being readily injured by the syringing afforded the flowerless section. In the absence of syringing, mealy-bug is sure to

increase, and in the case of the flowering specimens, the use of a small brush dipped in methylated spirits in its destruction is to be recommended. The paths and walls in houses where Ixoras are growing should be kept nearly always in a moist state.

CALADIUMS.—Plants of these started early in spring will have begun to show signs of maturity by the dying down of the leaves, and a little less water should be afforded them. If they have become shabby, place them beneath the stove-stages where drip will not reach them. When quite dried off, carefully take the tubers out of the soil and place them in boxes filled with dry sand or coconut fibre refuse, and store these in a place of not less warmth than 60° for the winter.

CYCLAMENS.—Sow at this season seed of Cyclamen, using shallow well-drained seed-pans filled with a mixture of loam, leaf-soil, peat and sand. Sow rather thinly, and not deeper than the thickness of the seeds. Place the pans in a cold frame, cover with a piece of glass, and keep them shaded till germination has begun. Cyclamen plants for flowering this winter ought now to be growing freely, and they will need to have water very carefully afforded, avoiding the extremes of too much dryness or the reverse. In bright weather the plants may be lightly syringed three or four times a day. To keep the plants from getting one-sided turn them round twice a week. If aphid or thrips appear on them, vaporise the house with Xl. All.

MIGNONETTE.—The main sowing for winter flowering may now be made, putting three or four seeds in large 60's. Place the pots in a cold frame till the seeds are up, when a partly shaded position outside will suit the plants best.

HUMEA ELEGANS.—As the young plants fill their pots with roots, continue to repot them, using good rich loamy soil, potting firmly, and do not afford water for a few days after re-potting. A cold frame is a suitable place for them until they are re-established, afterwards placing them out-of-doors, and keeping them there till it is no longer safe to do so.

FRUITS UNDER GLASS.

By RICHARD PARKER, Gardener, Goodwood, Chichester.

WINTER CUCUMBERS.—If not already done, no time should be lost in sowing seeds of suitable varieties of winter-bearing Cucumbers. I prefer to raise the plants at this season in the plant-stove, where there is a brick heat, and less fear of the young leaves being injured by red-spider. When Cucumber plants are raised in pits and houses containing old Melon and Cucumber plants, there is always a danger of this occurring. Sow the seeds in thumb-pots, and place these on a shelf near the roof-glass as soon as the seeds germinate. In the meantime a house should be prepared for their reception, so that they may be placed in their winter quarters at an early date, to become well established before the autumn commences. The house should be cleared of all the old soil, the woodwork scrubbed or painted, and the walls lime-washed twice. A hot-bed should then be made up of well-prepared fresh fermenting material—leaves and stable-dung—and hillocks of new, light soil prepared for the plants, which may be planted out when the heat of the bed has declined to 85°. After the plants have been put out on the hillocks they must be encouraged to make strong short-jointed shoots and leaves of firm texture, which can only be done by close attention to the ventilation, feeding, and affording enough warmth. Sufficient seed should always be sown to enable the gardener to have a few plants in reserve in case of accidents. For winter work I prefer the Cardiff Castle variety, a small-fruited kind that is more productive than many of the larger ones. Old plants should be cleared out as they become exhausted, and the houses thoroughly cleaned to receive other crops. This also applies to Melons and Tomatoes, so as to allow of the houses being painted. Now also is a good time to have the heating apparatus examined, as the fire may be dispensed with if necessary for a few days, to enable the workmen to make good all the bad joints. The work in the different departments at this season consists in freely ventilating all houses which have borne crops, and protecting ripe fruit from wasps and flies. I have found it necessary to place muslin over the ventilators, as wasps are very troublesome this year.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Letters for Publication.—All communications intended for publication, as well as specimens and plants for naming, should be addressed to the Editor, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETING.

TUESDAY, AUG. 13. { Royal Horticultural Society's Committees, at Drill Hall, Westminster.

SHOWS.

TUESDAY, AUG. 13. { Horticultural Shows at Blagdon and West Malvern.
{ Bishop's Stortford Horticultural, Cardiff Horticultural (two days).
WEDNESDAY, AUG. 14. { Eastbourne Horticultural, Wiltshire Horticultural, at Salisbury.

THURSDAY, AUG. 15.—Martock Horticultural.

SALES.

TUESDAY, AUG. 13. { Imported and Established Orchids, at Protheroe & Morris' Rooms.
FRIDAY, AUG. 16. { Imported and Established Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—62°.5.

At the meeting at Ghent convened to consider this question, M. l'Echevin BRUNEL presided. He briefly summarised the state of affairs since the enactment of the Berne Convention. The Italian Government has at length demanded the entire abrogation of the rules that have proved so futile and which have caused so much loss and inconvenience. It suggests a meeting of the signatories of the Convention to carry this into effect. The Belgian Government solicited the opinion of the Syndicate of Belgian nurserymen on the subject. In reply the Committee of the Syndicate expressed the opinion that nothing short of the entire abolition of the Convention would be satisfactory, and this opinion was received with general acclamation by the meeting. What steps the British nurserymen and those amateurs who have occasion to send plants abroad will take, remains to be seen. Hitherto they have preferred to acquiesce in submission rather than endeavour to free themselves from the shackles. They have an opportunity now of strengthening the hands of those who desire the abolition of the senseless prohibition, and it is to be hoped they will avail themselves of it.

WHERE heavy rains have fallen, on land warmed by the late tropical heat, most varieties of the Potato will have commenced to push out a second brood of tubers from those which are already well developed in the case of early and second early, and less so with late varieties. It is the natural consequence of a change from heat and drought to continued rainy weather, and nothing that the cultivator can do in garden or field will be of any avail short of lifting such varieties as are approaching maturity. These will include all early and second early varieties, which would be more injured by remaining in

the earth, than by storing them in a cool dark place that is fairly dry. The ordinary clamp will not do at this season, the weather at this season favouring sprouting in such store places.

In a season like the present, the advantages of wide planting become more apparent than usual; for the soil, being but sparsely covered by the shoots and foliage of the Potatos, is more rapidly dried by the sun. Moreover, should the disease attack them, the spores would chiefly fall on land under which no tubers are found. With crowded rows, say, from 2 feet for Ash-leaves, to 3 feet for the more robust of the early and second early, the tops cover the soil, and in the case of an attack of disease, the spores of the fungus actually fall on the ground beneath which the tubers lay, readily affecting them; in fact this method of planting affords no sort of protection against disease, but rather favours its spread.

If gardeners, and cultivators generally, would practise wide planting and the Jensenian mode of moulding up the stems, a double benefit would accrue in seasons like the present; the smooth, sloping sides of the ridges causing the rain to find its way to the furrows instead of soaking the former, the spores of the fungus, if any, taking the same route. All of this has been often repeated, but there are few who pay any heed to the voice of one crying in the wilderness. Our farmers will be found lamenting, as usual, the loss of money involved in a lessened crop of Potatos, a loss which in most cases is the natural outcome of a lack of precaution on their part. Of course it is, to some extent, a question of expense. Does it pay better to lose a large part of a crop, with some problematical advantage in higher prices being got for the remainder of it, or to follow Jensenian methods? That is a question for experts. The consumer will get what potatoes he wants and that are lacking at home from the foreign cultivator, and only our own growers will be any the worse.

The Hautbois Strawberry.

THOSE about to plant should not omit the Hautbois varieties. The species is more distinctly delicious than cross-bred varieties; and the buyer should therefore ascertain from the nurseryman or the friend who supplies the runners, if the sexes are fairly well mixed in the plantation from which they were taken. Failing to do this he may get plants all of one sex, or but very few of the other, with the result that the bed will produce little or no fruit. This may be a reason for the rarity of the species in gardens. The Hautbois succeeds on partially shaded borders, or on one at the back of a wall sloping to the north. In good soil it is a strong grower, and the rows should not be less than 3 feet apart. Once planted on good ground, and top-dressed annually with well-rotted stable-dung or leaf-mould, a bed of Hautbois Strawberries will continue in bearing for a dozen years. Sometimes the plants in old beds, if annually manured, run too much to leaf, and some discretion should then be exercised in the matter of dunging. There is nothing to be gained by frequently making plantations of this species, the plant seeming to succeed better when growing in thickish rows, which afford a good deal of shade to the fruits and the roots.

If a plantation appears to have seen its best days, the runners, which are sure to consist of a sufficient mixture of males and females, should be allowed to occupy the alleys, rooting all over them, but being thinned out where standing at a less distance than 6 inches apart. When the

fruiting season is passed, the old plants may be shovelled off, and the land where they stood double dug.

The varieties are the Royal Hautbois, one white, the other purple-fruited, and larger than any of the others, as well as being richer flavoured. Prolifio Hautbois (Balle Bordelaise) has small fruits, almost black on the sunny side, and on the shady side purple. The fruit has the peculiar flavour of the race.

ANGRÆCUM PELLUCIDUM (see Supplementary Illustration).—First introduced by Messrs. LODDIGES from Sierra Leone in 1842, and since that time occasionally imported, but only in small quantities, this beautiful species may be said to have never been generally cultivated. Although not having the large flowers of *A. seagipedale* and some of the other species, it has always been regarded as a plant of sufficient beauty to warrant its being more widely distributed in gardens when the enterprise of the collector sees fit to make a good importation of it. Our illustration, taken from a photograph of a specimen which has been growing for some years in one of the warm Orchid-houses in the gardens of Sir TREVOR LAWRENCE, Bart., at Burford, Dorking, shows to what beauty the plant may be made to attain by careful cultivation, its long sprays of opaque cream-white flowers depending from among the fleshy dark green leaves being graceful in the extreme. *Angræcum pellucidum* may be grown in a pot, but if so cultivated means should be provided for suspending it when in flower, or the spikes are apt to stop short and not display their full beauty. Generally speaking, it requires the same kind of treatment as the *Phalænopsis*—a warm moist atmosphere and protection from bright sunlight in summer.

ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Royal Horticultural Society will be held on Tuesday, August 13, in the Drill Hall, James Street, Victoria Street, Westminster. At 3 o'clock a paper by Mr. A. B. FREEMAN-MITFORD on "Hardy Bamboos" will be read.

MR. BARRON'S RETIREMENT.—In reply to numerous enquiries, we are in a position to state that, after the long vacation, steps will be taken to secure that a public recognition of Mr. BARRON'S long and loyal services to horticulture be made by his friends, and by those who value the conscientious discharge of duty under very difficult and depressing circumstances.

LEICESTER (AUGUST 6).—The great exhibition of Flowers and Fruits in the fine grounds of the Abbey Park commenced on August 6 amid sunshine and showers, and was a very successful show, likely to reconquer the Corporation for its large outlay, and the energetic organiser and superintendent, Mr. JOHN BURN, for the amount of labour and anxiety which he must have had before he succeeded in getting such a beautiful and harmonious display in the six great marquees in which the exhibits were arranged. At 1 o'clock the exhibition was opened by the Mayor, who, in his speech, which showed how truly he was a gardener in heart, touched on some of the exhibits, and especially on the praiseworthy display made by the cottagers and allotment gardeners, which he said formed one of the most satisfactory proofs of the beneficial results of these shows, which had now been running at the Abbey Park with increasing success for ten of the thirteen years which had elapsed since the skill of Mr. JOHN BURN had redeemed it from an unsightly marsh. A great crowd of visitors flocked to see the show, which embraced many very fine exhibits, two of the best being a grand display of Begonias by Messrs. WARE, and of Caladiums by Messrs. JOHN PEEB & SON. In our next issue we hope to give a fuller account of the show.

THE USEFULNESS OF GARDENING.—Speaking at the Hawarden Flower Show Mr. GLADSTONE remarked:—"You may depend upon it there is an



ANGRÆCUM PELLUCIDUM, IN THE GARDEN OF SIR TREVOR LAWRENCE, BART.

immense deal to be done in this country by drawing forth the bounty of old mother Earth in detail. It is all very well to talk about machinery—and there was a time when people used to think that the steam plough was going to drive hand labour out of existence—and undoubtedly in manufacture the advances of machinery have been astonishing; but as regards cultivation of the earth, as regards garden cultivation, as regards all small cultivation, depend upon it there is more room than ever there was for both adding to the store of the beautiful products of Nature, with the capacity of producing which Providence has bountifully endowed the soil, and likewise of increasing, and largely increasing and consolidating, the efforts and advantages of rural life. The use of gardens, the universal provision of gardens, is a matter of the greatest importance to the country. It is of the greatest importance also, and most desirable, that other small holdings, as they are called, should be multiplied; and I trust—I most earnestly trust—the day will come, and will soon come, when these holdings will be made universal."

THE ROYAL BOTANIC SOCIETY.—The fifty-sixth annual meeting of the Royal Botanic Society will be held in the Gardens, Inner Circle, Regent's Park, on Saturday afternoon, the 10th inst., at 1 o'clock. The meetings, writes Mr. J. S. RUBINSTEIN, Hon. Auditor R.B.S., 56, West Cromwell Road, S.W., have been held on the same date since the Society was founded in 1839, but if they were to take place at a more convenient period of the year, a much larger attendance of the Fellows would undoubtedly be secured, and it is thought by many that in this and in other matters the charter might now with advantage be revised. The business to be transacted includes the election of eight members of the Council, the presentation of the Council and auditors' reports, and the consideration of a resolution to be moved by Mr. J. S. RUBINSTEIN, congratulating the Society on the great success of the experimental opening of the Gardens to the public on the Bank Holidays and other days this year, and recommending the Council to admit the public to musical promenades to be given next season on the afternoon and evening of every Monday and Saturday.

TORQUAY DISTRICT GARDENERS' ASSOCIATION.—The third annual outing of the above Society took place on Tuesday, July 30, when about forty members proceeded in brakes to Ashburton, Buckland Drives, Widecombe-in-the-Moor, and Heatree. By the kindness of Mr. B. J. BASTARD of Buckland Court, the party were permitted, under the guidance of Mr. W. LEACH, the head gardener, to pass through the most choice parts of the grounds. The grandeur of the scenery commanded from the middle drive at this place is unsurpassed in Devonshire. Luncheon was had at Widecombe, and by the permission of Mr. J. KITSON, an inspection was made of a portion of the plantations recently made at Heatree. It was remarked that the Rhododendrons were exceedingly thriving, as were also such Conifers as Cupressus Lawsoniana, C. macrocarpa, Thuiopeis dolabrata, and many others. These did not appear to have suffered at all from the severe winter, in spite of the exposed moorland position. The party started on the homeward journey *via* Manaton, Becky Falls, and Bovey Tracey, an enjoyable day having been spent. Mr. F. C. SMALE (Hon. Sec.) was responsible for the arrangements.

COTTON, COFFEE, AND VANILLA CULTURE IN TAHITI.—Referring to the cultural industries of Tahiti, the British consul states that Cotton has always been the favourite culture of the native population, but owing to the extremely low prices that have latterly ruled, both locally and in Europe, its cultivation is being gradually abandoned. Tahiti Cotton no longer pays to produce, and it would be an excellent thing for the island and for some of its dependencies if the natives could be induced to undertake in its place the culture of Coffee, which grows in the island under the most favourable circumstances. The quality has been declared by European

and American experts in Liverpool and New York respectively to equal West Central American in aroma and in general quality. Coffee would be the ideal culture for the natives, but so far only a few of them have been induced to set out small patches, for the reason that as they only live for to-day, they cannot as yet be persuaded to undertake an enterprise from which a return can only be expected after the first three years. The one attempt made by any foreigner in this direction—a small plantation of seven acres, planted some three years ago—shows conclusively that this enterprise could be made to pay. The annual production of Coffee is at present 3 to 4 tons only. The cultivation and curing of Vanilla in Tahiti is being neglected in consequence of the inferior quality as compared with that of Mexico, Bourbon, and Seychelles, and the corresponding low price that it commands. A hope, however, is current in the island that the market value may be increased by the adoption of a more efficient method of curing the bean than that at present in use. The annual export of Vanilla is about 15 tons.

ISLE OF WIGHT HORTICULTURAL IMPROVEMENT ASSOCIATION.—At the recent monthly meeting of the above Association, held at Shanklin, there was a good attendance of members and friends to hear a paper on the "Cultivation of Tuberous-rooted Begonias," by Mr. W. W. SHEATH, of Ventnor. Dr. GROVES, B.A., J.P., presided. The paper contained some valuable advice on raising seedlings, and their general cultivation. Begonia flowers were contributed by Messrs. CANNELL, LAINO, and BOX. The next meeting is to be held at Ventnor on September 7, when a paper on "Hardy Trees and Shrubs" will be read by Mr. C. SNOOK, late of Kew Gardens.

LILIES AT TWICKENHAM.—Mr. H. A. TRACY, The Orchid and Lily Nurseries, Amyand Park Road, Twickenham, grows Lilies extensively for cut bloom; he has been cutting for a considerable time, and there are still successions coming on that will lengthen out the season some weeks longer. The principal varieties grown in quantity are *Lilium longiflorum* var. *Harrisii*, *L. speciosum* var. *Melpomene*, and *L. s. album novum*, the last-named being considered the purest white, while *Melpomene* is the richest crimson variety of the fragrant *L. speciosum*. For forwarding to a distance the flowers are cut in bud just before they open, and at the end of the journey they open fresh and clean, and last a long time. The last few buds on the spikes are cut together with long stalks, and are much sought for use in indoor decorations.

FORCING LETTUCES IN POTS.—In a recent *Bulletin* of the New York Agricultural Station, we find a paper on this subject, of which the following is the summary:—The growing of Lettuce in pots is believed to have several advantages over growing it in benches, namely—1, by inducing a compact growth, and favouring early heading; 2, the plants are transplanted but once, that is, from the flats to the pots, so that the growth is not checked by a second transplanting; 3, plants may be marketed without disturbing their roots, and so they may be kept perfectly fresh for a long time—an advantage that is much appreciated by retail dealers; 4, as soon as a plant is removed from the bench, its place may be immediately filled with another potted plant, so that the entire bench-room may be kept constantly occupied. The method may be briefly outlined as follows:—The bench, 6 inches deep, is half filled with well-rotted manure, over which is spread 3 inches of soil. The soil is made of one part by measure of manure to three parts of rotted sod. Should the sod be from a heavy loam, it is made lighter by adding one part by measure of sand to three parts of sod. The plants are transplanted but once, and that is from the seed flats to 2-inch pots. The pots are plunged into the soil on the benches, so that the tops are covered with nearly half an inch of soil. The distance between the plants on the bench varies with the variety, but is usually 10 inches each way. Before the pot is plunged in

the soil, it is turned upside down, and the underside of the leaves thoroughly dusted with Tobacco to prevent attacks of aphid. The upper-side of the leaves is then dusted with Tobacco, and about a week later the plants are dusted again, being especially careful to apply the Tobacco thoroughly in the tender centres of the growing plants. As to the care of Lettuce under glass, it may be said that the house should be kept at a cool, even temperature, running a few degrees above fifty in the day, and remaining at fifty or a little below at night. Sudden fluctuations from high to low temperature, or *vice versa*, should be avoided. The plants should have plenty of fresh air, especially on sunny days, when the temperature is high outside. When the plants are watered overhead, it is best to select a time when the foliage will dry quickly. Avoid watering so late in the day that the plants will not dry before night.

VRIESIAS.—M. A. GRIESEN is publishing, in *Le Jardin*, some useful tables, giving the names of hybrid Vriesias obtained elsewhere than in France. The history of the discovery or production of each variety is briefly given, and M. GRIESEN is doing service in thus publishing the origins of the plants now, before, by cross-breeding, they have become too intricate to be traced.

HENNA.—The Henna plant (*Lawsonia alba*), which is a shrub found widely distributed throughout India, Persia, Kurdistan, Syria, Egypt, and Northern Africa, and which is so well known for the use of its powdered-leaves as an orange-yellow dye by the Egyptians from remote antiquity, seems to be somewhat extensively grown in the gardens outside the city of Tripoli, where it is said to be highly appreciated by the people as a dye. The twigs and leaves are gathered three times a year, the root, which is allowed to remain in the soil, reproducing the plant almost indefinitely. The Arab women use it to stain their feet and finger-nails, and it is said to be very efficacious in the cure of chilblains. Last year the value of the exports of Henna from Tripoli, chiefly to Tunis and Algiers, amounted to £3000. The mode of preparing Henna in the East is very simple, and consists of reducing the leaves and young twigs to a fine powder, to which sometimes is added a little Catechu. To use it—the powder is made into a pasty mass with hot water, and spread on the part to be dyed, where it is usually allowed to remain for a night before being washed off.

VALONIA.—The growth of the Oak plantations in the island of Zes, one of the Cyclades, is said to have increased in a remarkable degree of late, and a corresponding increase in the next crop of Valonia is anticipated. The acorn-cup contains a large proportion of tannin, and is considered in quality equal to that which comes from Smyrna. The average annual produce is from 20,000 to 30,000 quintals (one quintal equals 123·2 lb.), but on favourable occasions even double that amount is reached. Last year's produce was estimated at 25,000 quintals, valued at £10 260. About 15,000 quintals were sent to Trieste, 7500 quintals to Great Britain, 2500 quintals to Italy, and the rest to Syria.

THE EXPORTATION OF CUT FLOWERS FROM HOLLAND.—As was announced in our issue for July 27, a meeting took place at the Hummums Hotel, Covent Garden, on July 26 for the purpose of forming an association to oppose the exportation from Holland to this country of cut flowers by those who have sold bulbs for forcing to English growers. The meeting represented the horticultural trade, and a committee *pro tem.* was appointed to draft rules, &c., for the management of the association. It is proposed to call another meeting shortly, but in the meantime the committee desire that all who are willing to join the association should communicate with Mr. C. H. M. A. ALDERSON, Hilda Vale Road, Farnborough, R.S.O., Kent.

FLOWERING PLANTS OF NEW SOUTH WALES.—The Government of New South Wales is publishing a series of coloured plates illustrative of plants of economic value. The work is edited by Mr. MAIDEN, a sufficient guarantee of its excellence. Mr.

MAIDEN is assisted by Mr. CAMPBELL. The plates are characteristic, and the letterpress popular but accurate, including descriptions of the plants and indication of their uses. The Waratah, *Telopoa speciosissima*, *Eucalyptus corymbosa*, the blood wood, *Actinotus Helianthi*, the flannel flower, the *Acacia glaucescens*, the coast Myall, are the plants figured in the first part.

THE GREAT FAILURE IN TURNIPS AND MANGELS.—To meet the above, Mr. MAURICE MORIARTY, of Mallow, Ireland, writes:—"I have many hundreds of millions [!] of Cabbage plants in variety which I will give away to anyone who may send for them. Scotch and English seed merchants will not take them, being disappointed in not getting a special traffic rate, and farmers and others may as well have them as for me to plough them in."

HORTICULTURAL CLUB.—A very successful excursion was made by some of the members of the Club and their friends on Tuesday last; the first place visited was Claymar, Finchley, one of those extensive establishments which have of late years sprung up in the neighbourhood of London and other large towns for the purpose of growing Grapes and Tomatoes. It was a revelation to many of the visitors to see houses 450 feet long filled with Grapes, one house having seven tons of Grapes hanging in it. When they are ripe it must be a wonderful sight; at present they are just beginning to colour. The party, numbering forty-three, was hospitably entertained by Mr. PETER KAY at luncheon, after which they drove to Hatfield, where they were conducted through the park and gardens by Mr. NORMAN, head gardener to the Marquis of SALISBURY, who had kindly given permission to visit this noble place. Afterwards the members adjourned to the Red Lion, where dinner was served at 7 o'clock. There was an unanimous opinion expressed as to its being one of the most enjoyable excursions the Club had ever made, and the members were deeply indebted to Mr. KAY, who undertook all the arrangements, and under whose able management everything went off pleasantly.

PLANT PORTRAITS.

- APPLE JEFFERIS, *Garten Flora*, August 1.
 BROWNEA ARHIZA, Bentham, *Illustr. Horticole*, July 30.
 CARPINUS CORDATA, Japan, *Garden and Forest*, July 24.
 CHRYSANTHEMUM WALTER SEAMAN, yellow Japanese incurved, *Revue Horticole*, August 1.
 EULOPHELIA ELIZABETHÆ, *Revue de l'Horticulture Belge*, August.
 KEMPFERIA GILBERTI, *Revue de l'Horticulture Belge*, August.
 LAMOUROUSIA PRINGLEI, *Garden and Forest*, July 10.
 SPHERALCEA ABUTILIODES, *Garden*, July 20.

HOME CORRESPONDENCE.

THE LATE JOHN WILLS.—All your older readers will endorse "R. D.'s" genial estimate of the character and genius of our departed friend. Our first friendship was formed over *Viola cornuta* and the pure white variety, the latter being still one of the most striking and useful. Though our paths lay in opposite directions through most of our lives, our friendship continued. It would be almost an impertinence to add a word to his great work, so well described by "R. D.," though only those who knew what table and room decorations were when Wills started can appreciate how much modern bouquetiers and decorators owe to Mr. and Mrs. Wills. But there was one feature in his character that I may be permitted to refer to in the *Gardeners' Chronicle*. Few men had more power of discovering ability, or were more desirous of pushing young men of talent to the front than Mr. John Wills. And not a few of those that he virtually made decorators hold high positions to-day either in the firm or other establishments of high standing in this new industry which Mr. and Mrs. John Wills may be said to have created on a broader basis and more artistic lines. D. T. F.

ST. DUTHUS PEA.—I was pleased to see a note in your paper of July 27 recording the excellence of this little-known Pea. I have cultivated it this season, and find it all that your correspondent

"A. H." says it is. It stands dry weather better than any other Pea, and even now the haulm is sound and green and pods fit for picking, although the seed was sown on March 19, at the same time as Sutton's Prolific. Since then I have sown Early Champion, Dr. Maclean, Veitch's Perfection, and other varieties; gathered their crops of pods, and cleared the ground of them, in one or two cases cropping it again. The dry season and a heavy stiff soil have mainly contributed to these Peas passing away so quickly. St. Duthus, however, has stood well. I find it rather longer in coming into use than some others, but when once the pods become fit for table it continues for a long time in bearing. The pods are well filled, eight or nine seeds in almost every one, of a deep green colour, and the flavour capital. As a mid-season variety it is, I think, very valuable. I have tried this season Veitch's Runner French Bean, sowing it at the same time as the ordinary Scarlet Runner, and this is proving a useful Bean, running well and producing a splendid crop of pods, tender and sweet-flavoured. Sutton's Epicure and Tender and True Bean are also very desirable varieties. The French Runner Bean I obtained from R. Veitch and Sons of Exeter. W. Swan, Bystock, Exmouth.

A RED MARÉCHAL NIEL ROSE.—I noticed a paragraph in your issue for July 20, p. 64, an abstract from one of the German horticultural papers, of a red Maréchal Niel Rose, raised by Dr. Müller, and the result of a cross between the above and General Jacqueminot. What a lovely Rose this must be, and what a great pity if Dr. Müller does not send it out for the use of the general public, and so put it within the reach of all. What a charming flower it must be if it have all the characteristics of the type! W. Bowles, Adare Manor, near Limerick.

CATTLE POISONING BY THE COMMON YEW.—In an article in the *Spectator* on the materia medica of animals about a fortnight ago, is a misstatement respecting animals and the leaves of Yew, which it is worth while to correct, because many people do not understand about the poisonous quality of Yews. In that article it is stated that animals which have constant access to Yew avoid eating it, knowing it to be poisonous. This is quite untrue. On the contrary, they habitually eat it and are very fond of it, and no one ever heard of their being the worse for it when they eat it in this manner. I have no doubt that it is to them a stomachic and promoter of appetite. Farm lads are sometimes prosecuted for killing farm horses by giving them powdered Yew leaves, and I find, on inquiring what they do it for, that they give it to make the animals eat their corn, when they are only getting corn and are tired of it. Now dried Yew leaves are undoubtedly more poisonous than green leaves fresh from the tree, and if they give the least bit too much of it, especially if the horses are not accustomed to eating Yew leaves, it is liable to kill them; but the leaves of the growing tree are also dangerous to animals which get access to them suddenly, and when they are not accustomed to them. All the cases of Yew poisoning that I have ever known or heard of have arisen thus. I know of many places where there are Yew trees in the pasture-fields and in the adjoining hedger, and any one who will take the trouble to look at such ones will see that they are habitually browsed by the cattle. I believe that the best safeguard against Yew poisoning is always to have Yew trees within reach of the cattle, and I therefore constantly plant Yew trees in the hedges of pasture-fields, or in the fields themselves. C. W. Strickland.

GLOXINIAS AT TRING PARK.—Few plants are more showy at this season than Gloxinias, when well grown; and the fine strain now obtainable from the leading seedsmen give varieties of much beauty. A houseful of them is one of the sights at the present time in Lord Rothschild's gardens at Tring Park. Mr. E. Hill, the gardener, has arranged the plants together with *Isolepis gracilis*, the latter also forming an edging to the stage on which they are placed. The strain is characterised by the brilliancy of the scarlet and crimson forms, and the great beauty of the spotted varieties, the spotting and marbling being in all shades of rose, crimson, and purple. The foliage is large and massive. Great cultural skill is required to bring so many Gloxinia plants to such perfection, but they are well worth the trouble. J. O'B.

RICHARDIA PENTLANDI.—As bearing on the remarks on yellow Richardias in their native habitat fur-

nished by Mr. Chas. Avra of Cape Town (*Gardeners' Chronicle*, June 22, p. 764), it will interest him and others to know that some of the tubers collected by him are sending up their rich golden-yellow spathe in Lord Rothschild's garden at Tring Park. Both the plain green-leaved and the spotted-leaved varieties, representing R. Pentlandi and R. Elliottiana, seem to have been collected together, for both appear in the batch received from Cape Town. The spathe, although seeming to differ slightly from those of the forms previously in cultivation, are very handsome, and in most of them a more or less dead purple eye is at the base of the spathe. Mr. Hill, the gardener at Tring Park, pots them in good rough soil, such as is generally used for bulbs, and grows them near the glass of the roof in an intermediate-house. J. O'B.

TABLE DECORATIONS AT THE NATIONAL CAR-NATION SOCIETY'S SHOW.—It appears to me that the committees of such a society as the above-named, when offering prizes for the best arranged dinner-table decoration, should certainly use more discrimination in selecting the judges, and should also word their schedule more explicitly, stating whether the object to be attained is quality of the blooms employed, or on the other hand the display of taste and skill in their arrangement. To my mind the judging in the decoration classes at the Crystal Palace on July 24 was most unsatisfactory, the verdict in almost every case being in favour of quality of flower, no matter how heavy or clumsy the arrangement. In class W., for the best arranged dinner-table, the 1st prize was awarded to an exhibit which, although containing some superb blooms, was arranged in such a manner that no person of taste would tolerate it on his dinner-table, the object evidently being to crowd on as many blooms as the table was capable of holding, totally regardless of the space required for plates, &c. I am unacquainted with the judges who were responsible for these decisions, and do not even now know their names, but am certain that however estimable they may be in other respects, they were totally unfit to judge in cases where taste and refinement are the necessary qualifications. I must apologise for taking up so much of your valuable space with these remarks, but it is a subject in which I, in common with many others, am deeply interested, and it is a cause of much regret to notice that the best exhibitors are being driven out of the competitions through the incompetency of the judges selected for the decision of the awards in these classes, as it is obvious that the skill necessary for this purpose is altogether different from that required in the growing of flowers, and might we not expect to find far more all-round satisfactory decisions coming from those who have had years of experience in this modern art of table decoration? F. W. Seale, Vine Nurseries, Sevenoaks.

SLUGS DESCENDING BY A LINE OF SLIME.—Some years ago I remember seeing in your columns a remarkable statement from an eye-witness that a slug let itself down from the glass by a rope made by its own slime to a subjacent plant. No remark was ever made by anyone upon it—perhaps no one felt equal to capping such a statement; possibly it was passed by as a fact, and need not be noticed further. I did not doubt the statement, and hoped some day to observe the same myself. To him (or them in this case) who waits all things will come (even what I am writing on, readers may say). To-day my gardener pointed out to me a slug he had killed after having so let himself down to a plant. The slug was nearly 3 inches long; he had crept up the glass, and did not know how to get to an *Odonoglossum cordatum* that hung 7 inches below him. He slithered all around himself on the glass, a patch of 2 inches in diameter, and then let himself down to the plant, touching the suspending wire in his descent. After he had alighted, the rope of slime still hung from glass to plant. This remarkable fact will now, on a second notice, perhaps elicit further corroboration from other observers. De B. Crawshaw.

THE SWEET LITTLE, DEAR LITTLE, SHAMROCK OF IRELAND.—Mr. Baylor Hartland wrote to you from Ireland in December last, saying that on some newly broken ground in his garden a crop of Shamrock had suddenly sprung up, and that he had harvested the seed for sale to Irishmen in America. He kindly sent me some seed, which has come to me as *Trifolium minus*. In my little work, *Tongues in Trees*, I stated that I had repeatedly planted so-called

Shamrocks, procuring them from Ireland on St. Patrick's Day, and that on arriving at maturity they had turned out to be different species of *Trifolium* or *Medicago*. My evidence was supported shortly afterwards by Mr. Colgan in the *Irish Naturalist*, who records obtaining thirteen undoubted Shamrocks

of my own raising and crossing. The seed was sown in the spring of last year, the seedlings were planted out in a border in the open as soon as large enough, where they remained ever since, and are now flowering; the border received no special preparation, neither have the plants received any special atten-

a very smoky and cold district, not at all favourable to the Carnation *J. Hughes*. [A remarkably fine lot of blossoms, large, the selfs of various shades of pink, rosy-crimson, white, palest flesh, primrose-yellow, and the scarlet flakes very full, with petals having great substance and purity of tints. We do not re-



FIG. 31.—LELIO-CATTLEYA X DIOBANA MOSSIE. (SEE P. 152.)

from various sources, eight of which proved to be *Trifolium minus*, five *T. repens*. I am afraid Irishmen must reconcile themselves to the belief that Shamrog, Little Trefoil, is a name common to all triphyllate plants found growing on March 17, and that the Irish Shamrock, like the Scotch Thistle, has no independent existence. *W. Tuckwell, August 3.*

SEEDLING CARNATIONS.—By to-day's parcel post I send you a box of Seedling Carnation blooms

tion. They were all raised from self-coloured flowers, and my object was to raise varieties with self-coloured flowers. I do not care for flakes, &c. Many of the flowers of the white varieties are very like each other, but the plants are very different in growth. All the varieties are very free bloomers, strong growers, and throw plenty of "grass." You will notice that the petals on some of the flowers are damaged, which is owing to the very rainy weather we have been having for some weeks past. Ours is

member to have seen finer flowers from an outside border. All of them are quite worth perpetuating. Ed.]

MR. A. F. BARRON.—Seldom has it been the lot of the *Gardeners' Chronicle* to create a deeper or more profound sensation amongst gardeners than was the case last week. To how many did the announcement respecting Mr. Barron's retirement from the direction of Chiswick Gardens come as a surprise, as

well as pain. Is the Fruit Committee therefore to be also deprived of Mr. Barron's estimable services, or may he continue to hold his post of secretary till the end of the year, and then become a member of the body of which he has so long been the secretary? To deprive that committee of advice and knowledge which no other man can give or possess, would indeed be a misfortune. I am sure that any suggestion to that effect would create amongst the members grave regret. It has been Mr. Barron's fortune to have earned far and wide a most distinguished reputation, especially as a fruitist, but his knowledge of vegetables is also unique, and this knowledge has always been at everyone's service. Whosoever follows Mr. Barron at Chiswick will find he has to occupy a difficult position. I am no believer in the idea that the man for the place cannot be found, but the best of men must naturally feel modest in entering upon the superintendence of Chiswick, and the other accessory duties—indeed, only one endowed with more egotism than wisdom would feel otherwise. Of course, in time courage and confidence will come, especially if the successor has the useful knowledge and other qualifications. Still, let the successor be who he may, our regret at the loss of so able and so worthy a superintendent and secretary will be very great. How far the Royal Horticultural Society may benefit or otherwise remains to be seen. A. D. [We have other letters to the same effect, but it is deemed better to defer publication till after the holiday season. Ed.].

WEED-KILLER.—I can fully confirm the statement in the note in last week's issue of *Gardeners' Chronicle*, respecting the caution there given of the poisonous nature of the weed-killer. Early in the past spring I ordered two drums of weed-killer from a well-known firm; the drums duly arrived at the station, where a cart was sent for them; but as the road where the mixture was to be used lay on the way home, the drums were dropped down, to be used the next day. There were several heifers in the enclosure, and my attention was called to these beasts licking round the drums, more especially on the top, where, with the jolting of the railway and cart, together with the hot weather, a little escape from the bung was observed. I immediately had the top of the drums covered with dry sand. Alas! one heifer died. It is an excellent mixture used for what it is prepared for. P. F., A.

NEW INVENTION.

THE PATENT STAMFORD HOE.

When hoeing the land amongst closely-ranked kitchen-garden crops, bedding plants newly put out, or the occupants of the herbaceous perennial border, the value of a tool which will not readily injure the stems and flower-stalks of the plants will be conceded by everyone having acquaintance with this kind of operation. The old-fashioned Dutch hoe, with its rectangular corners, was liable, even when used by careful men, to injure the plants, more especially when the blade was hidden from the view of the user by the leaves of the plants. With the hoe illustrated in fig. 32, p. 163, no such injury can be done, the free corners being done away with by the manner of fixing the blade to the bow. Moreover, this hoe can be used as a draw-hoe, by bringing the cutter at the back into play, which is done by the workman alighty lowering the handle and drawing to instead of pushing it away from him. The blade, being of steel, is very durable, and keeps a good edge for a long time. The patentees and makers are Messrs. Pick & Fountain, garden-tool makers, Stamford.

BELGIUM.

M. JACOB MAKROY ET CIE.

This firm is noted for the cultivation of many kinds of plants; thus, in the Fern-house, I noted some excellent little species and varieties, such as *Adiantum capillus-veneris* tenue, specially valuable in winter owing to its hardiness; *A. cuneatum grande*, a very pretty novelty, useful for floral decorations; *Pteris cretica* Wimsetti, very ornamental; *P. reginae*, exceedingly pretty; *Adiantum tetraphyllum acuminatum*; *A. mundulum*; *Pteris ludens*, with

large nect leaves; *Adiantum Bellum*, useful in winter; *A. tessellatum*, one of the finest of *Adiantum*; *A. Kerchovae*, resembling *A. Birkenheadi*; *A. rhodophyllum*; *A. tennesiense*, differing but little from *formosum*, and other varieties. A good plant newly put into the market this year, and useful for beds and borders, is *Ruellia Makoyana*; *Begonia* Duchess of York is also a satisfactory introduction.

Among the *Pandanus* in MM. Jacob Makroy's houses I noted *P. javanicus* fol. var., prettily variegated with white; *P. Baptisti*, very elegant, foliage velvety with a double yellow line along the mid-rib; *P. graminifolius*, and *P. cooesedena*. Much to be recommended is *Eucharis Lowi*, which is always valued for its useful qualities. Among the *Marantas* was *M. rosea picta* and *M. Louisa*. *Asparagus Sprengeri*, much used in Germany for decorating purposes; *Rhopala corcovadense*, also used as an indoor plant; *Allophila Malzinei*, an excellent Mexican Fern, and *Asplenium laxum*, deserves attention from plant lovers. *Vriesia splendens major* is an excellent plant, as is also *Nidularium rutilans* with its pretty rose tint; and so is *Rhodostachys andina*. A number of *Dracaena lentiginosa* were remarkable for the dark colour of the foliage. A new plant for out-door use which seems coming rapidly into favour is *Pyrethrum parthenifolium glaucum*; with its whitish or glaucous foliage, it might be likened to a *Gymnogramma* growing out-of-doors. Ch. De B.

A NEW HORTICULTURAL ESTABLISHMENT.

A new horticultural establishment has gradually been established in East Brussels, and is now quite completed, and already contains some thousand plants of *Cattleya* and of *Cypripedium*. It is MM. Linden who have started this enterprise, and we think that when it is open to them, plant-lovers will find much to interest therein. In this, a brief preliminary notice, I will only say that, built on the plan of the Horticulture Internationals, this place is of larger extent, is admirably arranged, and fulfils all requirements for the cultivation of Orchids. MM. Linden will cultivate choicer species of Orchids, and are preparing to raise some new varieties. For this purpose they are collecting considerable quantities of *Cattleya*, *Cypripedium*, &c., that they may make careful selection. Erected in an open situation, where there is no lack of fresh air, this establishment starts with every chance of success, and is sure to take a high place among Belgian nurseries. Ch. de B.

SEEDLING ORCHIDS.

BEING much interested in the hybridisation of Orchids, it has always been a wonder to me why so few seedlings ever came from the millions of seeds sown. Years ago I sowed a pod of *Cattleya Dowiana* × *C. Warszewiczii*, and a glorious crop of seedlings in due time appeared on the basket containing the mother-plant, for it was the surface of the basket that I considered the best place for seed as well as parent. They disappeared in a most extraordinary way. Healthy little embryos went in a day or two, and gradually all went. No one could imagine how they went so fast, and left so little trace behind. At last it dawned on me that the basket in which the plants are dipped is the ocean-grave of the seedling embryo. They have no root to hang on by, the plant when dipped makes waves up the compost, and the backlash carries the drowned seedling away, never again to be seen. The dipping rendered a disastrous death to the future hopes of the hybridist; it needs great care not to dip plants too deep that have seedlings on them. Seeds themselves float away by the million, and are no doubt put down as bad. To avoid all this loss, sow seed on prepared pots or pans, and do not let them ever get too dry, or the living seed will shrivel. I have to-day examined about sixty sowings, and I find invariably that the seed is germinating far better, when the peat on which it is contained a large proportion of earthy matter. Where it is very fibrous indeed, it does not hold enough water for the keeping of the seed plump, and it soon shrivels.

Care must be taken not to have peat too earthy, or moss too long, or the seeds will get covered by it. This is fatal, especially to *Odontoglossum* seed, which seems to like a hard bare spot to germinate upon. Water very carefully, so as not to flood the seed up the pot, and treat it as a delicate plant, with all the care and attention possible.

Some pods contain but very little good seed. I sowed one to-day, *L. anceps* × *L. Crawshayana*, that had but a few fertile seeds to thousands of chaff-scales. Under a strong lens it is very easy to see the good and bad seed: one contains veritable moisture and is transparent, the other is a silvery-looking skin. If a few more growers would carefully prosecute hybridisation we should soon have good results, even in *Odontoglossum*, hitherto the *crux* of the hybridist, and where lies the greatest field for future results. To raise hybrids when Nature cannot do it will be to unite Colombia and Mexico, a triumph that is worth trying for. De B. Crawshay.

SOCIETIES.

COTTAGERS, ETC., HORTICULTURAL, ST. OSYTH'S.

JULY 25.—I have already noted some of the finest Roses in the two fine lots of forty-eight blooms staged by the great growers, Messrs. Benjamin and Frank Cant. Among these were many blooms worthy of those great growers and of the district. But though liberal prizes were offered in the amateur classes, the display from these was not satisfactory. The Priory Garden and its products, so conspicuous alike in the show tents and in the garden, prove that most things, including Roses, may be well grown in this district, and it is hoped that the fine object-lessons by the trade will result in a vigorous effort next year to pull the Roses of amateurs up to something approaching high trade standards.

In other sections the St. Osyth show was well arranged, and richly furnished with creditable productions. The first section was devoted to cottagers, who had forty-seven classes devoted to them. In this section, too it was pleasing to find the Royal Horticultural Society of London offering through Mr. W. Watson the Bronze Banksian Medal of the R. H. S. to the cottager who wins the largest amount of money in prizes on the show day. Section 2 was devoted to children, who showed in four classes. Section 3 (amateurs) contained twenty-two classes devoted to fruit, vegetables, and flowers. Section 4 contained classes for a collection of fruits, and a collection of cut flowers, open to all comers. Section 5 was devoted to home industries.

Then there were many special prizes offered by the trade and others. Altogether the schedule of the Society is excellent and comprehensive, exactly suited to a village community, and other societies could obtain many hints from same were it before them. There seems abundant room in and around St. Osyth for the improved culture of flowers and window plants. Stocks seem almost the only flowers that are well done outside the Priory Gardens in which good culture, plenty and beauty everywhere prevails. D. T. F.

THE MIDLAND CARNATION AND PICOTEE.

JULY 31 AND AUGUST 1.—A splendid Exhibition was held in the Botanical Gardens, Birmingham, on the above dates. All the available space was occupied by exhibits of high merit, and if the Society continues to grow as it has done during the past few years, a larger place of exhibition will become necessary. Mr. G. W. Latham's resources were taxed to the utmost, but accommodation was found for all.

Eleven stands of twelve Carnations competed, some very fine blooms being staged, Mr. R. SYDENHAM, Birmingham, taking the 1st prize with excellent blooms of C.B. J. S. Hedderly, P.F. Gordon Lewis, C.B. Master Fred, R.F. Mrs. Rowan, S.F. Guardman, P.P.B. Sarah Payne, P.F. C. Henwood, S.B. C. H. Herbert, P.P.B. Fred Phillips, S.B. R. Lord, P.P.B. Seedling, and R.F. Rob Roy; 2nd, Mr. TOM LORD, also with some very good flowers.

There were ten stands of six Carnations, Mr. C. F. THURSTAN, Wolverhampton, taking the 1st prize with S.B. R. Houlgrave, P.P.B. Sarah Payne, and W. Skirving, S.F. Ivanhoe, S.F. Miss C. Grahame, and R.F. Cristagalli; 2nd, Mr. C. HEAD, Hedden Bridge.

The best twelve Picotees came from Mr. T. LORD, florist, Toimorden, who had refined blooms of H. Red E. Brunette, H. Ro. E. Mrs. Rogers, H.P.E. Zerlina, H. Ro. E. Little Phil, H.P.E. Mr. A. Chancellor, L.P.E. Esther, L. Ro. E. Blanche Heard, H.P. E. Muriel, H. Ro. E. Mrs. Sharp, and L. Ro. E. Campanine, L. Ro. E. Mrs. Gaggie, and L.P.E. Thomas William; 2nd, Mr. A. R. BROWN.

With six Picotees, Mr. A. W. JONES, Birmingham, took the 1st prize with the best stand out of nine, having H. Red E. Brunette, H. Ro. E. Mr. Burgas, H.P.E. Amy Robsart, L.P.E. Elizabeth, L. Red E. Mrs. Gorton, H.P.E. Muriel; 2nd, Mr. C. HEAD.

Yellow grounds were a great feature, and the blooms very fine, Mr. A. W. JONES taking the 1st prize with twelve superb blooms, having Romulus, Stadtrath Bail, Annie Douglas, Cardinal Wolsey, Almira, Mrs. R. Sydenham, Mrs. Whitbourn, Mrs. Douglas, The Dey, Ladas, Mrs. Dranfield, and Janira; 2nd, Mr. R. SYDENHAM.

There were ten collections of six blooms, Mr. A. R. BROWN being 1st with fine examples of Mrs. R. Sydenham, Mrs. Douglas, Ladas, Harlequin, Mrs. Gooden, and Mrs. Henwood; 2nd, Mr. E. HILL, Bulwell, Florrie Henwood, President Carnot, and Janira being very fine.

Selfs were very bright and effective, Mr. R. SYDENHAM taking the 1st prize with the best of eight stands, having Miss Audrey Campbell, Mephisto, Eudoxia, Coronas, Ruby, Theodore, The Pasha, Fire King, Uncle Tom, Annie Lakin, Rob Roy, and Abigal; 2nd, Mr. T. LORD, who had very fine Mrs. Gaskoin, Blushing Bride, and Gentle Jackie.

There were ten stands of C. Selfs, Mr. A. R. BROWN taking the 1st prize with Duc d'Orleans, Waterwitch, Uncle Tom, Miss A. Campbell, Mrs. Fred, and Hayes' Scarlet; 2nd, Mr. C. F. THURSTAN

There was a maiden class for six Carnations and Picotees, Mr. W. F. GOODFELLOW being 1st, and Mrs. HERBERT SMITH 2nd.

There were also classes for blooms dressed as little as possible, though how to exactly hit upon the amount allowed is not stated. The blooms, which represented all the types, were set up with their own foliage, each in a specimen glass. Some fine blooms were staged, and they certainly had a more natural appearance than the blooms in the previous classes, some of which were over-dressed. Four classes were devoted to these, and they filled a good space of tabling.

Of single blooms there was an immense array. The leading S.B.'s were R. Houlgrave, Arthur Mdburst, and Master Stanley; C.B.'s, Edward Schofield, Rifleman, and J. S. Hedderly; P. and P.B.'s, Fred. Phillips and Wm. Skirving; S.F.'s, Sportsman and Wm. Mellor; P.F.'s George Melville, Magpie, and Martin Rowan; R.F.'s, Mrs. Rowan and Cristigalli. Of Picotees: H. red E., Brunette and John Smith; L. red E., Mrs. Gorta and Thomas William; H.P.E., Muriel and Mrs. Opanshaw L.P.E., Summerhill, Pride of Leyton and Elizabeth; H.Ro.E., Mrs. Rogers, Campanine and Edith D'Ombra'n; H.S.E., Mr. S. Sear; Lt.R. or Sear.E., Favourite and Nellie. The best white selfs, Mrs. Lee and Mrs. Fred. The best yellow Germiaia and Miss A. Campbell. The best pink or rose seedling Ruby and Rob Roy. The best dark. Monceau. The best yellow grounds, Mrs. R. Sydenham and Mrs. Gooden. The best fancies, Romulus, Cardinal Wolsey, and Duchess of Portland.

Border Carnations in bunches, shown in four classes, were very effective, Messrs. THOMSON & Co. and Mr. H. W. WEGUELIN, Teignmouth, taking the leading prizes.

Carnations in pots were represented by admirably grown and bloomed plants from Messrs. R. SYDENHAM and THOMSON & Co. The best six plants of German origin competing for a special prize given by Mr. Ernest Benary of Erfurt, came from Mr. R. SYDENHAM, and well represented the celebrated Erfurt strain.

Table Decorations in Carnations made a very fine feature. For a dining table 6 feet by 3 feet, good prizes were offered. Capt. THEWLES, Kenilworth, was 1st, and Mr. W. F. GUNN, 2nd. Shower bouquets, Sprays, and Buttonholes were well shown.

Premier Flowers.—The premier bizarre Carnation was C.B. J. S. Hedderly, from Mr. R. SYDENHAM; premier flake, P.F. Geo. Melville, from Mr. A. R. BROWN. The premier H. edged Picotee, P.E. Muriel; light-edged red E, Mrs. Gorton, both from Mr. A. W. JONES; Y.G. Mrs. R. Sydenham, from Mr. A. R. BROWN; self, Germania, from Mr. A. W. JONES; faucy, Romulus, from Mr. R. SYDENHAM.

Miscellaneous Exhibits were numerous and very fine. Mr. H. J. JONES, Ryecroft Nursery, Lewisham, had a central stand of Begonias, admirably arranged. Next in order of merit came Mr. W. BIRKENHEAD, Sale, with an extensive collection of Ferns; and Messrs. KELWAY & SON, Langport, with Gladioli and hardy flowers. Collections of hardy flowers came also from Mr. J. H. WHITE, Worcester; Messrs. CLIBRAN & SON, Altrincham; Mr. W. F. GUNN, Olton, and Mr. AXTELL, Leamington, Mr. H. ECKFORD, Wem, had a collection of Sweet Peas; Messrs. THOMSON & Co., bunches of Carnations of an attractive character; Mr. JAS. DOUGLAS, Ilford, new Carnations; Mrs. W. SYDENHAM, Tamworth, a table of floral decorations composed of Violas, with stands of fancy Pansies; and Messrs. EDWARDS & SON, Nuttall, Edwardian arrangements in Ferns.

SOUTHAMPTON.

AUGUST 3 AND 5.—The show held on the above dates was quite one of the best held by the Southampton Royal Horticultural Society. Not only were the specimen plants of extra quality, and the groups arranged for effect splendid; but the cut flowers, fruit and vegetables were all equal to or beyond the average merit. The arrangements, as usual here, were of perfect order, and great credit is due to Mr. Fidge, the Hon. Secretary.

Flants.—For the best ten specimen plants, Mr. CYPHER, Cheltenham, was distinctly 1st; his collection was good

throughout, and it was well staged. Mr. J. Wilkins, gr. to Lady THEODORA GUEST, Inwood House, Henstridge, Bloodford, was a creditable 2nd.

Mr. CYPHER was again 1st for six specimens with a collection similar in point of quality to the larger one; Mr. WILLS, Florist, Winchester Road, Shirley, Southampton, was a close 2nd, his plants showing much cultural skill.

Prizes were offered to residents only in Hampshire for six specimen plants, and Mr. N. Blandford, gr. to Mrs. HASELFOOT, Moor Hill, Bitterne, won 1st honours with a very satisfactory collection.

Still another class was provided, for gardeners only. This class was for six specimens, and Mr. T. Hall, gr. to the President, Sir S. MONTAGUE, Bart., M.P., South Stoneham House, Southampton, worthily won 1st prize.

Ferns, in six exotic varieties, were best shown by Mr. Peel, gr. to Miss TODD, Sidthorpe Lodge, Shirley, Southampton. Fuchsias, Begonias, Pelargoniums, and Coleus made a bright display, the principal prize-winners being Messrs. J. WILCOX (Blandford), Mitchell, gr. to J. WILLIS FLEMING, Esq. (Chilworth Manor), and Mr. J. HALL.

Groups.—Miscellaneous plants arranged for effect in a space of 180 square feet made a good display, several excellent groups being set up. Mr. WILLS somewhat easily won the premier award with a light arrangement of suitable plants, about which there was not a semblance of crowding. Mr. E. Carr, gr. to U. A. GILLET, Esq., Fair Oak Lodge, Bishopstoke, was a good 2nd. In a smaller class Mr. PEEL won 1st prize, with a creditable collection of plants evenly disposed.



FIG. 32.—THE PATENT STAMFORD HOE.
(SEE P. 162.)

Cut flowers.—These formed a prominent section of the show. Roses were staged very creditably. Messrs. KEYNES, WILLIAMS & Co., Salisbury, won for both twenty-four and twelve blooms, with even, fresh, and highly-coloured specimens. Mr. WILL TAYLOR, Hampton, Middlesex, was a good 2nd.

In the class for twelve blooms, restricted to gardeners, Mr. J. West, gr. to J. WYGRAM, Esq., Northlands, Salisbury, won 1st place.

Stove and greenhouse flowers in a dozen trusses were best shown by Mr. Herbert, gr. to Mrs. MARSHALL, Crawley Court.

Herbaceous flowers were excellent. For twelve distinct varieties, Mr. B. LADHAMS, florist, Shirley, easily secured the leading award with massive bunches of choice kinds. Messrs. KEYNES, WILLIAMS & Co. won for both Show and Pompaon Dahlias; and Mr. LADHAMS was similarly successful with Carnations and Picotees.

Table decorations, epagnes, and bouquets, were well represented. For the former, Miss KATE GOLDING won with a creditably-arranged table; Miss HOBHY, Padnell Road, Southampton, 2nd. The best-dressed epagne was one from Miss HOBHY, and the best-arranged basket of flowers came from Miss G. HARPER, Blighmout, Southampton.

Fruit and Vegetables were thoroughly well represented. For a collection of six varieties there were seven entries. Mr. H. W. Ward, gr. to the Earl of RADNOR, Longford Castle, Salisbury, was an easy 1st for a good all-round collection; Mr. Ingelfield, gr. to Sir J. KELK, Tedworth, Marlborough, 2nd. For three bunches of Black Hamburg Grapes, Mr. J. Sanders, gr. to C. SLOANE STANLEY, Esq., Paultons, Romsey, was distinctly ahead of all others; Mr. W. MITCHELL, 2nd.

For three bunches of any other black variety, Mr. J. HALL won with fine examples of Madresfield Court; Mr. SANDERS 2nd, with same variety. Mr. MITCHELL had the best Muscat of Alexandria, Mr. WARD occupying a similar position with three bunches of Buckland Sweetwater, in a class for any other white.

Mr. Pope, gr. to Earl of CARNARON, Highclere Castle, Newbury, won for two bunches of any black Graps. The

single bunch class was well contested. Mr. MITCHELL winning for black, and Mr. WARD for white. Hardy fruit was well staged by Mr. WEST; Melons by Mr. WARD, and Mr. E. L. BROWN, Portland House, Salisbury; Peaches by Mr. G. Hall, gr. to Lady LOUISA ASHBURTON, Melchet Court, Romsey; and Nectarines by Mr. INGELFIELD.

For nine distinct varieties of vegetables, Mr. T. WILKINS won premier award, closely followed by Mr. POPE.

In the classes set apart for Messrs. SUTTON'S and WEBB'S prizes, Mr. POPE won both with good produce, Mr. WILKINS following. Other classes in this section were well filled.

Miscellaneous.—Mr. B. LADHAMS had a remarkably fine group of herbaceous cut flowers. Messrs. E. HILLIER & SON, Winchester, had shrubs in pots, also Apples, Pears, and Cherries, as well as a good collection of fruit in baskets.

Mr. W. H. ROGERS, Red Lodge Nursery, Southampton, had a handsome group of shrubs in pots.

Mr. DOUGLAS, Bookham, Surrey, a choice collection of his new Carnations.

Mr. J. Miles, gr. to F. PERKINS, Esq., Portswood, Southampton, two dozen dishes of hardy fruit.

ST. NEOT'S HORTICULTURAL.

AUGUST 5.—The thirty-first exhibition of this Society was held on the above date, and while horticulture is pre-eminently to the fore, the schedule of prizes includes other subjects interesting to country people, such as honey, farm and market garden produce, poultry, &c.

Plants.—In common with other societies there are fewer plants staged than formerly, but a local grower, Mr. G. Redman, gr. to J. H. GOODGAMES, Esq., Eynesbury, grows some very good specimens, his six plants in flower being attractive specimens of *Stachis profusa*, *Bougainvillea glabra*, *Stephanotis floribunda*, *Anturium Schzerianum*, *Clerodendron fallax*, and *Hydrangea hartsensis*. Mr. Redman had the only group arranged for effect—a very good one.

Some very good Balsams, much better than are usually seen, were staged by Messrs. REDMAN and J. JOHNSON, St. Ives. Tuberos Begonias were remarkably good, Mr. T. Lockie, gr. to A. J. THORNHILL, Esq., Diddington Hall, taking the 1st prize, and there were two equal 2nd prizes awarded. The best specimen flowering plant was *Stachis profusa*, admirably bloomed, from Mr. T. Lockie.

In the way of foliated plants Mr. REDMAN had the best four stove and greenhouse Ferns, staging fine specimens of *Adiantum Williamsii* and *Collisi*, a capital *Platycerium alaicorum*, and *Polypodium effusum*. Colens were represented by nicely-grown bushes from Messrs. LAST and REDMAN. The best ornamental foliated plant was a fine piece of *Yucca aloifolia*, from Mr. REDMAN; the best specimen Fern, a grand piece of *Nephrolepis exaltata*, from Mr. LOCKIE. Many plants of a creditable character were shown by amateurs.

Cut flowers.—Roses, usually a very good feature at this exhibition, were few, mainly owing to a violent hailstorm on Sunday evening. The best twelve blooms came from Mr. J. Stone, gr. to Mr. R. A. COCHRANE, St. Neot's. Mr. REDMAN had a fine stand of twenty-four bunches of stove and greenhouse cut flowers; and in the class for twenty-four bunches of cut hardy herbaceous and bulbous flowers the Rev. W. CROUCH, Gamlingay, staged one of the best collections we have seen for some time past, comprising two or three very fine and distinct *Phloxes*, *Helianthus Soleil d'Or*, *Lilium tigrinum*, *Eryngium amethystinum*, *Stachis latifolia*, a grand bunch of the white Everlasting Pea, *Alstroemeria aurantiaca*, *Physostagia virginica*, &c. Very good Dahlias for the season were staged; also Stocks, Zinnias, Marigolds, &c. The best twelve bunches of hardy herbaceous flowers came from Mr. W. LAST.

Fruit.—The best collection of eight dishes of fruit came from Mr. J. MYERS, The Gardens, Hinchingsbrook House—Peschies, Cherries, Figs, Melons, Apricots, &c., all good; Captain DUNCOMBE being 2nd. Good Black Hamburg Grapes came from Messrs. MOORE, St. Neot's. Dessert and culinary Apples, dessert and kitchen Plums, Cherries, Currants, &c., were all good.

Vegetables.—The best eight dishes came from Mr. T. LOCKIE; Mr. MYERS being 2nd, both excellent for the season. Mr. T. CLARK, Huntingdon, had six good dishes of Potatoes; Mr. MYERS' six dishes were only just inferior. Mr. LOCKIE had a brace of perfect Royal Windsor Cucumbers. Vegetables generally were good throughout. The hard-working Secretary, Mr. W. RATCHELOUS, is unwearied in his exertions on behalf of the Society.

NORTHAMPTON HORTICULTURAL.

AUGUST 5 AND 6.—The annual exhibition and show was held on the above dates. That it is a popular exhibition there can be no doubt, and this was clearly seen in the keen competition in the cottagers' classes, in which the productions were of the highest degree of excellence. The large plant classes contained many excellent exhibits, the groups being particularly fine; cut flowers were also good; but fruit, on the whole, was a little below the average. The arrangements were ably and efficiently managed by an enthusiastic committee and a hard working secretary.

Plants and Groups.—The largest plant class is that for twelve plants in an equal proportion of flowering and foliage. Mr. J. CYPHER, Queen's Nurseries, Cheltenham, showed very

strongly, and won a creditable victory. His best examples were *Erica obyata purpurea*, a grand specimen nearly 5 feet across, profusely flowered and well coloured; another of *E. Thompsoni* was even larger but a little thin, still a fine plant. *Ixora Pilgrimi* was well flowered, and was a fine plant; *Bougainvillea glabra* and *Stephanotis floribunda* were alike good; whilst *Statice profusa* was well coloured and quite fresh. Two magnificent Crotons were staged in *C. Queen Victoria* and *C. Sunset*, both being 6 feet across and superbly coloured; whilst in the background was an immense plant of *Cycas circinalis*, finely developed, this being flanked on either side by two capital Kentias. Mr. Finch, gr. to J. MARRIOTT, Esq., Coventry, came in a fairly good 2nd.

For a large group, a central arrangement to face every way and covering a space of 240 square feet, Mr. CYPRES was well 1st, the entire arrangement being most effective, and in good taste. The central plant was a graceful specimen of *Phoenix rupicola*, with long arching leaves. This plant was raised sufficiently to introduce a mound or undergrowth of Orchids and other choice flowering and foliage plants, whilst towards each corner, other and smaller mounds were grouped with either an elegant Bamboo or a graceful *Cocos* as a centre to each, these again being surrounded with Orchids, &c.

Between these and nearer the centre, were some well-flowered *Humea elegans*. No attempt was made to cover the entire space, the fresh green grass appearing here and there with an occasional well-flowered Orchid or a richly-coloured foliage plant. Mr. VAUSE, of Leamington, was 2nd, with a good group in which the best effect was concentrated in the central part, the outer parts being somewhat weak.

In the smaller group class there was only one exhibit, but it was deemed one that was worthy of the 1st prize.

For six stove and greenhouse plants, open to the county only, the competition was good, but the exhibits on the whole were not more than satisfactory in quality. Mr. COPSON, gr. to Mrs. PHIPPS, Collingtree Grange, was 1st, his best examples being *Acichmes longiflora major* and *Allamanda Hendersoni*; Mr. J. C. INNS, gr. to W. H. FOSTER, Esq., Sprattoo Grange, 2nd.

Some well-grown Ferns of moderate size were staged, the best coming from Mr. J. B. PALMER, Cliftonville; and the next best from Mr. COPSON. Zonal Pelargoniums were shown well, the plants of medium but useful size. *Coleus* and *Fuchsias* were very good, and the table plants also.

Cut Flowers.—A splendid box of stove and greenhouse flowers was exhibited by Mr. VAUSE, of Leamington, comprising several good bunches of *Ericas*, *Ixoras*, &c.; the best table decorations coming also from the same exhibitor.

For twenty-four single trusses of Roses in variety, Messrs. THOS. PERKINS & SONS, Kingshorpe Nurseries, Northampton, were 1st, the finest blooms in a very fresh and bright box being *Heinrich Schultheis*, *Her Majesty*, *Victor Hugo*, and *Duke of Edinburgh*. Messrs. JOHN PERKINS & SON, Market Square, Northampton, were 2nd.

The Rev. Dr. KING, Gayton Rectory, was 1st for twelve varieties of Tea-scented Roses, with excellent blooms—*Marie Van Houtte* and *Innocente Pirola* being the best; Messrs. THOS. PERKINS & SON followed. Rev. Dr. KING was again 1st for twelve varieties of any sections in the amateurs' class, showing an even box of fresh flowers.

For twelve bunches of hardy flowers, Mr. Cole, gr. to Earl SPENCER, Althorpe, was a capital 1st, with a well set up box, the best being *Yucca gloriosa* and *Lilium chalcedonicum*; Mr. KNIGHTLEY, Courteen Hall, showed well for the 2nd prize.

Mr. KNIGHTLEY was 1st for twelve bunches of stove or greenhouse flowers, *Eucharis Mastersi* and *Begonia odorata* being noticeable.

The best bouquet came from Messrs. YARDE & CO., Northampton, and Messrs. T. PERKINS & SON, the competition being very keen.

Some capital Cockscombs were shown, and the best were from Mr. J. T. FOSSEY.

Fruit.—The best collection of eight kinds was staged by Mr. Gilman, gr. to the Earl of SHREWSBURY, Ingestre, the exhibit being of first-class quality. Black Hamburgh Grapes. Lord Napier Nectarines, Hale's Early Peaches, and a good Queen Pine, were his best dishes; Mr. S. COLE, who followed, had good Muscat of Alexandria Grapes, the same kind of Nectarine, and Barrington Peaches.

In a class for Black Grapes, Mr. J. C. INNS won the 1st prize with Black Hamburgh Grapes; the bunches were well finished, and the berries large; Mr. COPSON followed with well-coloured Madresfield Court, berries rather small.

For White Grapes, Mr. Jordan, gr. to Viscount CLIFDEN, Holdeby House, was 1st with Muscats, fine in bunch and berry; Mr. COPSON being again 2nd.

Mr. S. COLE was 1st for a dish of Nectarines, showing very fine fruits of Pine-apple; Mr. COPSON again following. For Peas Mr. Miller, gr. to Sir E. LODER, Whittlebury Lodge, was 1st. Other kinds of fruit were not shown in great numbers.

Vegetables.—Mr. S. COLE had the best collection of twelve varieties, showing a remarkable selection; his best dishes were those of Autocrat Peas, Ailsa Craig Onion, Pragnell's Exhibition Beet, and Perfection Tomatos, both Celery and Carrots being also excellent. Mr. COPSON was a capital 2nd. Mr. S. COLE was again for nine kinds, in which the best of these found in the larger class again predominated; Mr. KNIGHTLEY in this instance being 2nd.

Miscellaneous Exhibits were staged by Messrs. THOS. PERKINS & SONS, who had tastefully made wreaths and an anchor, the finest new kinds of Sweet Peas (excellent), also cut hardy flowers, as well as a group of *Yucca gloriosa* in flower, with Acers, &c. Messrs. JOHN PERKINS & SON had highly coloured tricolor Pelargoniums, a good selection of cut Roses, two baskets of the beautiful variegated *Saxifraga sarmentosa*, and some good plants of *Lilium auratum*.

THE GARDENING IN HYDE PARK.

In some respects one notices improvements—or, at least, pleasing changes—in the subjects used in the beds in this park. It is not always the same, and it is the changes made in this way that alone make tolerable the tasteless arrangement of beds which skirt Park Lane. How delightful all this might be rendered if laid out in some less artificial manner, and dwarf evergreen shrubs and deciduous flowering ones were used amongst the beds. What a wealth of material ready to hand is lying idle in nurseries everywhere, which could be well employed in giving interest to the gardening here! There is too lavish a display of colour on the small area of turf—all gams, and no setting.

Commencing at Stanhope Gate and going north, we have a series of beds which were filled in early summer with Pansies, Sweet Williams, Dielytra, Aquilegia, Solomon's Seal, &c. Some of them are still in flower, being continuous since April and May. Aquilegia with a groundwork of Earl Beaconsfield Pansy made a very pretty bed, as did a bed of Solomon's Seal, and a carpet of mixed Pansies. A bed of crimson Stocks with a band of Pansies has been flowering for the past two months, and is still looking well.

Some of these early beds have been replaced by *Fuchsias* and large plants of *Pelargoniums*, which are now making a good show. These beds are backed up with groups of Palms, Bamboos, and Heliotropes, and have a picturesque look. At South Street gate, to the right and left of it, we come to nice groups of *Fuchsias*, the varieties used being *Mrs. Marshall*, light, and *Scarcity*, dark.

In the next section of beds we have two planted with some large standard *Fuchsias*, having a groundwork of *Palox decussata*, which give promise of looking well at a later date. A bed planted with *Roses* has done well, but owing to the dry weather its flowering period was cut short, and it has been replaced with *Erythrina Crista-galli*, now coming into flower. Some good beds of *Carnations* attract notice, showing their adaptability to this form of garden embellishment. Amongst the varieties doing well were noted—*Danger*, a good crimson; *Raby Castle*, pale pink; *Queen of Bedders*, a brighter pink; and the primrose-yellow *Germania*. *Alice Ayres*, a white with crimson edge, is doing well, but is not so telling as the varieties just mentioned. Next comes a bed of *Canterbury Bells*, which have made a good show, and bid fair to make another very soon, being full of bud again; a pleasing effect is produced here by an undergrowth of *Violas*.

A bed of mixed *Mimulus* has been making a good show, but has lately been removed and substituted with large plants of the oak-leaved *Pelargonium*, having the *Canary Creeper* and *Campanula pyramidalis* mixed with them—a very effective association.

Four beds of Ivy-leaved *Pelargoniums* having a carpet of *Viola Blue Bell*, with a band of white *Lobelia*, were remarkable for the pleasing colouring. Two beds of *Humea elegans* were novel and attractive. *Humeas* were once met with commonly, but gardeners have lost the art of growing the plants [owing to the disease which affects it. Ed.], but they must learn it again. *Plumbago capensis* with *Solanum marginatum* and *Begonia* as an undergrowth make a graceful bed planted together. Two small beds filled with crimson Stocks and *Mignonette*, of course always find admirers. Four round beds planted with tuberous-rooted *Begonia*s having crimson flowers, and stood about on a carpet of *Moneywort*, were attractive.

The next series of beds are planted in pairs, consisting of *Fuchsias*, *Begonia*s, and *Pelargoniums*. The *Fuchsia* beds consist of the varieties *Mrs. Marshall*, Empress of Germany, *Madame Cornelissen*, and *Scarcity*, and some of them are carpeted with *Ten-week Stocks*, *Begonia*s, *Violas*, and other small-growing plants. Some beds of *Pelargoniums*, having mixtures of blue *Cornflowers*, *Poppies*, *Golden Privet*, and *Statice Sawarowii*, &c., are very effective arrangements. On the left, going from

Monnt Street Gate to Grosvenor Gate, there are some beds filled with French varieties of *Canna*, which will make a good show later on. Two beds of *Heliotrope*, intermixed with *Nicotiana affinis*, look well. Here, again, we have a bed of *Plumbago capensis* and *Fuchsia Scarcity*, with *Begonia semperflorens*, and a carpet of *Alternanthera*, which looked well.

From Grosvenor Gate to the Marble Arch some of the beds were filled in early spring with *Dielytra* and *Pansies*, and two beds of *Doronicum plantaginifolium*, having mixed *Tulips* interspersed with the former, were excellent. Two beds of *Saxifraga umbrosa* (*London Pride*), with *Spanish Iris* intermixed, made a good-early show; the *Spanish Iris* coming on later gave an additional floral display. These beds have since been filled with *Fuchsias*, *Dracenas*, *Grevilleas*, *Ivy-leaved Pelargoniums*, &c., and are again making a fine show. One bed of *Petunias* must not be passed over—it is flowering splendidly—the hot weather is doubtless favourable to *Petunias* flowering so well.

Passing across the park to the dell, we have the usual imposing and tropical feature imparted by Tree Ferns, *Dracenas*, *Musas*, &c., overhanging the pretty little stream of water at the east end of the Serpentine. A mixed border planted with things too numerous to mention looks well at the present time. Coming on to the flower walk (*Kensington Gardens*), where flowers have been continuous since early spring, commencing with *Snowdrops*, *Hyalinths*, *Tulips*, *Narcissus*, *Chionodoxa*, *Scilla*, *Phlox arvensis*, *Wallflowers*, *Pæonies*, *Lilies*, *Delphiniums*, *Violas* and *Pansies*, which latter are still good, we have a walk presenting daily fresh features of beauty, interest, and attractiveness. A word of praise should certainly be given to Mr. W. Browne (the Superintendent) for his admirable arrangements this season. J. B.

SCOTLAND.

AN EDINBURGH NURSERY.

To the lover of horticulture, who finds himself on holiday in the queenly capital of Scotland, not the least interesting of the many interesting features of Edinburgh is its profusion of magnificent public gardens and extensive private nurseries. Among the latter, *Beechhill*, owned by the well-known firm of John Downie, and situated about a mile west of the city, on the Corstorphine Road, amply repays the trouble of a visit. The situation of the Nursery of itself has a peculiar charm for the eye that can appreciate the beauties of a delightful landscape in the environs of a busy city. From the slopes of *Beechhill* you might imagine yourself surveying the outlines of some sequestered scene, far from the turmoil of a thousand busy streets, though the heights and spires of the Northern Athens are almost within a stone's throw. In front stretches one of the most fertile plains in Scotland, affording a particularly rich mosaic of cornfield and meadow, and backed by the green slopes of the distant Pentlands. On the right lies the village of Corstorphine, with its venerable church-spire, and the wooded hill, whose summit, "Rest and be thankful," is one of the favourite haunts of the good folk of Edinburgh. To the left a glimpse is caught of *Arthur's Seat*, which you might mistake for the brow of some distant "Ben." As I have said, you might be 100 miles removed from the busy haunt of men, were it not that the 1 o'clock gun booming from the Castle rock, scarcely half-an-hour's walk away, reminds you that you are in the near environs of "Edinboro' town."

I have not come here to reflect or poetise, however, and after spending five minutes admiring the prospect, I am conducted into the *Begonia-house*, there to marvel at the effect produced by the skilful cooperation of Nature and man. The house is between 80 and 90 feet long, and it may convey some idea of the beauty of the interior when I say that the long platforms on either side of a broad passage are covered with a maze of magnificent blooms of exquisite variety.

The contents of the next house into which I am conducted are less dazzling. It contains a fine collection of healthy *Smilax* and *Humea elegans*. Its neighbour, the Palm-stove, is filled with many thousands of graceful specimens, ranging in size from 3 inches up to 12 feet; *Gloxinias* of the finest strain, *Eucharis*, *Adiantum cuneatum*, *Araucaria excelsa*, *Dracenas*, *Asparagus plumosus nanus*, *Caladinms*, *Cannas*, and other superior plants have each a house devoted to their culture, in order to supply the large demands of Downie's floral establishment in Princes Street.

The last house inspected is resplendent with a blaze of double *Begonias*; some of the blooms are truly magnificent. I cannot refrain from mentioning one from a seedling of Downie's own nurture. It bears the appropriate name of Mrs. Downie, and for size, compactness, and the purity of its white colour, would be difficult to surpass. Other specimens deserving special mention are Madame Cecil Godfrey, Lamartine, and La Baronne de St. Didier. One is not surprised to hear that these blooms are at present the most popular of flowers with the fashionables of Princes Street.

A stroll along the walks outside betrays at every step some interesting feature. A patch of healthy young *Planes* attracts attention from the fact that they are the offspring of a venerable sire, which is one of the sights of the village of Corstorphine. This relic of a bygone age is the remnant of a shady avenue that once led up to the old castle. Both castle and avenue have disappeared, and left this giant witness of the old world of a far-off generation. The feature about it is the remarkable colour of the young leaves in early spring, their glittering yellow is so singular as to strike the eye of the most indifferent passer-by. The old folks tell a story of a phantom woman dressed in white, with a bloody sword in her hand, who affrights the belated traveller, a tale which recalls a love tragedy preserved by tradition.

Other beds that tell of flourishing growth and careful management, and that catch the eye in passing, contain collections of Conifers, fruit trees, ornamental shrubs, East Lothian Stocks, *Antirrhinums*, *Pentstemons*, *Delphiniums*, and other herbaceous flowers. It is sufficient to say that the whole is a model of what a plant-rearing garden should be, and reflects credit on the general management of Mr. William MacKinnon. *Traveller.*

FORESTRY.

FELLING AND PLANTING PARK TIMBER.

"Be aye stickin' in a tree" was the advice given by the laird of Dumbiedykes to his son, and it is said these words of Sir Walter Scott led several estate proprietors to go in extensively for tree planting. However this may be, it is probable that the taste for planting has existed, and will exist, among all classes, independently of any ulterior motives than those ingrained in most members of the human race, from the inmate of a garret with his or her *Pelargonium* in a tea-pot, to the wealthy proprietor of a large estate, with his woods and deer-park. With this taste for planting is usually associated the desire to preserve what has already been planted by the owner or his predecessors, a sentiment which is constantly in evidence wherever trees or shrubs are to be found. We all know the ungainly *Araucaria* of the suburban villa, which the occupier thereof regards either as a type of arboreal beauty, or as a vegetable phenomenon, according as his inclinations run in an artistic or scientific groove. But while such incongruities are apparent to the most casual critic, cases may be constantly met with where the existence of a few trees blocks up or obstructs a picturesque view, the possibility of which has never been suspected. Such cases are more common in undulating than very flat or hilly countries, but in all parts of the country the functions of trees in

the composition of the landscape seldom receive a due amount of attention, although their planting is better attended to than their removal. Many of our most picturesque parks have, no doubt, been touched up by some able landscape gardener at one time or another, and bear evidence of their skill to this day, for the artistic creations of such men as Repton, "Capability" Brown, Kent, &c., are little more than fully developed even now. But while the art of the landscape-gardener has not altered so far as its principles go, nor has it advanced to any important degree during the last century, the ideas and productions of its followers are constantly in need of revision and modification. This arises from the simple fact that trees grow in size, while their surroundings retain their original proportions. The seedling of an inch grows in the course of a century into a lofty tree, creating a new feature in a landscape which may or may not be the better for it. We often find a site chosen for a mansion on account of the extensive view of the surrounding country which it commands, and where the immediate vicinity is bleak and bare nothing is more natural than the desire to remedy this defect by planting belts, clumps and single trees in more or less close proximity to the house. The effect of this work is at first scarcely perceptible, but later on, it is frequently found that some interesting feature of the landscape is shut out from the principal point of view. When this occurs before the trees have reached their full size, the removal of the obstruction is a simple matter; but when, as frequently happens, many years elapse before the view becomes obstructed, a conflict often arises in the mind of the owner as to whether a well-shaped tree or clump of trees, or the view behind it or them, shall be sacrificed. To the landscape gardener or impartial observer this question resolves itself into simply deciding whether the tree or the prospect behind is the greater feature in view before him. "A Primrose by the river's brim, a yellow Primrose is to him, and it is nothing more;" but the owner sees things in a different light. Familiarity does not always breed contempt, and the chief attractions of a home lie in the familiar objects by which it is surrounded. Every tree, building, or hedgerow is necessary to complete a picture which is always present to the native mind, and the removal of one of them is like parting with an old friend, or the snapping of a link which connects the old with the new. To the stranger, things appear as they are, devoid of all association, and every combination of lawn, trees, water, and sky, forms a picture, good or bad, as the case may be, and the landscape artist walks through a park in much the same way as a painter walks through a picture-gallery. These two independent points of view are usually brought into opposition when outside opinion is consulted respecting the improvement or alteration of any old and historic mansion or park which has been in the hands of the owner's family for several generations. When a property changes hands, the new owner invariably sets about alterations and improvements, which the old proprietor would regard as utterly spoiling the place, but in most cases true taste will content itself with as few radical changes as possible, and avoid any alterations which tend to destroy the general character of the spot. One of the most essential attributes of those who plant or fell for effect is the power of anticipating the result of their work when fully completed. This is the more easy to do in the case of felling than in planting as the function of the former is to remove existing defects, while that of the latter is rather to provide new features. The removal of trees may be desirable for several reasons, but apart from those cases in which they act as obstructions to the view, from a definite standpoint, the most monstrous instances are found in the case of belts, margins of woods, and dense masses of trees which give the landscape a heavy and somewhat monotonous appearance.

The belt is an element of most park scenery, and is usually provided with the intention of hiding the boundary line, or disguising the real limit of the park. This it often fails to do, owing to its narrowness,

uniform width, or unbroken continuity. A narrow belt is quite as effective in its early life as a broad one, but as the trees grow up, their lower branches die off or become thin in foliage, and we find a perforated and imperfect screen, the identity of which is only too apparent. By varying the width, so that some places are dense and impenetrable to the eye, and leaving a few gaps in suitable places, it becomes almost impossible to detect the boundary line at a reasonable distance, and relief is furnished to an otherwise long and unbroken surface of foliage. A common fault in a belt is its straight or comparatively straight outline, often produced by following too closely the fence it is intended to hide. This can also be remedied by varying the width, so that some parts project, and others recede from the general line. The same treatment is necessary in the case of margins of woods, but where this has been neglected in planting, the axe must be employed to break the outline where necessary. By cutting sharply into the wood in one or two places, so that the outline becomes prominently but not too frequently broken, a variation in light and shade is obtained which greatly improves its appearance.

A better effect is produced if the remaining portions are thinned, so that individual trees stand out here and there from the main mass, and thus obscure the exact boundary line between wood and grass. This, of course, must be done while the trees are still young, otherwise the unfurnished condition of the lower part of the trunks gives them an unsightly appearance when isolated, and the sudden exposure may also affect their health. In breaking a dense mass of trees such as a large clump, the same principles apply as in the former case. Instead of leaving single trees, however, it is better to leave them in twos or threes if the lower branches have been killed off by crowding, which is better for the health of the trees, and also does away with a good deal of the unsightly appearance which isolated trees with bare stems present. As many of the marginal trees should be retained as possible, as these will be well furnished, and hide those standing behind to a great extent.

The manner in which planting should be carried out in a park depends greatly upon the conformation of the ground. Where the latter is of an undulating character, the differences of level may be apparently increased by planting the tops of slopes and hillocks, and leaving the low ground comparatively bare. On flat ground, recourse must be had to groups and combinations in order to furnish variety, and thick planting usually gives a better effect than wide stretches of bare turf with nothing to attract the attention or form a sufficient background to the view. On such ground few finer effects are obtained than by following the type of the natural forest, with its alternating glade, thicket, and characteristic group, and in which the scene is constantly changing. Most of our finest parks are simply the remains of primeval forests, which at first were reserved as chases or sporting grounds, and later on enclosed and stocked with deer. This style of scenery, however, can only be artificially obtained in parks of large extent, or in which the head of deer or cattle is kept within due limits. Close grazing improves the pasturage, no doubt, but destroys the smaller plants and bushes which constitute a characteristic feature of forest scenery. This lack of small shrubs, Ferns, &c., gives a prim and neat appearance to a park which is not altogether displeasing, but is apt to destroy the perfectly natural aspect which many consider a park ought to possess. The judicious use of the ha-ha or sunk fence, and the planting of Backthorn, Holly, &c., which are secure from the attacks of cattle, might do much in breaking the even planes of sward below and the browsing line above.

The use of the clump in park scenery has often results in producing a bad effect. This is usually due to its being planted with a circular outline; and when, as is often the case, it is treated throughout as a plantation, it is entirely out of keeping with the surrounding ground. In our opinion, where more than half-a-dozen trees are wanted in

one place the clump should never possess an entirely convex outline. Crescences, triangles, and oblongs, &c., are all preferable to the circle, providing the sides are not too straight and regular; and a V Y, or star-shape, are all well adapted for providing a broken, irregular outline, with alternating projections and recesses. Many of these objectionable circular clumps were probably planted with the intention of gaining the most ground with the least length of fencing, and after the removal of the latter, giving the clump its final shape. But as this would naturally be out of the question until many years after planting, it is not surprising to find this part of the work neglected in many instances where the planter has not survived the completion of his task, and his successors have not entered into the spirit of his ideas. At the same time, the disfigurement of a picturesque park by these formal clumps of young Fir or Larch seems hardly justifiable under any circumstances. Where young trees must be planted for after-effect, and to replace deaths, a more appropriate way of doing it might surely be found, and the principles of strict economy (so seldom observed in *bond-fide* plantations) slightly departed from when occasion requires. By giving the clump its proper size and shape from the first, the branches of marginal trees are allowed to develop, and the effect at all stages of growth is greatly improved.

Generally speaking, planting individual trees in the park does not prove a success. A single tree may be either an overgrown bush or an arboreal giant, but it is only as the latter that it is much admired. On poor soils, or where at all exposed, a really good specimen tree is rarely seen, and the majority of isolated deciduous trees are short boled with "mush-room" heads. In such cases, a crown of foliage formed from two or three stems is usually more admired than the formal looking individual. Too many double-stemmed crowns must, of course, be avoided, and the existence of any well-shaped tree, however small, is always welcome. Combinations of different species, such as Scots Pine and Oak, Beech, Elm, &c., often give a pleasing effect, and a few Thorns, Hollies, &c., help to break the browsing line on flat ground. The chief object aimed at, whether in felling or planting, should be the providing of just that amount of variety which prevents monotony but does not destroy character. Abrupt changes, or a series of similar repetitions are always undesirable, the one attracting attention to their artificial nature, and the other proving far more monotonous than a constant, but characteristic type of scenery. *A. C. Forbes.*

were found scattered on the shore. As to the other plants, the history of their appearance upon the island seems to have been as follows: First, a thin film of a simple form of vegetable life, derived from floating germs, in the atmosphere, covered the panicle-stone, and, through chemical action, brought its surface into a condition fitted for the nourishment of Ferns and later of flowering plants. The seeds of these were brought by the winds and birds, and, as soon as the soil was capable of supporting them, they took root, and, bathed in the equatorial sunshine, began the work of clothing the barren island anew. Renewed attention has recently been called to the reappearance of vegetation on Krakatoa in connection with the general subject of the origin of the plants that inhabit islands. Nature shows herself entirely capable of conveying the germs of plant-life for long distances by means of the ocean and the atmosphere, aided by the birds. When man comes to her assistance the work goes on apace. Of eighty species of plants inhabiting the Laccadive Islands—which are simply the tops of a group of submerged mountain peaks in the Arabian Sea, half of whose inhabitants have at times been swept off by storm waves—it is believed that fifty-six have been introduced by man, eleven by the sea, two by the winds, and two by birds. Among the species not introduced by man is one of the finest trees of the islands, the Coco-Palm. There is nothing more impressive in modern science than the story of what has been learned of the gradual conquest of the earth by plants—for a real conquest it has been. *Christian Age, July 10.*

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the relation of degrees of temperature above or below 49° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DIRECTIONS.	TEMPERATURE.				RAINFALL.		BRIGHT SUN.		
	ACCUMULATED.				No. of Rainy Days since Jan. 1, 1895.	Total Fall since Jan. 1, 1895.	Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1895.	
	Above (+) or below (-) the Mean for the week ending August 3.	Above 49°, for the Week.	Below 49° for the Week.	Day-deg. difference January 1, 1895.					Day-deg. difference from Mean since January 1, 1895.	10ths Inch.	Inch.
0	2	79	0	+ 123 + 262	4	132	23.4	16	30
1	3	87	0	+ 34 + 415	4	107	15.5	13	35
2	3	104	0	+ 54 + 277	3	111	16.5	15	25
3	4	108	0	+ 16 + 283	3	98	12.8	28	39
4	3	108	0	+ 45 + 373	2	88	13.4	17	37
5	3	121	0	+ 14 + 333	2	85	11.9	20	38
6	2	92	0	+ 24 + 384	4	112	16.5	23	34
7	3	100	0	+ 37 + 303	4	97	16.1	29	36
8	2	109	0	+ 15 + 337	2	91	16.9	22	31
9	2	96	0	+ 13 + 268	2	123	17.6	14	32
10	3	102	0	+ 64 + 195	2	102	19.6	14	35
* 2	—	124	0	+ 16 + 248	2	104	14.2	28	49

The districts indicated by number in the first column are the following:—
 0, Scotland, N. Principal Wheat-producing Districts—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, S.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

VARIORUM.
 THE ADVANCE OF PLANT LIFE.—When the tremendous volcanic explosion of August, 1883, occurred in the Straits of Sunda, half of the island of Krakatoa was blown away and every vestige of life was destroyed on the remaining half. The ground was buried under hot ashes and burning panicle-stone, varying in depth from 3 feet to nearly 200 feet. No vegetable germ could possibly have survived the catastrophe. Yet when Dr. Treub explored Krakatoa, only three years after the eruption, he found various species of plants flourishing there. It was shown that they could not have been carried there by human agency, because men had not visited the devastated island. The character of the new plants was such as to prove that they could not have been derived from the former vegetation of Krakatoa, even if any living remains of that vegetation could have existed in the burned and buried soil. The nearest land on which any plants grew was the island of Sibeis. Samatra is 20 miles and Java 21 miles from Krakatoa. Yet a dozen kinds of Ferns and several species of flowering plants and grasses were discovered by Dr. Treub flourishing on the shores and in the mountainous interior. That some of these forms of vegetation had been carried there by the ocean was indicated by the fact that seeds of littoral plants

were found scattered on the shore. As to the other plants, the history of their appearance upon the island seems to have been as follows: First, a thin film of a simple form of vegetable life, derived from floating germs, in the atmosphere, covered the panicle-stone, and, through chemical action, brought its surface into a condition fitted for the nourishment of Ferns and later of flowering plants. The seeds of these were brought by the winds and birds, and, as soon as the soil was capable of supporting them, they took root, and, bathed in the equatorial sunshine, began the work of clothing the barren island anew. Renewed attention has recently been called to the reappearance of vegetation on Krakatoa in connection with the general subject of the origin of the plants that inhabit islands. Nature shows herself entirely capable of conveying the germs of plant-life for long distances by means of the ocean and the atmosphere, aided by the birds. When man comes to her assistance the work goes on apace. Of eighty species of plants inhabiting the Laccadive Islands—which are simply the tops of a group of submerged mountain peaks in the Arabian Sea, half of whose inhabitants have at times been swept off by storm waves—it is believed that fifty-six have been introduced by man, eleven by the sea, two by the winds, and two by birds. Among the species not introduced by man is one of the finest trees of the islands, the Coco-Palm. There is nothing more impressive in modern science than the story of what has been learned of the gradual conquest of the earth by plants—for a real conquest it has been. *Christian Age, July 10.*

"The temperature was below the mean in all districts, the deficit amounting in most cases between 2° and 3°, but in 'England, E.' to 4°. Highest readings, which occurred at western times during the week, were below 70° in most of the western and northern districts, and very little above that point in any other parts of the kingdom. Lowest readings were also registered on varying dates, and were low for the time of year; in 'England, E.' the thermometer fell to 39°, and in 'Scotland, N. and W. and England, S.W.' to 38°. In the 'Channel Islands,' however, it did not go below 53°. The rainfall exceeded the mean in 'England, E. and S. and the Channel Islands, as well as in 'Ireland, N.,' but showed a deficiency in all other districts. In 'England, N.E. and N.W.,' the fall amounted to only half the normal. The bright sunshine was considerably less than the mean over the United Kingdom generally, but was slightly in excess of the normal in 'Scotland, E. and England, N.W.' The percentage of the possible duration ranged from 29 in 'England, N.W.,' and 28 in 'England, E. and the Channel Islands,' to 15 in 'England, N.E.,' and 14 in 'Ireland.'"

MARKETS.

COVENT GARDEN, August 8.

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

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.			
	s. d.	q. d.	s. d. s. d.
Arunas, p. 12 blooms	3	0	4
Asters, English, per 12 bunches	3	0	6
— French p. bunch	0	6	10
Bouvardias, per bunch	0	6	10
Carantons, per 12 blooms	1	0	3
Chrysanthemums, per 12 bunches	4	0	0
— per dozen	3	0	0
Gardenias, per doz.	3	0	4
Giadiali, p. 12 sprys	0	6	15
Iapageria, per 12 bunches	1	0	2
— per dozen	2	0	4
Lilium Harrisii, per dozen bunches	2	0	4
Lilium lancifolium, per dozen bunches	2	0	4
Maidenhair Fern, per 12 bunches	4	0	6
Marguerites, per 12 bunches	1	0	3

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.			
	s. d.	q. d.	s. d. s. d.
Adiantum, per doz.	4	0	12
Aspidistra, per doz.	12	0	30
— specimen, each	5	0	15
Calceolaria, per doz.	4	0	6
Chrysanthemum, p. doz. pots	6	0	12
Cochonias, p. doz. pots	3	0	6
Coleus, per dozen	2	6	4
Cyperus, per dozen	4	0	10
— various, doz.	12	0	24
Evergreen Shrubs, in variety, per dozen	6	0	24
Ferns, small, doz.	1	6	3
— various, doz.	5	0	12

FRUIT.—AVERAGE WHOLESALE PRICES.			
	s. d.	q. d.	s. d. s. d.
Apples, per sieve	3	0	4
Currents, black, per half-sieve	7	0	8
Figs, per dozen	1	0	2
Grapes, 2nd quality, Black English, lb.	1	3	16
— 2nd quality, Muscats	0	9	10
— Muscats	1	6	2

VEGETABLES.—AVERAGE WHOLESALE PRICES.			
	s. d.	q. d.	s. d. s. d.
Beans, Runners	2	0	6
Cauliflowers, p. doz.	3	0	4
Cucumbers, per doz.	1	6	2
Marrows, veg., doz.	1	0	0
Mushrooms, per lb.	0	6	0
Peas, blue, p. bush.	4	0	5

No change to report. Best potatoes scarce. *J. E. Thomas.*
SEEDS.
 LONDON: *Aug 7.*—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pool, Borough, London, S.E., write that to-day's market was scantily attended, with but little business passing. New Trifolium, both English and Foreign, is offering on reasonable terms. A few parcels of winter Tares, of fair quality, are now coming to hand. New Rye is cheap and good. There is no improved inquiry for Mustard and Rape seed. Barlecks scarce. Peas unchanged. Birdsseed continue slow. Hackweeds offers on tempting terms. Other articles just now attract but little attention.

FRUITS AND VEGETABLES.

BOROUGH: Aug. 6.—Quotations—Peas, 3s. per bushel; Morserah, 1s. to 1s. 3d. per bundle; Currants, 1s. 6d. to 2s. 6d. per half-sieve; Gooseberries, 1s. 6d. to 2s. do.

STRAFORD: August 6.—Quotations—The supply to this market during the past week has been good, and, with plenty of buyers, a brisk trade was done as under—Cabbages, 3s. to 5s. per tally; Turnips, 2s. to 2s. 6d. per dozen bunches; Carrots, household, 2s. to 3s. do.; Mangels, 15s. to 22s. per ton; Onions, Optoro, 5s. to 5s. 6d. per case; Apples, English, 2s. 6d. to 4s. per bushel; Plums, 3s. 1d. to 3s. 9d. per half-sieve; Cherries, 2s. to 3s. do.; Peare, 1s. 6d. to 2s. 1d. do.; Cucumbers, 1s. 6d. to 2s. 8d. per dozen; Scarlet Runners, 4s. 6d. to 4s. per sieve; do., Runners, 9s. to 10s. per bag.

SPIRALPICKLS: Aug. 6.—Quotations—Scarlet Beans, 3s. 6d. to 4s. 6d. per bushel; Peas, 2s. 6d. to 3s. do.; Turnips, 2s. to 2s. 6d. per dozen bunches; Carrots, do.; Marrows, 4s. to 5s. per tally; Cabbages, 2s. to 3s. do.; Apples, 3s. 6d. to 4s. per bushel; Seconds, do., 2s. to 2s. 6d. do.

FARRINODON: Aug. 8.—Quotations—Cabbages, 1s. 3d. per dozen; Carrots, 3s. 6d. per dozen bunches; Turnips, 4s. do.; Mint, 4s. do.; Marrow, 2s. per dozen; Scarlet Beans, 4s. to 4s. 6d. per bushel; Tomatoes, 4s. 6d. per box of 12 lbs.; Green Gages, 4s. per pad; Apples, 4s. per bushel; Raspberries, 7d. per punnet; Plums, 8s. per half-bushel; Cucumbers, 2s. per dozen.

POTATOS.

BOROUGH: Aug. 6.—Quotations ranged between 80s. and 120s. per ton.

SPIRALPICKLS: Aug. 6.—Quotations—Hebrons, 80s. to 70s.; Regents, 55s. to 70s.; Snowdrops, 70s. to 90s.; Puritans, 70s. to 85s.; Reading Giants, 60s. to 70s. per ton.

STRAFORD: August 6.—Quotations—Magnum, light soil, 60s. to 75s.; dark soil do., 50s. to 55s.; Hebrons, 70s. to 80s. per ton.

FARRINODON: August 8.—Quotations: Puritans, 80s. to 90s.; Moorachs, 80s. to 90s.; Red Hebrons, 80s. to 90s.; Imperators, 70s. to 80s.; Magnums, 60s. to 70s. per ton.

LONDON AVERAGES: August 7.—Hebrons, 80s. to 90s.; Snowdrops, 80s. to 100s.; Early Regents, 65s. to 75s.; Early Rose, 60s. to 70s.; Puritans, 60s. to 70s.; Kidneys, 60s. to 65s. per ton.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending August 3, and for the corresponding period last year.—1895: Wheat, 24s. 2d.; Barley, 18s. 2d.; Oats, 15s. 9d. 1894: Wheat, 24s. 4d.; Barley, 21s. 4d.; Oats, 19s. 8d.

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week—Clover, prime, 90s. to 110s.; do., inferior, 50s. to 80s.; hay, best, 60s. to 85s.; do., inferior, 36s. to 60s.; mixture, 70s. to 92s. 6d.; and straw, 20s. to 32s. per load.

VEGETABLES.

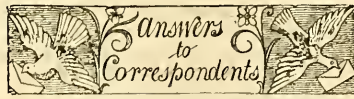
NEW KIDNEY BEAN DWARF PARISEIN.

This is a dwarf French variety distributed by Messrs. Vilmorin & Co. of Paris last spring, and it is said by them that it has sprung up among the Paris market gardeners, and although it has become known but recently, its culture is spreading very rapidly in the vicinity of Paris. I have a few lines of it at my seed grounds at Bedford, where it has done well and pleases me greatly. It is of dwarf and compact growth, very early, and highly productive, the pods long, soon maturing, dark green in colour, streaked with black lines, and having tested it for table, I can pronounce it all that can be desired. The fact that the beans are darkly striped need not prejudice any one against it; it is characteristic of some older varieties, and the colour entirely disappears in the process of cooking. I think it must prove a very excellent forcing variety, as it commences to bear so early. We are indebted to Messrs. Vilmorin & Co. for several good things in the way of vegetables; not least among them being the Dwarf Parisien French Bean. R. D.

ENQUIRY.

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

"D. W. C. M." would be glad if some of our correspondents would inform him what would be the best things to grow on land irrigated with sewage.



* * * Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who will know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.

* * * PLANTS, FRUITS, ETC., TO BE NAMED.—Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florist varieties cannot, as a rule, be named.

ADDRESS OF THE GARDENERS' Royal BENEVOLENT INSTITUTION: Inquirer, No. 50, Parliament Street, Whitehall, W.C.

BOOKS: Asparagus. A trustworthy manual is one entitled Asparagus Culture, by Barnes and Robinson. Price 1s. 6d., post-free, of D. W. Morgan, 1, Little College St., Westminster, London, S.W.—PROPAGATION AND MANAGEMENT OF FRUIT, FOREST TREES, CONIFERS, &c.: W. H. B. The following would be of use:—Fruit Farming for Profit, by G. Bunyard, published by Frederick Bunyard, 20, Week Street, Maidstone; Cultivated Plants, by F. W. Barbridge, to be bought of D. W. Morgan, 1, Little College Street, Westminster, S.W.; and The Art of Grafting and Budding, by Charles Balcet, published by W. Robinson, 37, Southampton Street, Covent Garden. The Forester, by J. Brown, 6th edition, by John Niebet, published by W. Blackwood & Sons, Edinburgh and London, will tell you all about the management of forest trees, &c., in the nursery.

CARNATION PROPAGATION: R. M. P. You will find several methods described on p. 41, July 13. The stems should be cut half through, just below a joint at a point where the growth is fairly matured, but not woody.

COCKSCOMBS: R. M. P. The plant is an annual, and should be thrown away after flowering, if seed be not wanted.

DRACENAS: R. M. P. The stem should be half cut through just below a node, and then slit upwards for an inch or two, the slit being kept slightly open with a thin wedge. Moss may then be bound round the stem at that place, or a flower-pot cut in half vertically may be made to clasp the stem, being fixed to some stakes stuck into the soil, and fastened together with twine or wire. The pot may be filled with peaty soil, or peat and sphagnum-moss. The soil or moss should be kept moderately moist. When sufficiently rooted, separate the rooted portion and treat it as an independent plant.

EARWIGS ON NECTARINE TREES AND DAHLIAS: E. B. G. and B. D. These insects (Forficula auricularia) may be caught in small pots half-filled with hay, &c.; in lobster-claws, or, better still, in tubes made out of brown paper, pieces of the stems of Hemlock, Elder, and Broad Beans, one end being plugged. These should be cut into lengths of about 9 inches. In the case of Dahlias, Carnations, &c., hang the tube on the stake that supports the plant, the open end downwards. In the morning, take down the tubes, remove the plug, and blow the earwig into a vessel of hot water, replace the plug, and hang it again on the stake. In the case of fruit trees on walls, the tubes may be tucked under the shoots and branches.

FERTILISATION OF ORCHIDS: F. L. G. The Hague, John Murray, Albemarle Street, London. A few shillings.

FUNGI: T. J. H. The fungi you send are true Mushrooms.

FUNGUS DISEASES OF TOMATOES: Solanum. But little good would result from putting in your inquiry concerning these two well-known maladies. As a preventive means, use the Bordeaux Mixture—a formula for making it was given in a recent issue—not waiting till the disease has declared itself. It will not harm either the fruit or the leaves, and it will keep the plants healthy. Take care not to use it after the fruits begin to colour.

LARVÆ: W. Cann. None was found in the box.

LILIES: F. de L. The Lilies you mention might all be left in the ground if sufficiently protected. Your plants of L. auratum are probably attacked by the fungus which is so destructive to Lilies.

MUSHROOM GROWING ON GLASS WITHOUT MANURE: W. H. P. See Gardeners' Chronicle, August 19, 1893, p. 214. We have no further information.

NAMES OF FRUIT: J. W. S. Keawick Collin.—A. F. Pear Early Rousselet; Apple next week.

NAMES OF PLANTS: Correspondents not answered in this issue are requested to consult the next number.—B. P. We do not undertake to name florist varieties. Send your Carnations to a large grower.—A. F. 1, Cupressus, perhaps sempervirens; 2, Libocedrus decurrens; 3, Liquidambar styraciflua; 4, Pinus Latic var.; 5 and 6, next week.—F. C. S. Spiraea Lindleyana, and one of the American Oaks.—W. T. Leicester, 1, Sedum; 2, Anchusa italica; 3, 4, and 5, Erinus lychnides.—J. C. 1, Viola cornuta, white variety; 2, Geran um pratense; 3, Melilotus; 4, Sedum rupestre; 5, Linaria Cymbalaria; detached leaves, without a number, Alchemilla vulgaris.—J. W. 3, Thuya plicata; 4, Cupressus nutkaensis; 5, Rhus Cotinus. It is too risky to attempt to name the other scraps.—H. H. Cologny speciosa, Cattleya Eldorado. The little "Angracum-like plant" is Trichocentron albo-purpureum.—J. S. Montrose, 1, Laetrea filix-mas; 2, Cymotium caryotideum; 3, Platyloma rotundifolium; 4, Polystichum angulare deapperatum; 2 and 3 are not British.—W. J. R. The rose-coloured flower is Lælio-Cattleya x elegans, commonly known as Lælia elegans Turneri. The light one, Lælio-Cattleya x Schilleriana. Both are natural hybrids, occasionally imported with Lælia purpurata.—D. S. & Son, Cupressus Lawsoniana var.—C. Lincoln, Aesclepias syriaca.

SMALL FRUITS FROM NEWLAND: T. Coomber. Uncommonly fine fruits of red-fruited Currants, Cherry-red, and La Fertile; Ogden's Black and White Dutch Currants; Industry Gooseberries, and Superlative Raspberries. We have seldom seen finer, and the more remarkable from the fact that no artificial watering was performed.

SPOTTED PEACHES: J. A. The spots are not caused by any fungus growth. Cannot suggest the cause.

TOMATO FRUITS NOT COLOURING PROPERLY: H. Lee. There is no disease present in the fruit sent for examination, which is not in any way the worse for eating. G. M.

TOMATOES: Challenger. The constituents of stable and farmyard manure are, with the exception of the urine, too slow in their action to suit the short-lived Tomato plant; something more concentrated and readily available is required, and your plants are languishing for lack of it. Dung is particularly wanting in one important constituent of the plant, viz., potash. You must clear away the top-dressing of dung without much root-disturbance, affording a slight top-dressing of rather adhesive loam instead, and over this straw guano, or a manure consisting of nitrate of soda or sulphate of ammonia, together with potash and phosphoric acid. If you use manure rich in nitrogen and potash, but without the phosphoric acid, the ripening of the crop will be retarded. The amount of manure afforded need not exceed 2 oz. to the square yard, whether afforded in a dry or liquid state; and it will not be required more frequently, at least until the foliage and crop have increased, than once a week. As against the mildew, use the Bordeaux Mixture; see answer in this page under the heading "Fungus Diseases of Tomatoes."

WORMS ON LAWNS: W. E. R. Watering the turf with clear lime-water will bring them to the surface, when they can be gathered up. This proceeding will reduce their numbers, but we cannot imagine a lawn in good condition without worms, as they render it dryer by their burrowings, besides being the means of bringing the subsoil to the top, and thus helping to manure the turf.

COMMUNICATIONS RECEIVED.—H. Noble.—A. C. F.—E. B.—G. Thomas.—M. C.—T. Singleton, Currighmors, next week; kindly send the promised note on Cabbages.—W. H. A.—Harrison Weir.—A. D.—W. H. W., next week.—A. H.—B. P. B.—T. E.—H. N. B., Singapore.—Gardies Mitchell.—M. T.—J. J. W.—D. T. F.—R. L. H.—W. B. H.—E. B.—A. C. F.—J.—G. M. Ne.—H. M.—W. D.—C. J.—Sir T. L. J. J. M., New York.—W. C.—D. S. & Son.—B. B.—W. H. P.—W. J. B.—H. W.—C. S. & Son, Guernsey; many thanks and much sympathy.—G. B. T. F.—N. M.—C. N., Antibes.—E. A., Paris.—T. de M., Guernsey.—T. H.—T. R.—F. W. B.

PHOTOGRAPHS, SPECIMENS, &c., RECEIVED WITH THANKS.—L. L.—J. B., Utrecht.

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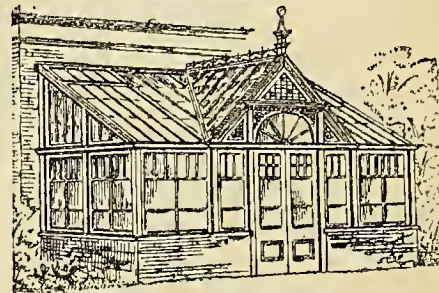
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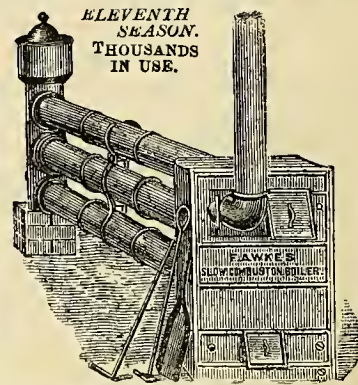
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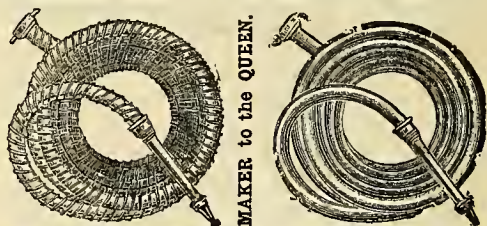
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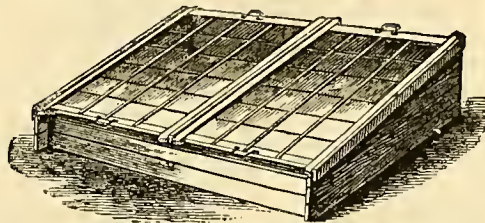
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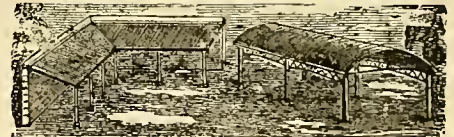
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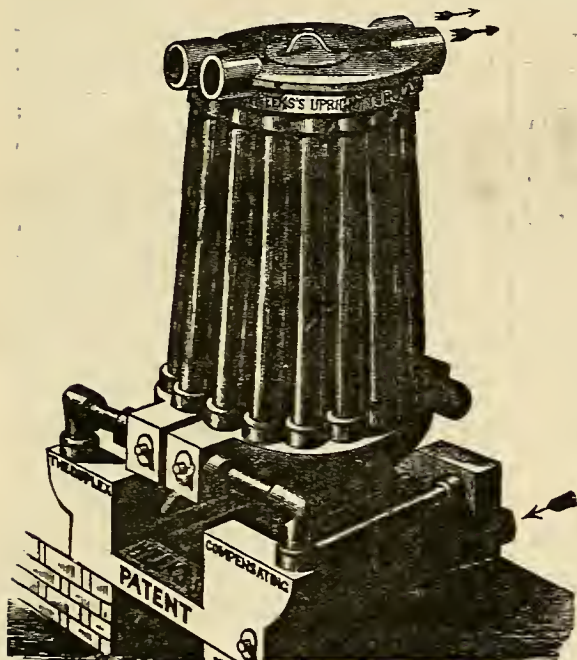
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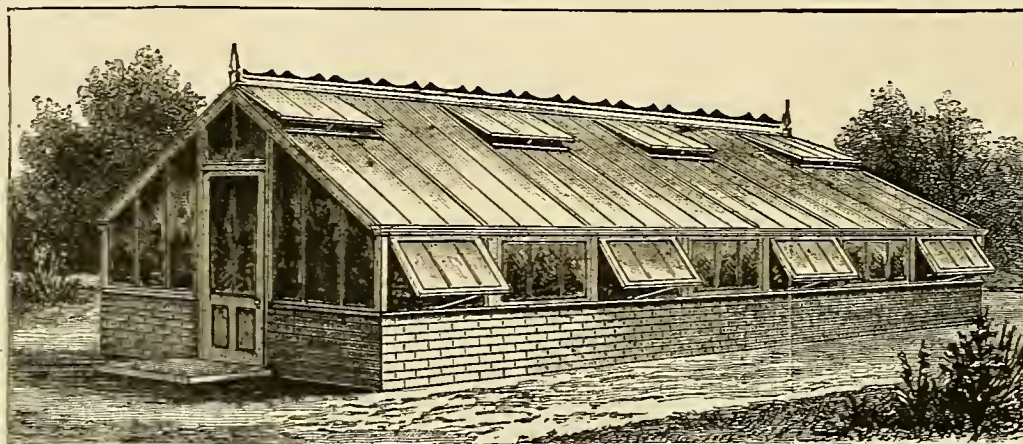


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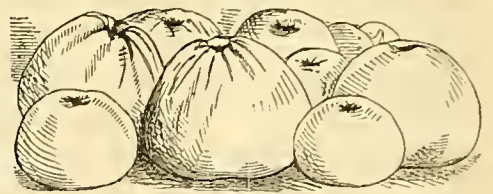
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THE
Gardeners' Chronicle.

SATURDAY, AUGUST 17, 1895.

BOTANY AND GARDENING AT
HARVARD UNIVERSITY.

EVERYONE interested in Botany and Horticulture must have heard of the famous room in the Botanical Museum at Harvard University, where the glass flowers are preserved. These models, which have been manufactured in Germany by a man and his son, named Blaschka, are composed almost entirely of glass. The colour is very largely in the glass itself, although some is placed on after the flowers are made. Where possible, the entire plant is reproduced life-size; in other cases a branch or a leaf and the flower cluster. The beauty and accuracy of these models are beyond belief, and in some cases it is difficult to distinguish between the models and living specimens, when they are placed side by side. Quite recently an American contemporary gave a short review of the botanical work at Harvard, from which it may be interesting to extract a few details. In 1842 Asa Gray was chosen Professor of Botany at Harvard University, and he soon set to work to improve the Botanic Garden. Asa Gray, it was said, did more than anyone else to introduce the laboratory method in botanical teaching. With him the study of Nature meant contact with Nature, and not what someone else had written about that contact. In 1873 Dr. Gray resigned his professorship, and one of his two assistants, George Lincoln Goodale, was appointed in his stead. The other, William Gibson Farlow, a few years later took charge of the work in cryptogamic botany.

At the present time the herbarium of phanerogams is located in the building at the Botanic Garden. A curator and two assistants are engaged upon the study of collections which are constantly being acquired. The Botanic Garden consists of 7 acres of ground tastefully laid out into beds. In these beds there are plants of 1500 native species, 1300 foreign species, and 400 varieties. In the greenhouses there are under cultivation about 2400 species and varieties. The arboretum is at Jamaica Plain, about 7 miles from Cambridge. It covers about 230 acres. By an arrangement with the city of Boston, this has been made a part of the metropolitan park system. The plan is to cultivate every species of tree and shrub which is capable of withstanding the severity of a New England winter. How well the Director has succeeded is attested by the fact that the Harvard or Arnold Arboretum, as it is called, is universally recognised as the finest in the world. The Arnold Arboretum has become one of the most charming places for certain studies of a general nature within reach of the public of Boston.

The Botanical Museum at Harvard consists of a collection of economic plants containing practically all the products used by man. It is interesting to note that New York will soon be in possession of a botanic garden of the first

order. The subscription pre-requisite to the issue of municipal bonds has now been completed, and it now only remains for the city to carry out its part of the agreement, by raising 500,000 dols. for building purposes, and by providing 250 acres of land in Bronx Park or other suitable place. It is hoped that other cities will soon follow the example of New York by enriching their park systems with an educational aid of the greatest value. Mr. G. L. Goodale, of Harvard University, in an article contributed the other day to *Science*, put very clearly the uses of botanic gardens. Formerly, they were largely used for the cultivation of medicinal plants and for the reception of species from distant lands. Now new phases of plant relations are being displayed in the larger botanic gardens. Geographical questions are asked and answered by skilful groupings of species. The bearing of climate on the structure, habit, and possibilities of plants is made prominent in an interesting fashion.

In fact there are numerous stimulating sights in a botanic garden if one only takes the trouble to look for them. We so often regard our American cousins as absorbed in the business of making dollars, that it is refreshing to find that they do not forget those higher pleasures which appeal to the intellect. The effect of the numerous Universities is beginning to be felt, and many young men are throwing themselves into some study instead of entering business and bowing down before the almighty dollar. It has been well said that as a means of mental discipline, as a source of knowledge becoming more useful each year, and as a study leading us closer and closer to the just appreciation of Nature and her laws, Botany is unrivalled. *H. C. F.*

NEW OR NOTEWORTHY PLANTS.

CATTELEYA FOWLERI × *

This is a very beautiful hybrid out of *Cattleya Leopoldi*, fertilised by the pollen of *Cattleya Hardyana*. The new plant has a rather slender habit. The bulbs are slightly compressed, with only a trace of ribs when young, the elder ones being somewhat, but not even deeply furrowed. The raceme of the two first flowering specimens bore two flowers, but it is to be hoped the plants will become more vigorous, and then the number of the flowers will undoubtedly increase. The flowers are in size very similar to those of *Cattleya Hardyana*, and from its father the plant has received the splendid labellum. The colour of the sepals and the larger and more tender petals are deep mauve-purple, whilst the middle lobe of it shows the most intense violet-purple. This new hybrid was raised by Mr. Maynard in the establishment of Messrs. Sander & Co., at St. Albans. It is named in honour of G. Gurney Fowler, Esq., Glebelands, South Woodford, Essex, and was shown at the Royal Horticultural Society on Tuesday last.

VARIETIES OF STRAWBERRIES AND NEW VARIETIES FOR FORCING.

Those who force the Strawberry in quantity and early, are always on the lookout for new varieties which have the property of setting well and are naturally early fruiters. My readers will not sup-

pose that I underrate the value of any variety not noticed in this note, for the Strawberry varies so much in different soils, and the variety that is a favourite with some gardeners is of small value to others. Take, for instance, *Vicomtesse Héricart de Thury*, a popular forcing variety; some persons object to it as being too small, and prefer a larger-fruited variety as having a better appearance, good flavour in so many cases being reckoned only of secondary value. The introduction of novelties and the favouring of old varieties of poor quality have to some extent caused the decline in public estimation of good forcers, viz., *Black Prince*, *King of the Earlies*, and others of small size noted for their good flavour. To show the interest gardeners take in this matter, it may be stated that three new varieties have been certificated this season, all of which were noted for heavy bearing, size, and general good appearance. The raising of new early varieties does not seem until recently to have kept pace with the demand, and numbers of the standard varieties have been in gardens for a long time. Mr. Laxton's variety *Noble*, brought out in 1887, was a great gain as an early fruit out of doors and for forcing. It is one of the most valuable varieties ever sent out, on account of its habit, which is vigorous, heavy cropping, and large fruit. I admit it has been condemned on account of its lack of flavour, but still it is one of the best early fruits ever raised, and we may, on that account, overlook the defect. The well known *Keen's Seedling*, a variety raised in this district as long ago as 1821, is a grand forcing Strawberry, but there are spurious varieties of it about. The original *Keen's* is a dwarf free-fruited plant, and it may still be classed as one of our best forcers, and I force 1000 plants of it every year, having, as I believe, the true variety. The finest flavoured Strawberry is *Myatt's British Queen*, raised in 1840, and it is even now one of the best for late forcing, although I am fain to admit that in Laxton's "*Latest of All*" we have its superior as regards cropping, size, and quality; and though I cannot say that it is good for forcing purposes, it is so as the latest cropper in the open. I was very pleased with it when forced, the quality of the fruit being all that one could wish, the only drawback being that a few of its fruits failed to ripen at the point, having therefore the same peculiarity as *British Queen*, one of its parents.

To come to what may be termed the latest addition to the forcers, and one that has made rapid advances in growers' estimation in a short time, *Royal Sovereign*, which, I think, will be a standard variety in gardens for a long time to come. In this variety there are size, quality, and great cropping capacity—three essential qualities of a forcing fruit. As an earnest of my appreciation of it, I may state that on July 29 we potted up a thousand plants. There are Strawberries with larger fruits than this one, viz., *Anguste Nicaise*, which has no equal in cropping and flavour. Even when hard forced, it does not lack flavour as others do. Out-of-doors in our porous soil it was very fine this year, and only three weeks later than *Noble*, which is one of its parents. It has got the wonderful vigour of the latter with the flavour of *King of the Earlies*—that is, a brisk Pine-flavour. It is excellent for early forcing, setting freely, the fruits well above the foliage, not low down among the leaf-stalks. As a fruit for sending long distances, it is one of the best, the pulp being firm in texture, well covered with seeds. Its colour is a bright scarlet, making a choice fruit for early spring.

Another new variety, and one which should be noted on account of its excellence as a forcer, is *Stevens' Wonder*, a variety which has been figured and described in these pages, noted for its wonderful cropping qualities early in the season. This I am only able to describe from seeing it in fruit, not having grown it, but I am going to try it for very early fruiting, and I have some plants well-rooted in the fruiting pots.

For mid-season forcing, the new *Gunton Park* is very good. It is one of the trio raised by Mr. Allan, of Gunton Park, and noted for their fine flavour. The fruits are large, dark crimson in colour, of a

brisk, pleasant flavour, and a good forcer for the season named.

There are others, such as *Competitor*, a fine fruit, with firm flesh, and though not recommended generally for forcing, I have found it to be good; not, perhaps, suitable for hard forcing.

This year two others noted for their size have come to the front, *Leader* and *Monarch*; the first is a grand fruit, of good quality, but the plant cannot be recommended for hard forcing. *Monarch* is equally fine, with Pine-flavour, and it promises well; and though I have not yet grown it, it should not be left out of a list of new varieties.

With regard to the forcing qualities of any variety, much depends on cultural treatment, and whether the forcing is early or not, on the means for forcing, results obtained being different with different growers. I will admit that I have a partiality for some of the old varieties, and so far my best early has been *Vicomtesse*, which is excellent as a first early, being very productive, free-setting, and of the best flavour. But one cannot force both old and new in quantity, and when the newer ones have been tested, some of the older kinds are allowed to drop. *Vicomtesse H. de Thury* (*Garibaldi*) has been nearly fifty years in gardens, so it has stood the test of time; and after trying *Royal Sovereign* for three years, we are growing less *Vicomtesse*, the new one having size, in which the older variety is lacking. My next selection is *La Grosse Sucrée*, a very fine Strawberry of the *Keen's Seedling* type, not a good traveller, but prolific, and of good quality; indeed, as regards crop, it may be classed as the best of the older forcing varieties. It bears a quantity of even-sized fruit, and soon turns in after setting. Many gardeners look upon this as being superior to all others. It does well in most soils, but I find it does not like too much exposure in winter, the leaves soon getting crippled. *President* and *Sir C. Napier* are too well known to need anything being said about them. The first is liable to mildew, but it deserves attention, and this pest may readily be checked.

I am aware many gardeners are not in a position to grow many varieties, neither do I advise it, as the new ones in any case will only be grown sparingly at first, and one can readily have Strawberries from February till June with a variety for each month, and my selection would be *Vicomtesse* or *Royal Sovereign*, followed by *La Grosse Sucrée*, or else the true *Keen's Seedling*, *President*, and *Sir Charles Napier*. It is not advisable to have great numbers of late Strawberries in pots in a season like the one we have just passed through, as fruit in the open can be had early in June. Again, *British Queen* does not thrive everywhere, and *Keen's Seedling* is apt to come barren. Some varieties do not thrive in certain soils, and in such the novelties should be tried. So far I have not known *Noble* to fail, and fruits ripened in a well-ventilated house are very superior. Hard forcing is often solely at fault. A few words as to culture at this season. The plants should now be in the fruiting-pots, and those who care to purchase small-rooted, potted-up plants, will be in a better position if they get them early. To obtain runners in quantity for next season, I am planting now, at 2½ feet apart between the rows, and half that distance in the row, in deeply-worked, well-manured land, a row of *Lettuce* or late *Colewort* being planted between the Strawberries, ground being scarce. These are cut by March. When growth commences, the flower-spikes are kept pinched off as they appear, and early runner-formation encouraged, the runners being fit to pot up much earlier than when the plants are allowed to fruit. After the runners are taken, every other plant is cut out with a hoe, some more nutriment afforded, and forked in, and the beds made neat for the autumn. These plants fruit grandly the following season, then being destroyed, as I am a great advocate for young plants. In potting, avoid excess of manure, and use good loam, a sprinkling of bone-meal, or spent Mushroom manure. Firm potting, a hard coal-ash bottom to stand the pots on, and plenty of sun, are essential points. The crowns may be thinned when growth is robust, and the roots should be protected

* *Cattleya Fowleri* ×, Sander and Kränzlin (*Hardyana* ♂ × *Leopoldi* ♀).—Bulbs 12 to 15 pollices longis, internodiis 5, supremo dimidium totius plantae æquante; foliis 2 oblongo-lanceolatis obtusis, squamâ simplici; racemo bifloro (in utroque specimine observato); sepalis lineari-oblongis obtuse acutis; petalis margine leviter undulatis oblongis subrhombicis obtusis duplo latioribus; labelli lobis lateralibus semiovatis obtusis conniventibus, lobo intermedio maximo quadrato in transverse rectangulo antice sinuato margine utrinque et antice crenulato undulato. Flores 5 poli. diametro extus et intus purpureo-violacei; lobi laterales labelli eodem colore, lobe intermedius pulcherrime violaceus.

in winter. The best winter protection is afforded by cold frames, the plants being bedded in cocoa-nut-fibre or coal-ashes. *G. Wythes.*

DISA GRANDIFLORA, ETC., AT "JOLDWYND."

A PLEASANTLY situated garden is Joldwynds, the residence of Lady Bowman, nestling on the south side of a hill near the pretty village of Holmbury St. Mary, about seven miles from Dorking. The visitor on entering the grounds will not fail, if he be an arboriculturist, to admire the fine specimen Bamboos

eminently, were large beds of brilliant-coloured Cannas. The white and pink Malope (*Malva grandiflora*) is planted thickly on each side of a long walk; also vigorous plants of the dark-blue-flowered *Primula* resembling *Alice Wilson*, which at the present time is a scarce plant. Besides these there were large masses of *Crinum Moorei*, whose large pink and white corymbs of flowers have a stately appearance.

THE ORCHIDS.

In the plant-stove a robust specimen of *Dendrobium Dalhousieanum* was noted remarkable for the size and substance of its growths, which are many—

specimen of *Maxillaria venusta*, with over thirty flower-spikes; besides a strong plant of *Mormodes pardinum unicolor*, with two strong spikes of its lemon-yellow flowers. In a cooler house, some fine specimens of *Masdevallia Schlimii* and *Odontoglossum cordatum* were noted, also in bloom *Cœlogyne ocellata*, *Anguloa Clowesii*, *Dendrobium Jamesianum*, *Lycaste Skinneri*, and *Masdevallia peristeria*. The cool-growing *Pleione humilis*, planted in shallow pans and hung close to the roof, appear to be suited with their position. In a moist shady corner of the house a healthy batch of *Pinguicula candata* was observed. Passing along into a Peach-house is a

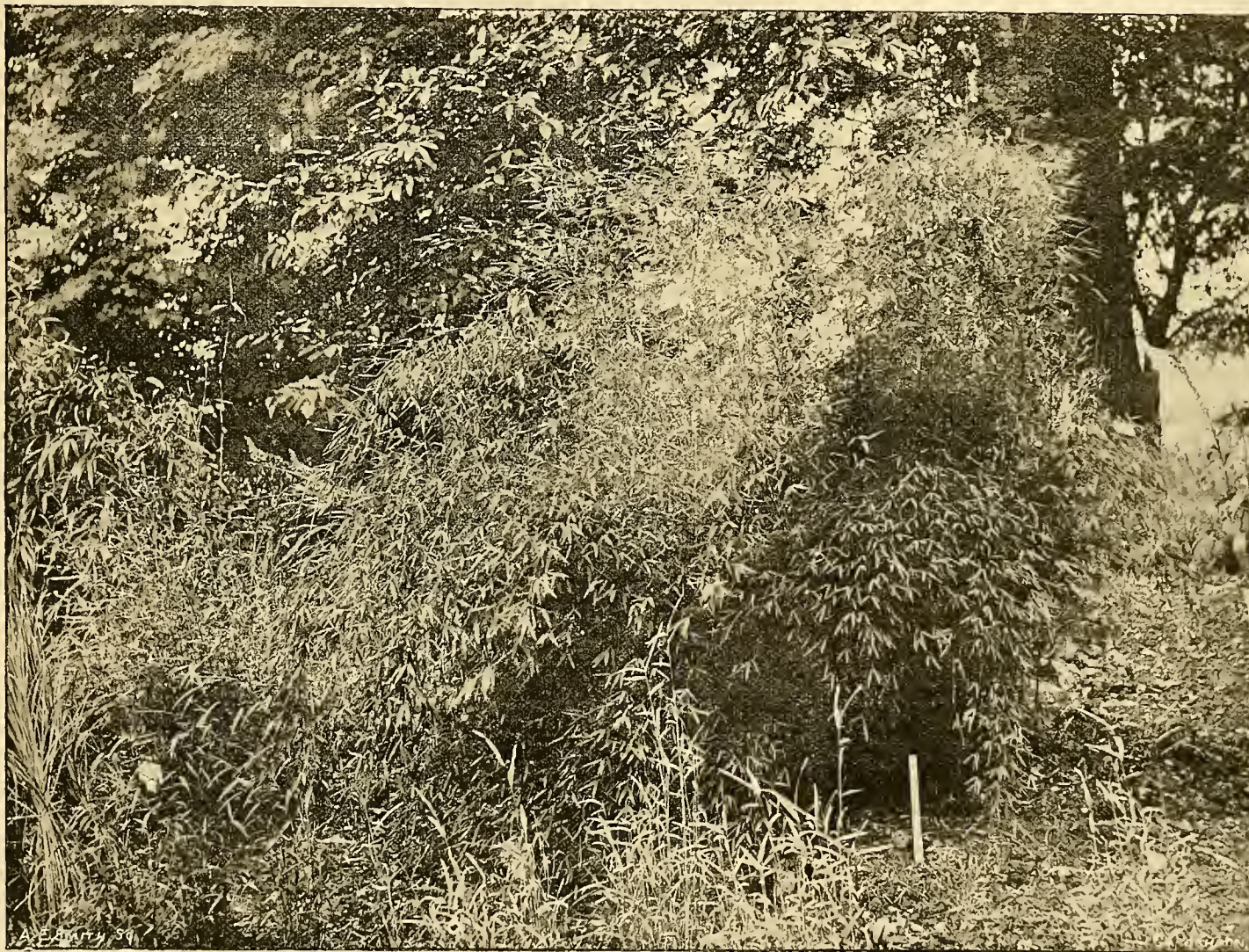


FIG. 33.—*ARUNDINARIA NITIDA* IN THE BAMBOO GARDEN AT KEW. (SEE P. 186.)

(not the least affected by the severe frosts of last winter), the massive *Gunneras*, several fine plants of *Veronica Andersoni*, which at the time of my visit were full of flower, and the large beds and masses of *Rhododendron* plants. Having secured the guidance of Mr. F. Cornish, the head gardener, a stroll was taken round the very beautiful flower garden, whence a view is obtained over a lovely country, the view extending almost to the English Channel, and only divided from it by a range of the Sussex hills.

Of rare, or at least, uncommon plants, two fine bushes of *Desfontainia spinosa* were noted; the gay and beautiful *Tropæolum speciosum*, entwining itself around *Fir* and *Holly* trees in great luxuriance. Fine clumps of *Iris* grow thickly around a small lake, and in full bloom amongst others was *I. Douglasii*. Not far distant, and standing out pro-

some of them measuring more than 7 feet in length, the young stems now growing freely, indicate that they will eventually reach as far. A plant of *D. Dearei* was in bloom, and growing well; *D. chrysanthum* will be a pretty sight a few weeks hence; *D. thyriflorum*, *D. densiflorum*, *D. superbiens*, *D. formosum* and *D. heterocarpum* are doing well. These plants are hung from the roof, where they get plenty of sunshine. The plants of *Cœlogyne cristata*, *Phaius*, *Pleiones*, and the deciduous *Calanthes* give good promise of a fine display of bloom in their season. Suspended from the roof in the intermediate-house some well-bloomed plants of *Epidendrum vitellinum majus*, and a nice healthy specimen of *Epidendrum Parkinsonianum*, with eleven of its sweet-scented flowers were remarked. Standing upon the stage in the same house was a compact

remarkable specimen of *Iris Robinsoniana* in the best of health, but Mr. Cornish has not yet succeeded in flowering the plant.

Another small house is almost entirely devoted to the cultivation of *Streptocarpus*, of which at the present time there is a large quantity of young seedlings in bloom, many of them of sterling merit.

Seldom is that beautiful terrestrial Orchid, *Disa grandiflora*, seen so near to perfection under cultivation as here. At the present time there are over a hundred spikes in full bloom, a sight that we dare to say, unique in this country. The luxuriance of the growth, and the large strong flower-spikes, show that the conditions are very favourable. It may be stated that Mr. Cornish's success with this plant is not temporary, it being now many years since he received his first few.

plants at the Joldwynds, and it has been rapidly increased until at the present time the plants may be counted by the hundred. I have seen the *Dissas* for several years past noted how well they are being grown here, and I hope the success attending their cultivation will long continue. Success may in great measure be attributed to a cool evenly-balanced atmosphere, shade from strong sunshine, a well-ventilated house facing south, and the temperature of which in the winter frequently falling to 45°. The compost in which the *Dissas* are grown consists of good black fibrous peat, and chopped live sphagnum-moss, with the addition of a small quantity of coarse silver-sand.

A nice healthy specimen of the rare *Gerbera Jamesoni*, also South African, grows and flowers annually under similar treatment to that afforded to the *Dissa*. *W. H. W.*

PRESERVING FRUIT.

I HAVE read your article, p. 92, on this popular subject with much interest, and as lecturer on technical education I find few or no subjects more fruitful of suggestive questions. Neither does the British practice of fruit preserving as thus illustrated and elucidated differ very widely from the American as set forth by Miss Parloe in the *Gardeners' Chronicle* of August 3, and through other sources. As many doubtful and even faulty methods of fruit preserving, however, still prevail, you have rendered an important service to our rural industries by giving Miss Parloe's lucid lecture the wide publicity of your columns. The prizes now so generally given for jams, jellies, preserves, pickles, bottled and candied fruit, at cottagers' and other shows, exhibit at once the virtues and merits of our present modes of preserving fruit. The chief point wanting in many of these exhibits is some sure and certain object-lesson or standard of merit to which to appear or compare the local exhibits. Not a few of the latter are dreary failures in colour-quality keeping quantities. With the exception of Raspberries, it would often be difficult or impossible to tell at sight what fruit the preserves are made of; the whole are also as a rule seriously over-sugared and over-cooked.

The pace of improvement might be greatly quickened as well as improved were an object-lesson exhibited at village or other shows in the form of sample jars or bottles of preserves, pickled or canned fruits and vegetables from such makers as Cross & Blackwell, Chivers & Sons, and others. Almost every housewife prides herself on her jellies, her jams, pickles, green and preserved fruits. Nevertheless, it is comparatively rare that these come up to trade standards of excellency; and could this be generally reached, the rural districts would be the richer in consequence.

As I note the honoured name of Mr. J. J. Willis, Harpenden, under Miss Parloe's lecture, I presume that will be accepted as satisfactory authority of the soundness of the chemistry involved in the theory and practice of fruit preserving propounded by Miss Parloe. One of the most prevalent notions is, that fruit can hardly be over-cooked. The longer it is boiled in the sugar, the longer and sounder it will keep, has almost passed into an axiom among housewives and housekeepers. Boiling expels the watery juices, makes jelly and jam more thick and dense. The more dense the more sugar and solid matter, and the longer the sweets will keep. Yes, but pectine, which forms the basis of vegetable jellies, and gives to the juices of the fruits the property of gelatinising, may be boiled down into common gum or starch by excess of cooking. Hence there is a tide in the affairs of jelly-making which leads on to fortune, that is, long, sound, and sweet-keeping, and that is when the property of gelatinising is at its strongest, which will probably be found to be after a smart boil of a quarter-of-an-hour or twenty minutes. Will Mr. Willis confer another favour to the many he has already bestowed upon cultivators by laying down a time measure for the development

of the maximum properties of the gelatinising of fruit in the process of preserving them? Practically most of us are familiar enough with the simple test of setting our jams and jellies on plates to see if they are done. But scientific time formulas, so as to ensure sound keeping, without any risk of boiling fruit down towards decomposition, would be very valuable. Mr. Willis will excuse me for asking for further information about the use of lemon-juice to keep fruit white after paring.

In regard to sun-cooked Strawberries (p. 93), after many years experience of growing and preserving these fruits, my advice would be emphatically, do not follow Miss Parloe in this. Of course, the lecturer is writing on American sunshine. With our watery suns, I can conceive of no more likely process to fill Strawberry jam with fungoid germs that would hasten it into worthlessness and sheer rottenness, although it has been previously fortified with a pound of sugar to a pound of berries, and boiled for ten minutes. Unless Mr. Willis has something to say in explanation of the following paragraph, I hope no English jam makers will be tempted to try Miss Parloe's sunbath on this side of the Atlantic.

This, however, is almost the only paragraph in this very useful lecture that may not be read, marked, learned, and inwardly digested with pleasure and profit on this side of the water: "Sun-cooked Strawberries.—Use ripe and the finest fruits; put them in the preserving kettle with a pound of sugar to one pound of berries, first a layer of fruit, then a layer of sugar, and so on. Do not have the mixture more than 6 inches deep; place on the fire, and watch. When the preserve begins to boil, skim carefully, and simmer for ten minutes. Now pour the fruit into meat platters, and place in the sun. After an exposure to the sun for twenty-four hours put up in jars or tumblers, and cover. It may be said the sun does not shine for twenty-four hours, but the fruit may be placed on tables by the windows in a sunny room, and let it remain there for several days or until it has had its full sunbath." I repeat, do not. *D. T. Fish, Lecturer on Technical Education.*

ORCHID NOTES AND GLEANINGS.

CATTLEYA VELUTINA.

This is one of the prettiest of its class, and still uncommon in gardens. It was first flowered by Joseph Broome, Esq., now of Suuny Hill, Llandudno, who then cultivated his Orchids at Didsbury, Manchester. It was supposed by Reichenbach to be a natural hybrid between *C. bicolor* and *C. guttata*, but there appears to be little to support that theory. A very fine example of it comes from H. Brittan Evans, Esq., Pembroke Road, Clifton. The sepals and petals are Indian yellow, spotted with chestnut-red. The base of the lip beneath the column is rich yellow, with some purple lines running into the white side lobes. The blade of the lip is white, with delicate rose veining. All the segments curl backwards when the flower is mature, which gives it a striking appearance; they are also delicately fragrant.

CATTLEYA GRANULOSA.

Several remarkable varieties showing extraordinary variation have been sent during the last few days. The showier is *C. granulosa gigantea*, sent for the second time by Mr. F. W. Moore, Royal Botanic Gardens, Glasnevin, Dublin. The large wax-like flowers have the sepals and petals of a lemon-yellow colour, the former with many, and the latter with a few bright purple spots. The front lobe of the lip is amethyst-purple, with a white fimbriation at the edge, and the side lobes are of a yellow colour on the inside and white outside. The flower is more than 6 inches wide, measuring across the petals, which have a width of 1½ inch. The second, named *C. granulosa Banneri*, is from Mr. John Edwards, gr. to G. Banner, Esq., Sherwood, Sefton Park, Liverpool. It is an extraordinary variety, with flowers which, in a Carnation, would be called flaked. The

lower sepals have the inner halves of a pale green hue, and the outer ones purple. The upper sepal is purple with a greenish band up the centre, and the petals have similar markings to the upper sepal, with the addition of a margin of a yellowish tint. The lip is yellow at the base, with a lilac blade streaked with purple.

The other remarkable forms flowered with Messrs. F. Sander & Co. at St. Albans, viz., *C. granulosa Dabuyssonii*, with clear yellow inepotted sepals and petals and richly-coloured lip; *C. g. princeps*, which in size most nearly approaches the *C. g. gigantea*, with the sepals and petals almost wholly of a rich vinous purple; and *C. g. Djancaana*, which a botanist would regard as the most interesting of them all, as its small flowers seem to indicate the starting-point of the species. Placing it and *C. g. gigantea*, they are difficult to reconcile as the same species, but the other three supply every link in the chain connecting them. *J. O'B.*

THE GLASNEVIN BOTANIC GARDENS.

ON the occasion of a recent visit to Dublin I found time to visit the Botanic Gardens of the Irish metropolis. The aquatic-house was alone worth a visit, so well is it filled with *Nymphæas*, many of which were in flower, including the following species and varieties, viz., *N. Marliacea*, *N. n. rosea*, *N. n. carnea*, *N. Laidakeri rosea*, and *N. odorata alba*.

The *Victoria Regia* tank in another house contained a specimen of this species with some leaves 3 to 4 feet across. In the same tank were plants of *Nelumbiums* and *Nymphæas* in great variety and perfect health. In the four semi-circular tanks here were more of these plants, the following being in bloom, viz., *Nymphæa stellata*, *N. s. parvifolia*, *N. s. Berlin* variety, *N. gigantea*, *N. gracilis*, *N. blanda*, *N. flava*, *N. dentata*, *N. Lotus rosea*, *N. L. Ortgiesiana*, and the large Tulip-like *Nelumbium speciosum roseum*.

The Orchid-houses contained more than one hundred species and varieties in bloom. All of these plants were in splendid condition—not an unhealthy one amongst them; and the general cleanliness and the tasteful arrangement of the plants bespoke the care paid to their cultivation by the Curator, Mr. F. W. Moore.

FRUIT AT GLEWSTON COURT.

THE cultivation of fruit is so thoroughly well done at this place as to merit a few notes in the pages of the *Gardeners' Chronicle*. Fruit is grown in great quantities for market, and the whole concern is conducted on strict commercial principles, based upon and coupled with sound, practical experience; in short, it is one of those rare places where the enterprising capitalist has made the successful experiment of fruit farming on suitable land very much more satisfactory financially than the old played-out system of corn growing and ordinary farming.

Mr. Lee Campbell, the proprietor, and Mr. Wright, his gardener, are each as enthusiastic as they are clever; moreover, they are just as ready and eager to impart information to any interested persons who choose to call. Such an object lesson, and such a fund of useful knowledge available, is invaluable. It should help to solve a portion of the agricultural depression, give employment to workers, supply better fruit to the consumer, as well as help to check the quantity of foreign imports, which drain the money from home industries.

Apple and Plum growing is a great success, but Pears are a failure. The plantation consists of about 10 acres, and contains about 6000 trees, and they were planted about twelve years ago. Apple trees stand at 9 feet, and Plums at 8 feet apart. The trees are now about 9 to 10 feet in height, and bushes occupy the whole ground between the trees. Every tree is a perfect specimen, so well have they been managed. There were about 600 Ecklinville Seedling in one block, and the crop on them is an enormous one, as every branch from the stem of the

tree to the extremity is a cordon of healthy fruit, and highly-coloured for the early part of the season. The thinnings from the trees were sent to the jam-makers, selling at 6s. per cwt. in the middle of July, the best-placed fruits being allowed to remain. Peasgood's Nonench, Golden Spire, Cox's Orange Pippin, American Mother, and many other varieties

were evidently benefited by these operations. Other orchards are found on the farm, but nothing that can compare with this one in the quality of the fruit.

Grapes are largely grown under glass, and the Vines are marvels of high cultivation. Three years ago when I saw the huge crop of Muscat of Alexandria in one of the houses, and the enormous crop

character within reach of the roots. Doubtless, some of these bunches will give a good account of themselves on some exhibition boards at a later date, and show what can be accomplished when science and practice go hand in hand. At all events, the crops and results are worth going 100 miles to see, and they would teach weightier lessons than some of the technical education lectures that we are expecting so much from in the future. It is the capitalist with enterprise as well as the worker that is wanted. *William Crump, Madresfield.*

FOREIGN CORRESPONDENCE.

FOOD REQUIREMENTS OF THE CHRYSANTHEMUM.

THE above subject was referred to by a correspondent in these pages on June 23, and continued July 7, 14, and 21, 1894, but as it is of great interest to cultivators, and as it has not been possible to get experimental evidence much before this time, it may be just the proper time to return to it now.

Has anyone acted on the advice given, and with what results? I had expected to hear something more about it during the Chrysanthemum season, but so far, nothing has appeared. Can it be that nobody has tried the artificial manures recommended, or have trials in all cases ended in failures, and are the results therefore withheld?

Being myself a cultivator of some 1500 to 1600 plants, mostly for cut flowers, and having only a light and poor natural soil for potting, I gave the question considerable attention, its appearance being only a short time before the final potting. Now, reliable and complete analyses of plants as that of Chrysanthemums, quoted at p. 778, *Gardeners' Chronicle*, vol. xv., are of the greatest interest and value to cultivators, but, of course, they do not give exact figures. We have got a complete analysis of the soil we are going to use at the same time, and as this is in most cases difficult to get, always takes a long time, and moreover is rather expensive, it will not often be at command, but then the plant-analysis only gives approximate figures, and serves as a basis for experiments. As such I considered it, and having in my mind earlier failures by using artificial manures in potting soil, I was on my guard.

The soil used for the final potting consisted of two-parts rather light and poor but fibry turf, two-parts compost from a well-decomposed rubbish heap derived mostly from the houses, cast-away plants, old potting soil, weeds, a little ashes and charcoal (I use firewood as fuel), &c., and one-part manure (from horses and cows mixed). This compost, well mixed and in good condition, I still considered rather poor, more so as I do not use very large pots (6 to 8 inch), and decided to add some artificial fertilizers.

Just at that time, Mr. Willis' paper appeared (vol. xv., p. 778), but for the sake of convenience I used my own mixture, having the following ingredients at hand.

- 3 parts Kainit (12 per cent. potash).
- 3 .. Basic slag (16 to 17 per cent. phosphoric acid).
- 1 .. Sulphate of ammonia (20 per cent. nitrogen).
- 1 .. Phosphate of potash (26 per cent. potash, 36 per cent. phosphoric acid).

This mixture gives the principal ingredients in the following proportion:—

	In Mixture.	In Ash.
Potash	12	16
Phosphoric acid	17	19
Soda	12	10
Chlorina	8	3
Magnesia	15	10
Nitrogen	4	0

besides this, there is sufficient lime and iron in the basic slag and sulphuric acid in the kainit. Considering that I had a good supply of nitrogen in the stable manure, and that my soil is rather rich in potash (resting on and originating from rocks rich in potash), I thought the mixture should be a good one.

The rate in which I used it was one part of the

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FIG. 34.—ARUNDINARIA SIMONI. (SEE P. 186.)

are amongst those cultivated. Probably a mistake was made in planting too many varieties.

The soil—a very thin layer—is situated on the old red sandstone, and gently slopes towards the valley of the Wye with a S.S.E. aspect. Plums, too, are enormously cropped, Victoria being a great favourite, giving profitable and remunerative crops. During the late drought two steam-engines were employed to distribute water, a good soaking of the land being afforded (about 1,000,000 gallons), besides a dressing of muriate of potash and superphosphate; the trees

of Black Alicante in another, I predicted that such a crop would never again be seen on these Vines, as it looked like killing the goose which laid the golden egg.

Imagine my great astonishment the other day when I called to find that the crop was much heavier than before, decidedly better, the bunches long, with heavy shoulder; berries very large, and taking on a bright amber colour, no signs of shanking, but the foliage rich dark green, very luxuriant and gross; evidently there was plant-food of the right

mixture to about 400 parts of soil, this being considerable less than recommended by Mr. Willis, his prescription being one part of a similar manure to 250 parts of soil ($\frac{1}{4}$ ounce to 4 lb.). Mr. W. Dyke recommends (p. 74) ten times as much (75 ounces to 120 lb.), and still wants to supplement it later on with top-dressings. I should like to know with what result such a quantity can be used. The manure was well incorporated with the soil by turning it several times during the fortnight it was lying before being used.

During the first half of July, part of the plants were shifted into this soil, the other part being planted out in the open ground. During the next two months, I was not satisfied with the look of them at all. They made but little progress, the leaves were small and of a rather yellowish-green colour, still the plants were not really unhealthy, and they filled the pots well with healthy roots, but they lacked the dark-green colour and robustness of leaf and branches which plants in the open ground possessed. At the time they were housed (24 to 25 September), they were about 1 foot shorter than usual, and did not look promising at all.

But from that moment to the present time, October, 1894, they have done much better than expected. They commenced to grow at once (for this the warmer climate may in part account), showed buds well, and they have been flowering the whole of this month quite as well as any previous year, and I think they are somewhat earlier than usual, though I have only planted-out plants to compare with; these were lifted some days earlier with good balls, and planted in an old Cucumber bed in front of the same house in which the plants in pots occupy the middle. These planted-out plants got a serious check somehow (they had a few degrees of frost one night, but the plants in pots had the same and one night more without any injury), causing the first buds to remain undeveloped, and up to date, we have not cut a single flower from these, having cut about half the crop from the plants in pots, sorts the same, but they promise a rich and welcome late crop of small flowers.

The conclusions I draw from this experiment, and from some earlier ones in the same direction with other plants, is, that artificial manures (especially kainit and basic slag), are rather dangerous substances to use in potting soil, that I only just escaped failure when using the above mixture in proportion of 1 to 400, that the compost suits plants much better after some months than at first, showing that it is advisable to have such substances mixed with and well incorporated in the soil at least some months before using it for potting. But the good crop of flowers from rather miserable plants also shows that, at last, it was the right thing. Further, my experience confirms rather than otherwise, the general statement that manure rich in potash and phosphoric acid promotes fertility rather than growth, and tends to make flowering and fruiting earlier.

It is all very well to know that artificial manures, as the above, cannot with advantage be mixed with soil that is to be used at once, but it would be very interesting to know why. It is not precisely injurious to the roots, at least I could not, by frequent and close examination, detect any trace of injury. The only explanation I can suggest is, that by using these concentrated mineral salts we are sterilizing the soil, depriving it for a time of all that animal or vegetable life which otherwise decomposes, preparing and sweetening the soil, and making it more fitted for plant growth. I wish some bacteriologist could see his way to solve this problem, for to speculate, speak, or write about it is not of much use. I believe that in regard to harmfulness, there is a great difference between artificial manures of animal and those of mineral origin, these last being much the more dangerous. This would also account for the many related and trustworthy cases in which much greater quantities than the above have been applied with the best results. As examples of safe manures, I shall only mention bones for phosphoric acid, natural guano for nitrogen, and ashes (vege-

table) for potash. But mineral manures may also be safe if applied at the right time, and they are generally much cheaper than the others.

This event is a good answer to the question about theory and practice, and shortly put it is, that theory has here, without any caution being used, given a very dangerous advice, and your much blamed non-theoretical, but very practical gardeners, have one and all—at least it seems so to me—escaped a serious failure by not taking any notice of the advice given, preferring to stick to old tried methods until the new ideas have been put to the test. This is always safe, and perhaps it is the best way to go. We gardeners cannot all be masters of chemistry or other sciences relating to horticulture, but what we require are trustworthy middlemen, and these you have got in every branch of science—in this connection only to mention Sir John Lawes and Sir Henry Gilbert. But I am again entering on this intricate question, and it is not my theme on this occasion.

I cannot close these remarks on Chrysanthemums without mentioning that it is not with unmixed pleasure I always closely follow every Chrysanthemum event in England from beginning to end; it is interesting to search for new varieties, and very gratifying to see almost all those procured one year appearing again in most prize-winning stands the following season. But the pleasure is mixed. I am envious because I never saw a Chrysanthemum exhibition or an exhibition flower; we have not got exhibitions yet, and I do not think it would pay to grow such flowers here for the cut flower trade. "Don't speak about Chrysanthemums, then," I hear my more fortunate English colleagues exclaim. Still I, too, am glad to find many advocates of our mode of culture in England, and I always find great pleasure and profit in a house filled with hundreds of 3 to 5 feet plants in 6 to 8 inch pots, carrying some ten to twenty flowers, each measuring 3 to 5 inches in diameter, and in almost all the varieties that are to be found at your exhibitions. If I am surprised at anything concerning Chrysanthemum culture in England, it is the small number of varieties recommended for cutting purposes. I find that the varieties C. Davies, M. G. Grünerwald, Madame Ed. Rey, Col. W. B. Smith, Condor, Florence Davies, Gloire du Rocher, Jeanne Delaux, Marie Hoste, Miss Watson, William Seward, Vivian Morel, W. H. Lincoln, Bouquet des Dames, F. Marrouch, Madame C. Audiguier, Mrs. J. Wright, and other good exhibition sorts pay me as well as those so much recommended, and much better than do the incurved, pompon, and anemone classes. M. P. Andersen, Jönköping, Sweden.

OUR FRUIT TRADE.

THE Colonial and foreign fruit trade is growing into vast proportions, and in all fruiterers' shops, and in those of most respectable greengrocers also, at any time of the year may be found luscious fruits from lands far removed from this busy corner of the globe. No sooner is the Cape season over than in comes fruit from the Antipodes, from the Pacific borders, and sunny lauds and islands.

To-day good Oranges are being retailed in London streets at the rate of four a penny!—not dried-up rubbish, but toothsome spheres of sweetness. As to the Caps supplies, much has still to be learnt by those engaged in the trade. Some of the fruit sent to market are fine specimens, and reward the sender; most of the remainder ought never to have been placed here on sale. Good Grapes, Pears, Apples, &c., are certain to find a ready and profitable sale here, and just when they are wanted. The Australasian fruits now helping us to bridge over the term during which English Apples are practically non-existent, are in excellent condition, though they have to go to the wall in face of the grand collection of soft fruit now making beautiful the stands in every market, and in all retailers' shops. Of Tasmanian Apples, it is pleasant to be told by the highest authority that, "taking the season as a whole, the prices reached were very fair, and the

quality of the fruit was generally better than that of the previous season. The general condition of the fruit on landing was also better than usual." Year by year it may be noticed our friends at Hobart are themselves learning the lessons which experience teaches best. It is worth noting that the ship canal from the Mersey to Manchester is having some influence on the fruit trade of the district, and it is contended that the cost of distribution is lowered by carrying fruit direct to the wharf in Manchester. But be that as it may, all we have to notice is the fact that competition between Liverpool and Manchester must lead to enlarged supplies from all quarters of the globe, to the benefit of the consumers generally. In this connection it is interesting to observe that during the season just closing the North of England Fruit Brokers' Association has sold upwards of 220,000 packages, made up of fruits of all kinds, from all fruit-producing countries—there not being any kind of fruit imported into Liverpool which have not been seen at market in Manchester.

The great bulk of the trade done at Manchester has hitherto been in Valencia Oranges; but new fields of supply, we are told, are being formed in Italy, Sicily, Smyrna, Lisbon, and Seville; and efforts are now being made to procure trade in Canadian Apples; and so, after all, it may come to pass that all the year round we shall have a supply of fresh fruits from whence to draw comfort and health. E. C.

BELGIUM.

CHAMBRE SYNDICALE DES HORTICULTEURS BELGES.

THE last monthly meeting of this association was remarkable for the number and excellence of the exhibits. Certificates of Merit were awarded to M. Em. de Cock for *Anthurium Scherzerianum* var. *Adriani*, spathe sturdy, habit fine, colouring excellent; to M. L. De Smet-Davivier (*par acclamation*) for *Nerine Fothergilli*; the plant bore seven floral racemes, and was in a pot decorated with *Adiantum*. The effect was beautiful; the trusses of bright cinnamon-red flowers were very effective among a mass of pale *Odontoglossums*. A certificate was also awarded to M. Emile de Cock for *Griesebachia compacta* nana, very dwarf, sturdy and vigorous, very distinct; to MM. Alsberghe and Van Oost for twenty pots of tuberous *Begonias*, and 120 cut flowers of an excellent strain; the peduncles firm, flowers erect, and of colour as varied as distinct; to M. Bedinghans for *Agave Troubetzkoyana*, a fine example of a species' becoming very rare; to M. François Debois for *Spiraea Anthony Waterer*; to the same exhibitor and also to M. Dalliére for *Physalis Francheti*, both well known in England; also to the same exhibitor for *Aristolochia tricaudata*, a sturdy free-flowering plant, with very singular flowers and curious in colouring, especially remarkable for their very long tails. M. Debois also obtained a certificate for *Daphne Laureola atro-purpurea*, remarkable for the peculiar colouring of the leaves, which are dark purple merging into black; MM. Desbois and Pynaert obtained certificates for *Euphorbia Fournieri*, a plant which looks as if its pretty green leaves were growing on a Cactus; M. Szewczick with tuberous *Begonias*, cut flowers, in every way admirable. Other certificates were awarded to M. Jules Hye (*par acclamation*) for a *Cattleya Rex*, a splendid flower of this fine plant, and showing the value of the species; to the same exhibitor for *Lælio-Cattleya Proserpine* (*L. pumila* × *C. velutina*) also *par acclamation*; this fine Orchid resembles *C. velutina* in habit, and *C. pumila* in colouring; to M. Joseph Alaberge (*à l'unanimité*) for tuberous *Begonias*, last year's seedlings, vigorous, well-bloomed, the flowers erect and sturdy.

Certificates for good cultivation and flowering were allotted to M. L. De Smet-Davivier for *Adiantum macrophyllum albo-striatum*, a charming plant whereon the rosy-red of the young foliage is very effective among the adult fronds, which are streaked with white; to the same exhibitor for

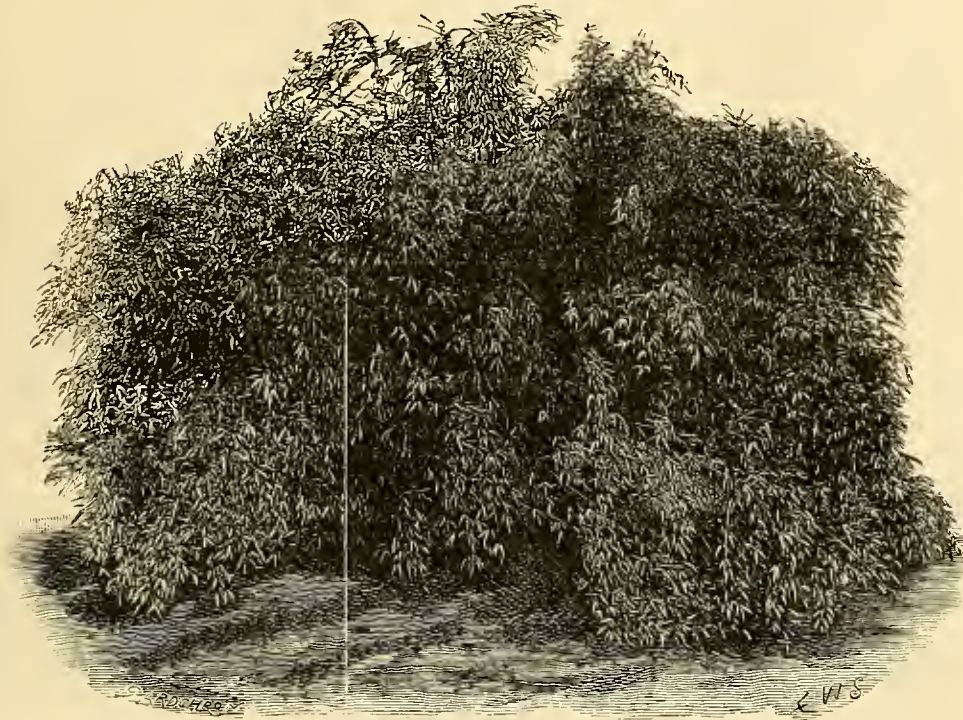


FIG. 35.—PHYLLOSTACHYS VIRIDI GLAUCCENS. (SEE P. 186.)

Aralia monstrosa, a fine specimen with twenty-five glossy and healthy leaves, certificate awarded à l'unanimité; to M. Kuyk (also à l'unanimité) for *Eurya latifolia variegata*, a specimen of considerable vigour, and very healthy. Certificates were also awarded as follows: to M. Ch. Spae for *Rondeletia speciosa*, growing in a fine truss about 18 inches across, and well covered with pretty flowers of bright-red colour, with orange centres; to M. Bedinghaus for *Sollya heterophylla*, a pretty globe-shaped plant covered with hundreds of small china-blue, bell-shaped flowers; to M. Wyckaert for *Lycaste Deppei*, a well-bloomed specimen; and to M. Szawezick for *Gesnerias perfecta rostrata alba* and *lutea* in pots, and bearing quantities of charming flowers, and also for *Selaginella Enmeliana*, a plant measuring more than 18 inches across, very well grown, and very healthy. Ch. De B.

SCOTLAND.

DISA GRANDIFLORA.

EDINBURGH.—Every year as the flowering season of these plants come round, we are reminded of the great beauty of these Cape Orchids, and the amount of admiration expressed at the first sight by the visitors, bears testimony to the popularity of this species when well grown. In a large number of establishments where collections of Orchids are grown this one is omitted, oftentimes on account of failure in its cultivation, the reason of failure being difficult to account for—different degrees of humidity of the atmosphere, water, and other causes being brought forward as causes. But even in districts where it is known to succeed well it is not by any means commonly seen, but restricted to a few establishments. Here it grows with little more attention than that given to ordinary greenhouse plants, among which they are grown. The compost used is about three parts of roughly-broken peat and one of good fibry loam, with lumps of sandstone and charcoal about the size of Walnuts to keep the soil from becoming sour, owing to the large quantities of water required. Pots are used for potting, our largest specimen being about 18 inches in diameter, and nearly a foot deep, to allow of a large amount of drainage. In this compost the growths are strong, and the foliage firm and large, the stems bearing in some cases five flowers, from 3½ to 4 inches across. The plants require but little rest, the succeeding year's growth generally appearing soon after they have finished flowering. Just now for convenience our specimens are occupying a place in the succulent-house, where they are staged upon a bed of sphagnum, and enjoy full exposure to the sun and air, and receive copious supplies of water. The colour of the flowers is dark, and the substance good. R. L. Harrow, Royal Botanic Garden, Edinburgh.

THE WEEK'S WORK.

THE HARDY FRUIT GARDEN.

By W. POPE, Gardener, Highclere Castle, Newbury.

PINCHING LATE GROWTHS ON FRUIT TREES.—The heavy rains have generally resulted in an abundance of lateral and sub-lateral growth on most of the fruit trees, especially on those which are lightly cropped with fruit. Such growths should be shortened back to one leaf, the exceptions being the shoots of 2 or 3 inches in length, which show a plump terminal bud, and these need not be shortened, as the bud will probably prove to be a bloom-bud; but where such shoots on wall or espalier-trees stand out farther from the base than is desirable, they must be removed with the rest.

APRICOTS, STOPPING, ETC.—Continue to stop the foreright shoots, and remove overgrown spurs, old and bare branches, where such can be spared, training in young wood thinly, so that perfect ripening is ensured.

PEACHES AND NECTARINES, PINCHING AND TRAINING.—Any gross foreright shoots on these trees should be removed, all sub-lateral growths shortened back to one leaf, and any shoots which are likely to make too vigorous and long a growth may have the points removed. Train in the young shoots thinly, and take care to allow the fruits full



FIG. 33.—PHYLLOSTACHYS QUILLOI. (SEE P. 186.)

exposure to light and air by fastening back or removing any of the obstructive leaves and shoots. The best remedy for a too luxuriant growth is lifting the trees in the early autumn months before the leaves begin to fall; this, if carefully carried out, will not fail to hasten the ripening of the wood, and other conditions being favorable, ensure a crop of fruit the following season. Where these kinds of fruit trees are grown in dry situations or under broad glass copings, good waterings at the root must be afforded as required, frequently syringing the trees to keep red-spider in check.

CHERRIES ON WALLS, AND PYRAMIDS.—Cherries making a secondary growth must be kept closely stopped, such foreright and surplus shoots as may have been allowed to grow, being now shortened to three or four leaves. If the black aphid be remarked, dress the trees with quassia solution or other good insecticide without delay. See that all shoots for extending the trees are fastened securely, using as few ties for the purpose as are consistent with safety. Trees on walls that are healthy and strong and yet refuse to set a crop of fruit although flowering profusely, should have a good dressing of chalk or old mortar rubbish worked into the surface soil and about the roots early in the autumn, and in the spring when in flower. Afford them a thorough watering followed by a mulch. Pyramids and bushes that are making a lot of strong wood should be lifted early in September, and the check thus given them will be almost sure to result in speedy fruitfulness.

BUSH OR PYRAMID APPLES.—Pyramid and bush trees should be gone over, and surplus growth shortened to three or four leaves, taking note of varieties that fruit at the points of the shoots, namely, Cornish Gilliflower, Irish Peach, &c., which only need the removal of long, gross, or crowded shoots. Where summer pruning has been carried out, new growth will be again pushing, and this should be pinched back to one leaf. Take advantage of fruit on unnamed or wrongly-named trees to determine the variety, and label such securely.

THE FLOWER GARDEN.

By BAILEY WADDS, *Gardener, Birdsall Gardens, York.*

HUMEA ELEGANS.—Plants from seed sown in May or June will now be large enough to prick off into small pots filled with light, rich, loamy soil. After watering them, place them in a cool, shaded pit or house till well established, and afterwards afford them abundance of light and air, and a further shift into 6-inch pots in late September.

THE FLOWER BEDS will need constant attention in the matter of tidiness, and where the plants are too much crowded it will do them good to thin out the shoots somewhat, so as to admit the air amongst them, favouring the ripening of the wood and preventing loss of leaf. The flowers should be removed from *Cerastium tomentosum*; young edgings that are to remain for the winter should be pegged down closely.

VASES AND BASKETS.—Plants in vases and baskets should have daily attention, so as to keep the plants in a presentable condition. Do not rely on the rainfall for moistening the soil in these receptacles, as it has very little effect, the dense foliage throwing much of it off the soil. Afford the vases one or two thorough waterings in a week, according to the state of the weather. If the soil is very firm and hard, it should be probed with a pointed stick or piece of iron.

ANNUAL SUNFLOWERS should be staked before they get blown over. A very effective bed of flowers we have seen this season consisted of tall single and double Sunflowers sown in rows about 2 feet apart, then tall double and single annual Poppies sown broadcast over the bed with Shirley Poppies and various-coloured *Nasturtiums* round the edge.

VIOLETS.—In dry localities and light soils, Violets have suffered much from the ravages of red-spider, and it will be advisable to remove the leaves that are the most infested, and to syringe the plants frequently with clean water. top-dress the beds with some rich soil, and afford weak liquid manure once a week. Where Violets are planted on a border on the north side of a wall they are healthy and strong, and the varieties New York and Marie Louise are flowering freely. Some gardeners cut off the runners of Violets, but I let them remain, and ours are pulled to pieces in the spring, and they are not trimmed afterwards whether grown for flowering in the winter in frames or outside.

PINKS AND CARNATIONS that were struck in July will now be ready for potting or planting in

beds, and the sooner this is done after they are rooted the better will be the results, there then being ample time for them to get established before the winter begins. For wintering Carnations and Pinks, a 3-inch pot is large enough. In potting, put a few crocks only in the bottom, and a bit of fertilising moss at the bottom over them, and as a potting soil use turfy loam. Place the plants in a frame, and shade from bright sunshine for one week. When planted out, Carnations should have deeply dug well-manured ground. Pinks may be planted at 12 inches apart in beds of four rows each; Carnations at 15 or 18 inches.

CHRYSANTHEMUMS.—Beds of Madame Des-granges and other early autumn-flowering varieties should have liquid manure liberally afforded, and if the plants in the beds do not make a close mass, the plants that are at the sides and therefore exposed to the wind, should be secured to stakes. Much staking is not required, as they look better when growing unrestrained. Large-flowering varieties planted against walls or fences, should have the lateral shoot removed and the buds selected as soon as it is possible to do so. The securing of these to the fence, &c., should have careful attention, as the shoots are readily broken by the wind. It is a mistake to tie the shoots close up to the point, it being better to leave 6 or 8 inches from the end loose.

THE KITCHEN GARDEN

By JOHN LAMBERT, *Gardener, Powis Castle, Welshpool.*

CELERY.—In most places the earliest and first planted Celery will be fit for being earthed up. The plants should first have all the shortest outside leaves pulled off, and this operation will reveal the hitherto concealed shoots round the stalk, which should also be removed. Having done this, gather up the leaf-stalks firmly and put a bast tie round them; afford a light dressing of salt and dry soot, and if the weather is dry a good watering, and wait till the plants are quite dry outside before earthing them up. A small earthing-up will suffice on this occasion.

POTATOS.—Early varieties generally will be the better for being lifted, including those which have been planted for furnishing planting sets. Change of land is always good for the Potato; and where moderate quantities of sets are purchased, it is generally found necessary the first year to grow them entirely for sets. Potatoes intended for sets should be carefully dug up, not bruised in any way, and thoroughly dried before they are stored. Before storing lay them thinly in an open shed exposed to the sun. The Potato store should be cool and dry, and quite frost-proof.

TOMATOS.—The moist weather will have caused much growth of shoots, which must be entirely removed, and the leaders stopped, the time being not any too long for the ripening of all the fruits now set. It will be as well, in the case of a very robust foliage, to cut it in half, so as to expose the fruit to the sun. This kind of lightening of the leaf-growth should be cautiously carried out, or the plants will be injured and greatly checked. I do not remember to have seen Tomatoes looking more promising than this year. Water at the roots will not be required unless it be by those which are growing in pots plunged in the ground. Keep those well secured to stakes that are growing in the open quarter.

PARSLEY.—Continue to transplant any young seedlings that are large enough to handle, and make another sowing. Let the lines be well thinned out, an operation that is often neglected. Where cold pits can be spared, Parsley may be pricked out, or Parsley-seed sown in them.

FRUITS UNDER GLASS.

By RICHARD PARKER, *Gardener, Goodwood, Chichester.*

THE POTTING OF STRAWBERRY PLANTS.—The potting of the plants required for forcing should be done without delay, and the removal of those which have been standing in a shady place since they were potted should be attended to, standing them on a coal-ash bottom in a part of the garden that has exposure to the sun all day long. This is a matter of importance, as by their remaining in the shade the pots might become water-logged. If the space at command is not sufficient to allow of the pots being stood on a floor of coal-ashes, they may be arranged in a double or single row at the sides of the garden paths, if precaution be taken to place

slates or boards for the pots to stand upon. Always afford plenty of room between the plants, so that the foliage may be properly developed. Strawberry plants should not be potted directly after heavy rain, as the soil in the pots is then in a saturated condition, and the ramming which is necessary would turn it into a kind of puddle, which when once it is dry might prevent the water passing freely through it afterwards. Neither should the potting-soil be too moist, or the result will be the same. If, when water is afforded, it does not pass quickly through the soil of any of the recently-potted plants, always turn the plants out of the pots, and replace them less firmly.

POT VINES.—If the Vines have been gradually hardened off by affording them plenty of air, they will now be in a condition for standing out-of-doors in a sunny and sheltered position, to thoroughly mature. The pots containing the Vines should be elevated on other pots or on brickbats, &c., and only enough water should be afforded them to keep the soil fairly moist. Grape-vines that were planted early in the year, and which bore fruit in May, should have the shoots shortened to three or four of the principal leaves, in order that the buds may be matured by sunlight and heat. The border must not be allowed to become dry, as the roots of these Vines are still in an active condition, and sustenance is very necessary in the later stages of growth.

MID SEASON VINES.—When the crop is consumed, all superfluous shoots should be removed as with pot-vines, so as to give the principal leaves full exposure. Outside borders that were heavily mulched during the hot weather, will be benefited by removing some of the mulch, and lightly digging the remainder into the border. Be careful not to touch the job if the border is in a wet state from recent rain.

PLANTS UNDER GLASS.

By W. H. SMITH, *Gardener, West Dean Park, Chichester.*

WINTER-FLOWERING BEGONIAS.—These various species will require liberal watering at the roots, and occasional applications of liquid manure, most of them being benefited thereby whilst making growth. If the late-struck Begonias are allowed to remain in the large 60's they were potted into at first, they will make plants of good size, very useful for furnishing the dining-table or filling small vases. For the decoration of rooms there is nothing which surpasses *B. Gloire de Sceaux* and *Gloire de Lorraine*. I have had them indoors for six weeks at a time, and the plants flowered nearly as well in the rooms as in the stove.

DOUBLE-FLOWERING BEGONIAS.—These plants are easily propagated at this season if short flowerless shoots be selected. These should have the bottom leaves cut off, the shoots being cut square across at a joint. Insert them in numbers from five to six in large 60-pots in light sandy soil; place under hand-lights, and they will soon make tubers. The tubers should be allowed to remain in the pots till the spring. A light dewing should be afforded the cuttings on sunny days.

CELOSIAS should be potted on at once, affording moderate shifts; stand the plants in a light position in the stove, and syringe them frequently. When the pots are filled with roots, remove them to a cooler and drier place.

VIOLETS FOR GROWING IN FRAMES.—These plants should be kept clean and the land stirred regularly with the hoe, affording them a top-dressing of dry fresh soot. Remove runners as soon as noticed, and should the plants become infested with red-spider, as they will in light land, thoroughly clean them by syringing with soap-suds containing about 2 oz. of flowers-of-sulphur to the gallon. This should be done on two or three nights in succession, taking care to get beneath the leaves with the syringe.

BOUVARDIAS.—Those which are planted out will require but little attention except in the matter of stopping the growth of the shoots and loosing the ground occasionally. Bouvardias cultivated in pots will require attention in regard to re-potting. Keep this section close in cold frames after re-potting until again well-rooted, when the lights may be withdrawn. Bouvardias in pots should be syringed twice a day, and have the shoots regularly stopped until about six weeks before they are required to flower.

BERRIED SOLANUMS IN POTS will require a weak stimulant to growth now that the berries are growing apace, for this purpose Clay's Fertiliser sprinkled over the surface of the soil is as good a manure as can be used.

THE ORCHID HOUSES.

By W. H. WHITE, Orchid Grower, Burford, Dorking.

MILTONIA VEXILLARIA.—Plants of this charming species will now be found in a sufficiently advanced state of growth to admit of their being repotted; but before this operation is begun, it will be advisable to make sure that the plants are free from the little yellow thrips which conceal themselves right down in the interior of the young growths. It is not easy to eradicate them with a brush or sponge, and being so minute many of them escape detection, and much mischief is done before they are detected. The best method of destroying these insects, and one that takes up the least amount of time, is to dip or wash the growths in some safe insecticide, and afterwards rinse them in tepid soft water. For this purpose I use nicotine-soap, at the rate of 2 oz. to 1 gall. of warm water; or, in a mixture, the new XL All liquid insecticide, both of which are effective destroyers. After using either preparation I would advise careful shading for a few days. *M. vexillaria* is a plant that forms numerous fibrous roots, which push their way just over and under the surface of the compost; and the plant should, therefore, have larger space afforded for the roots to ramble in than is generally allowed. The pots or pans should be filled to about three quarters of their depth with clean crocks, upon which should be placed a layer of sphagnum-moss; the plants should be well elevated above the rim of the pots, &c., as by so doing a greater amount of surface is afforded the roots to ramble in. Carefully spread the old living roots over the drainage, and work in amongst them a compost consisting of clean sphagnum-moss with a small quantity of fibrous peat, and a fair sprinkling of crocks broken small. Unhealthy plants and those having but few roots should have all the decayed parts removed, and be thoroughly cleaned in every part, and repotted into pots or pans much smaller than those they have hitherto occupied. After repotting the plants, afford water very sparingly, and use a fine rose watering-can when applying it, just enough being given to entice the sphagnum-moss to grow. When the new growths commence to freely make roots, and they lay hold of the sides of the pot, water may be gradually increased in quantity. The temperature of the cool-house will suit them until the nights become chilly, when they should be removed to the intermediate-house, choosing a position in it where air is freely admitted at all times. The late summer-flowering varieties, *M. v. rubella* and *M. v. superba*, are in some collections in full bloom, or they are just passing that stage; these will not require potting before the beginning of September, and for the present they should be kept with the older species in the Odontoglossum-house. The beautiful and distinct hybrid *M. Bleuiana* and its variety *nobilior*, which was obtained by crossing *M. vexillaria* and *M. Roezlii*, is now in full growth. It succeeds best throughout the year in the intermediate-house, where abundant light without sun can be afforded.

THE COOL-HOUSE.—There are several plants in this division which will require to be repotted or surfaced, the more important being the varieties of *Maxillarias*, which are amongst the most easily cultivated of Orchids, succeeding well with the Andean *Odontoglossums* at all seasons. Such species as *M. Sanderiana*, *M. Amesiana*, and *M. venusta*, should be grown in teak-wood baskets, as the flowers frequently appear in a downward direction. *Maxillaria Turneri*, *M. fuscata*, *M. grandiflora*, *M. Lehmannii*, *M. lepidota*, *M. tennifolia*, *M. luteo-alba*, and *M. picta* grow well in an ordinary flower-pot or shallow pan, and they should be firmly potted in a compost consisting of three parts of sphagnum-moss to one of peat, mixed with a moderate quantity of small crock-sherds. Plants of the new *Cochlioda Noetzliana*, *Mesospidium sanguineum*, *M. vulcanicum*, and many small-growing species of *Oncidiums*, may also be repotted as soon as growth re-commences. A charming plant now in bloom is the bright orange-scarlet *Laelia monophylla*. The plant does best when hung up to the roof in a damp shaded part of the intermediate-house. After the flowers fade, place the plants in the cool-house to remain there till cold weather sets in, when they must be returned to their former place. Unlike the majority of *Laelias*, this *L. monophylla* should be kept fairly moist at the root at all times. To those who are fortunate to have this *Laelia* in bloom I would advise them to utilize, if possible, the pollen of each flower for hybridising purposes, as no doubt something distinct as regards colour may be obtained from it, which would form a welcome addition to our collections.



FIG. 37.—PHYLLOSTACHYS NIGRA. (SEE P. 186.)



FIG. 38.—ARUNDINARIA JAPONICA = DAMDUSA METAKE OF GARDENS. (SEE P. 186.)

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Letters for Publication.—All communications intended for publication, as well as specimens and plants for naming, should be addressed to the Editor, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.

APPOINTMENTS FOR THE ENSUING WEEK.

SHOWS.

MONDAY,	AUG. 19	{ Felling Floral and Horticultura (two days).
		{ Shropshire Horticultural, Shrewsbury (two days).
WEDNESDAY,	AUG. 21	{ Kingswood St. George and West Gloucestershire Horticultural. Trowbridge Horticultural.
THURSDAY,	AUG. 22	{ Aberdeen Royal Horticultura (three days).
FRIDAY,	AUG. 23	{ National Co-operative, at the Crystal Palace.

SALES.

MONDAY,	AUG. 19	{ First Special Trade Sale of 2500 lots of Dutch Bulbs, at Protheroe & Morris' Rooms.
THURSDAY,	AUG. 22	{ Second Special Trade Sale of 2500 lots of Dutch Bulbs, at Protheroe & Morris' Rooms.
FRIDAY,	AUG. 23	{ Orchids, from Messrs. F. Sander & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—61°.5.

IN regard to this subject, we have been favoured with the following communication from the Director of the Royal Gardens, Kew:—"I do not propose to pursue this subject any further. My conclusions, and the grounds upon which they are based, are sufficiently stated elsewhere, and those who are interested in the subject may attach what weight to them they think proper. It was never, as far as I am concerned, more than a detail in a general argument.

"There are, however, two points in the article published in your columns for July 27, upon which I should like to make some remark.

"1. It is stated that it was 'a matter of current opinion,' [at that particular time], that the *Cineraria cruenta* cultivated at Kew 'was the wild original of the garden *Cineraria*.' I do not think that this is the case. The 'current opinion,' as far as I know, was that of the late Mr. THOMAS MOORE, who regarded the garden *Cineraria* as of hybrid origin, a view which I myself communicated, on his authority, to Mr. DARWIN. I re-introduced the wild plant from the Canaries, and it was the observation of the fact that, flowers apart, there was no material morphological difference between the wild and the cultivated plant, which led the Kew staff not to re-ventilate the current opinion but to revise it.

"2. No practical horticulturist would deny the possibility of raising hybrids between *Cineraria cruenta* and other species. We know something about hybrids at Kew, and do not engage in experiments without a definite object in view. The occurrence of actual hybrids of *Cineraria* has nothing to do with the matter. If the garden *Cineraria* is of hybrid origin, the problem to be faced is how is the elimination of all trace of any

but *Cineraria cruenta* parentage from the vegetative organs to be accounted for? Our solution has the merit of simplicity—there was no other parent.

"It is stated in the article that 'seedling plants of *Cineraria cruenta* differ markedly in appearance from those of a garden *Cineraria*.' It would be interesting to see a record of accurate observations of this. *W. T. Thiselton Dyer*."

Hardy
Bamboos.

MR. FREEMAN MITFORD's paper at the Royal Horticultural Society on Tuesday last proved one of the best and most interesting lectures that have been read before the Society. He had a grand subject and a novel one, and he handled it with the ease and knowledge begotten of enthusiasm and experience. It was by no means a compilation or a paper "made to order" or to fit an occasion. It is a matter for regret that it was not illustrated, either by specimens or by drawings. The Society, as too frequently happens in such cases, missed an opportunity. Nevertheless, when Mr. FREEMAN MITFORD's paper comes to be read in full in the *Journal* of the Society, there is no doubt it will give a great impetus to the culture of these graceful and singular plants, and the Bamboo-garden at Kew already furnishes an excellent object-lesson open to the community at large.

We are apt to associate Bamboos with something 'tropical, and dimensions too gigantic for an ordinary English garden. Mr. MITFORD's paper will do much to correct this imperfect judgment. Big Bamboos there are, and many of them far too gigantic and much too tender ever to find a place in British gardens, but Mr. MITFORD gave a list of between forty and fifty species and varieties, all of which are of suitable size, some dwarf, and adapted for carpeting the ground beneath trees, and all more or less hardy. Indeed, after a winter which has in many parts of our islands destroyed even the common Gorse, Mr. MITFORD is able to say that not one of the species entirely failed. Nothing worse than a severe check has occurred, a check resulting in the formation of a sheaf of small canes, but richly provided with luxuriant foliage.

Mr. MITFORD gave some excellent advice as to the necessity for not planting out the Bamboos till they have recovered from the effects of their removal from their native countries or gardens where they have been grown. When received, the roots should be soaked in water for twelve hours, and then potted. They should then be placed in a cool-house, and but little water given at first. In February the buds begin to swell, in March the leaves appear. Water should then be afforded freely. In May the pot-plants may be hardened off, and at the end of the month they may be planted out in their permanent quarters, which should be duly sheltered from their deadly enemy—wind. In handling the plants the greatest care should be taken not to injure the roots, nor the points of the shoots, which are very brittle. They should not be trodden in, but the roots well watered-in so as to enable them to get firm hold of the soil without risk of breakage. The soil should previously have been well double-dug. By preference it should be a rich loam, and the plants mulched with cow-manure. Wire netting may be provided to ward off the attacks of rabbits or pheasants. A little fern or bracken thrown over the stools in winter might be advisable. We need not follow Mr. MITFORD in his enumeration of the species, but refer the reader to Mr. BEAN's classification of hardy Bamboos, given in our volume

for 1894 (March), where the species cultivated at Kew and elsewhere are enumerated and described, with illustrative cuts, some of which we now reproduce as opportune to the occasion. *Arundinaria nitida*, fig. 33, one of the loveliest and hardiest, to quote Mr. MITFORD, was formerly called *A. khasyana*, under the erroneous impression that it was a native of the Khasya mountains, a hot steamy region not likely to afford many plants hardy enough to withstand our climate. The species, it appears, is really a native of the Chinese province of Szehuen, a very different climatal region.

This instance, among many more, shows the great advantage that accrues from the association of Botanical research and practical cultivation. The culture of those plants, as in the case of Orchids, will lead to an immense advance in our knowledge of the plants, and to the gradual establishment of a correct nomenclature, and at the same time the information gleaned as to the native countries of the plants will afford most useful hints to the cultivator.

Incidentally, we may mention a curious correlation alluded to, with becoming caution, by Mr. MITFORD, and that is the circumstance that all, or almost all, the species known to be hardy have the smaller veins in the leaves arranged in small but conspicuous squares, the venation being, as it is called, tessellate. Mr. MITFORD's paper was instructive and suggestive to a high degree, but as it will doubtless be printed in full in the *Journal* of the Society, we need now only counsel those of our readers interested in the subject to look forward to a future issue of the *Journal*. In the meanwhile we may refer them to Mr. BEAN's *Monograph* already alluded to, and to Mr. MITFORD's own communications to the *Garden*, and to our own columns.

At the conclusion of the lecture, some remarks were made by the chairman, Sir ALEXANDER ARBUTHNOT, and by Sir JOHN LLEWELYN. DR. MASTERS mentioned that *A. japonica*, better known as *B. Metake*, Hort., thrives well in one of the densest and most insalubrious London suburbs, and even under the shade of some old Lime trees, where little or nothing can be induced to grow.

MR BARRON'S RETIREMENT.—We are requested to give publicity to the following communication:—"In connection with the retirement of Mr. A. F. BARRON from his office of Superintendent of the Royal Horticultural Society's gardens at Chiswick, we understand that the Council have resolved to make him an allowance which is practically a retiring pension of £180 a year. *J. W.*"

GARDENERS' ROYAL BENEVOLENT INSTITUTION.—On Wednesday last, through the kindness of A. MORDAN, Esq., a garden party was held in the grounds of Stone House, Reigate, for the benefit of the Gardeners' Royal Benevolent Institution. The weather being exceedingly fine, the grounds were visited by over 1000 persons. Amongst those present were Lady Jennings and party, Mrs. Simpson and family, the Misses Baxter, Mr. and Mrs. Mordan, Mrs. Lawder Eaton, Miss Mordan, Mr. R. E. West, Mr. Davidson, &c. In the evening, the grounds were beautifully lighted by fairy lamps and Chinese lanterns, especially the verandah, which was very effectively illuminated. The whole of the grounds and greenhouses were thrown open for the inspection of the visitors, many of whom were heard to remark on the admirable way in which the grounds were kept by the head gardener (Mr. G. Steer), who, it should be mentioned, ably carried out the general arrangements for the gathering. Dancing was carried on in the evening with much vigour. By this effort, the funds of the Institution will be benefited by more than £12.

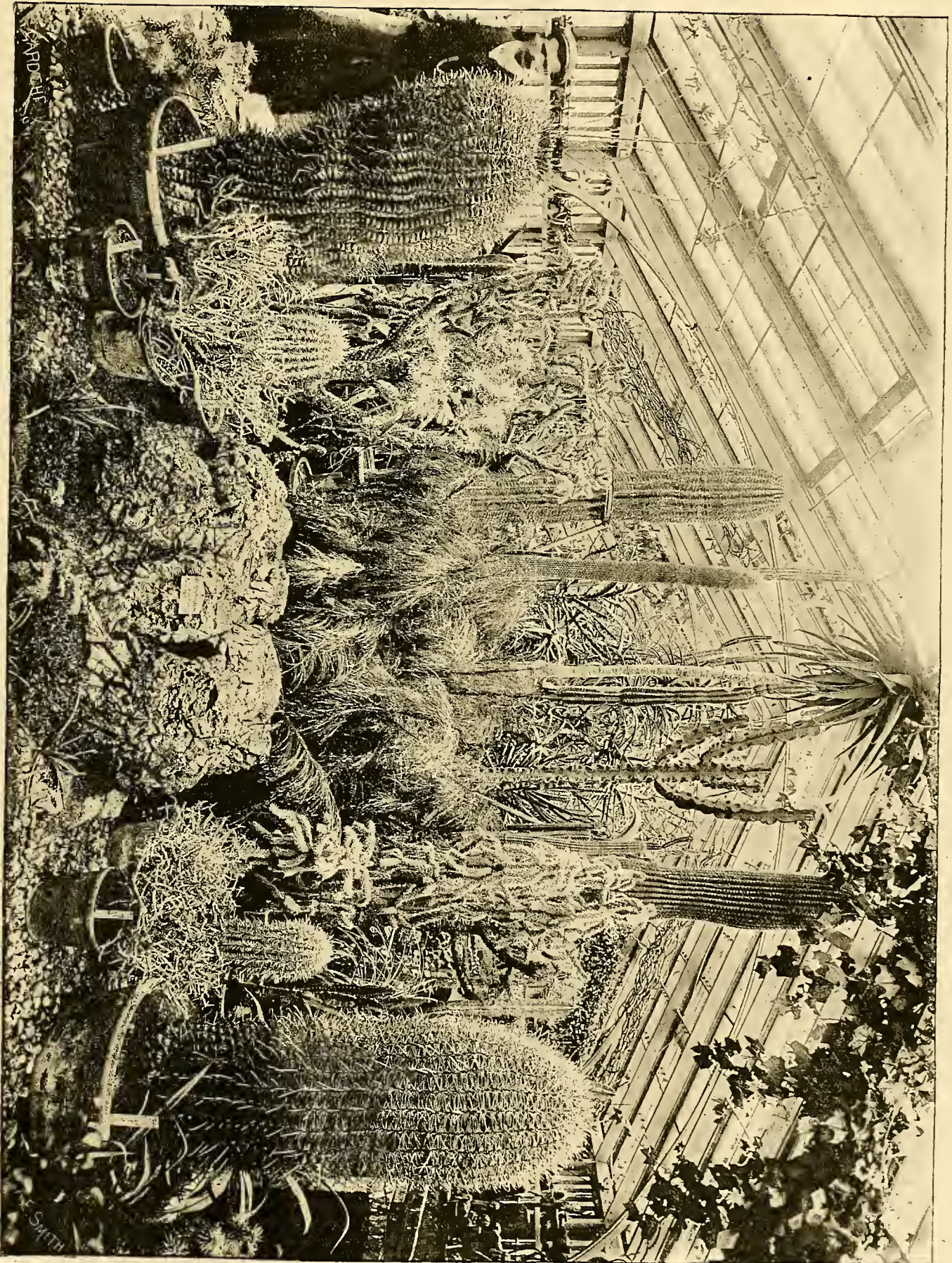


FIG. 39.—A VIEW IN THE SUCCULENT-HOUSE AT KEW. (SEE P. 190.)

ARUNDINARIA SIMONI.—Mr. PRINWILL, of Probus, obligingly sends us flowers of the variegated form of this species. *A. Fortunei* is also in bloom in his garden.

A NURSERYMAN AS J.P.—Mr. GARRIES MITCHELL, nurseryman, Stranraer, has been appointed a J.P. for the county of Wigtonshire. He has acted as chairman of the parochial board for twenty-five years, chairman of the School Board of the Burgh, chairman of the governors of the High School, and chairman of the Parish Council. For forty years he has conducted an extensive wholesale and retail nursery business, and may be said to be the father of the nursery trade in Scotland. During a busy life Mr. MITCHELL has collected one of, if not quite the largest, libraries in the south of Scotland. The finest editions and copies of history, poetry, science, politics, and general literature, ancient and modern, many rare and curious works, numerous collections of beautifully illustrated and rare works of the finest specimens of the best artists, only to be found in a few hands.

MISSOURI BOTANICAL GARDEN—A copy of the sixth Annual Report has reached us. The garden, it will be remembered, was founded at St. Louis, in accordance with the will of the late Mr. SHAW, a merchant of English extraction, and the friend of ENGELMANN, ASA GRAY, and other botanists of his time. Prof. TRELEASE is now the Director. Among other regulations is one for the tuition and training of garden pupils. Two have completed their curriculum of four years, and received appointments as Curators of Botanic Gardens. The subjects taught have all direct reference to gardening, and are taught practically. The whole of the first year is devoted to manual labour, and half of each day through the remainder of the course. The scientific papers in the present volume include monographs or essays on *N. American Sagittarias* by J. G. SMITH; on *Leitneria floribunda*, by Dr. TRELEASE; on the dissemination of *Yucca*, by H. J. WEBBER; on the Mound flora of Atchison County, Missouri, &c.

EXPERIMENTAL PLANT PHYSIOLOGY.—Mr. D. T. MACDOUGAL has translated the little manual of Physiology prepared by Dr. WALLER OELS. It consists of directions for the performance by the pupil of more than a hundred experiments by means of which the principal phenomena of nutrition, geotropism, growth, movements, pollination, &c., are illustrated. The pupil is not merely to sit and take notes of a lecture, nor to read a book, but to work out for himself as far as circumstances permit the details of physiology. Such a course of training would be of immense value to young gardeners, and in these days of county laboratories is not altogether unattainable. Lecturers will find this little volume very useful. It may be had from MORRIS & WILSON, Minneapolis, or from WILLIAMS & NORGATE, Henrietta Street, Covent Garden, W.C.

"PETIT ATLAS DE POCHE DES CHAMPIGNONS COMESTIBLES ET VÉNÉNEUX" (*Etatle and Poisonous Fungi*), par PAUL DUMÉRIE (Paris, Librairie des Sciences Naturelles, PAUL KLINCKESIECK, 52, Rue des Écoles). This little hand or pocket volume is the third of a series devoted to natural history, and intended to accompany a collector in his walks as well as to be useful for reference in the study. The book before us contains descriptions by which many of the commoner fungi may be recognised one from the other. Some brief information concerning microbes and microscopic fungi which are more or less intimately connected with certain diseases, are also mentioned. There are thirty-six coloured figures of fungi included in this work, contributed by M. HENRI GILLET. The section relating to the micro-fungi is too brief to be of much service. The other portions of the volume may be commended to the notice of beginners. The figures are good, but contain no details concerning the spores.

FLOWERS IN SEASON.—We have received from the nursery of Messrs. LAING & MATHER numerous flowers of varieties of the Carnation, cut from plants

in the open ground, which are everything that those who admire this fragrant flower could wish, although that not easily pleased person, the Carnation fancier, would, we imagine, not think they were all up to show form. Of especial good quality were Dundas, scarlet; Mrs. Reynolds Hole, orange-fawn; Uriah Pike, dark carnation-red; William Wood, deep rose; Ketton Rose, and Duchess of Eife, old rose-pink in both cases; and Paul Engelheart.

PROPOSED PARK FOR HAMPSTEAD.—We learn from the *Journal of Horticulture* that a movement has been started by a number of influential residents in Hampstead to secure the estate of the late General FRASER as a park and recreation ground. The proposed park is situated by Finchley Road and West End Lane, and has an area of 13 acres. The grounds are finely laid out, and abound with flower-beds and winding paths.

THE TOMATO TRADE.—According to the *West Kent Advertiser* of July 27, Mr. JOHN WOOD, of Crockenhill, has been sending away nightly to the London and northern markets between 300 and 400 pecks of the finest kinds of Tomatoes.

STOCK-TAKING: JULY.—The holiday last week interfered with the publication of the Trade and Navigation Returns for the past month, so as to prevent the issue of our summary until to-day. The following is our usual excerpt from the "summary" table of Imports for the month of July:—

IMPORTS.	1894.	1895.	Difference.
	£	£	£
Total value of imports	31,835,553	35,128,142	+3,292,589
(A.) Articles of food and drink—duty free	12,267,448	13,050,232	+782,814
(B.) Articles of food and drink—dutiable	2,022,190	1,965,093	-57,097
Raw materials for textile manufactures	2,772,042	3,530,191	+758,149
Raw materials for sundry industries and manufactures ...	4,063,668	4,829,385	+765,717
(A.) Miscellaneous articles	1,076,218	1,103,739	+27,521
(B.) Parcel Post	49,602	79,661	+30,062

This shows a satisfactory state of things, as compared with last year, though it should not be forgotten that there was one more working day in the past month than in the same term last year. Animals, food and drink, textile materials, timber, ores of copper, &c., all show an increase—Wheat being in excess by over three-quarters of a million sterling. Russia showing a heavy increase, and America a heavy decrease, but sending an increased supply of Cotton. "Manufactured articles" are an increased quantity, chiefly in silk and cotton goods. Altogether, with a total import of £35,128,142 there is shown a gain of £3,292,589—or rather better than 10 per cent. The annexed figures as to the imports of fruits, &c., are, as usual, very interesting:—

IMPORTS.	1894.	1895.	Difference.
	£	£	£
Fruits, raw:—			
Apples bush.	55,362	57,988	+2,606
Cherries "	99,917	66,047	-33,870
Plums "	165,134	59,040	-106,094
Pears "	154,082	33,903	-117,178
Grapes "	6,500	45,238	+38,738
Unenumerated "	301,771	342,194	+40,423
Onions "	283,283	367,942	+84,656
Potatoes cwt.	570,773	593,382	+23,109
Vegetables, raw, unenumerated value	156,172	204,059	+47,887

These figures and the record as to imports convince us that time and circumstance are not inopportune in which to recall attention to the matter of light railways as eminently suited to the requirements of market gardeners and others. When railway charges were exciting so much attention in this column, we draw attention to the advisability of making cheap lines of communication between field, orchard, and

markets, extending the area over which the producer could spread his wares—to his own profit as well as to that of the consumer. It would appear that our Consular and other officials on the Continent were solicited by the commercial directorate of the Board of Trade to furnish such details as they could lay hands on bearing upon the subject; this was done, and the resulting reports were handed to the committee inquiring into the causes of the depression in agriculture. Now that the committee have overhauled the supply of information, the reports have been published, and we now learn that in the little kingdom of Belgium there are seventy-five lines, extending over 836 miles, six belonging to private companies, the remainder to the National Society of Local Railways. It is interesting to learn that their dividends have been steadily increasing. Agricultural products have benefited by the establishment of these lines of communication, the most remarkable feature being the culture of Beetroot, which has received a very noticeable impetus; and has in its turn given rise to the establishment of many sugar factories. In Prussia the light railways are thirty-seven in number, extending to some 480 miles; the German Government says of them that in general they appear to be well adapted to the development and improvement of agriculture, forestry, and their accessories, particularly to opening up new markets, and facilitating the carriage to and fro of manure and raw produce over a considerable area of country. Surely, enough has been given here to prove the case for the subject under notice. In the matter of

EXPORTS.

An excellent report has to be made; not in any article has a decrease to be noted—the column is a blank! In the month of July the exports footed up £20,559,486, being an increase of £2,160,950 over July, 1894. More than that, there is an increase to note in the seven months' comparison of £1,394,991. Nearly £800,000 of the month's increase is due to American business alone; and if the currency difficulties over there can be settled, there is no reason why a return of confidence all over the Union should not still further swell the tide of trade enterprise. There is no necessity to specify increases with an all-round rise, and there can be little doubt that home trade generally will expand, and hundreds of thousands be qualified to judge of the purchasing powers of money!

"JOURNAL OF THE KEW GUILD."—We have already alluded to the recent publication of the number for May, 1895, and may now give some indication of its contents. It opens with a portrait and brief memoir of Sir WILLIAM HOOKER, the first Director. What he did, how great was his courtesy, and how potent his aid to young gardeners and students, is held in grateful remembrance by the older generation, and it is well that the new comers should be made acquainted with the facts also. The main purpose of the guild, that of linking the Kew gardeners of the past with those of the present, seems to have been well accomplished, and no doubt the circulation of the present number will still further promote that co-operation and good fellowship which are so desirable. The items of Kew news have mostly been published already in the gardening papers, but it is very useful to have them collected in so convenient a form. The notes from far off members in all quarters of the globe are most interesting, and constitute a feature which we would fain hope may be much extended. Some notices of old Kewites who have passed away will be of interest to many who still hold their memory dear. There are some omissions which will probably be made good in subsequent issues. The list of old Kew men will prove very serviceable. We congratulate the promoters on the progress of the guild, and most heartily wish it all attainable success.

CATTLEYA MOSSIÆ, LINDEN'S CHAMPION.—We owe to the kindness of M. LUCIEN LINDEN the receipt of a fine illustration of a beautiful form of *C. labiata* var. *Mossiae*, called Linden's Champion. The bold undulate petals, the lip with a crimson

blotch edged with a white frill, and the throat streaked with gold and purple, confer an air of great distinction on this plant. It is one of many varieties, more than forty of which have been deemed worthy of being separately named.

THE BRITISH PTERIDOLOGICAL SOCIETY.—The annual meeting of this Society took place at Kendal,

them a splendid confluent form of *Lastrea montana* found by Mr. WHITWELL, which under successful culture had far surpassed the expectations of its discoverer, since when found it was merely caudate. A paper on "Fern Reproduction," by Mr. CHARLES T. DREYER, F.L.S., formed the basis of an animated discussion, dealing as it did with all the latest discoveries in this direction, some of which were quite new to the

On the Tuesday, as usual, a Fern-hunting expedition was organised to Clawthorpe Fells, where Mr. WHITWELL, the keen-eyed secretary, discovered a batch of attenuate *Lastrea montana* on the limestone formation, thus not merely bagging a good thing, but at the same time exploding the generally accepted theory that this species abhors lime, a fallacy the writer also discovered last year on the limestone at Carnforth, where the species grows abundantly and rankly in the very pockets of the outcrop.

CORNELL UNIVERSITY.—The following is the programme of the course of Horticulture given at this University:—

1. *Evolution of Cultivated Plants.*—Fall, i.e., autumn. Three days a week. A discussion of the current hypotheses of organic evolution as applied to the modification of plants, particularly of those in cultivation. Open to students in all courses who have taken courses 1 and 2 in Botany. Lectures. Professor BAILEY.

[2. *Landscape Gardening.*—Fall. Two days a week. A consideration of the principles of æsthetics as applied to natural scenery, with a critique of garden art. Given to students in agriculture, architecture, and others. Lectures. Professor BAILEY.]

This course will not be given in 1895—6.

3. *The Literature of Horticulture.*—Fall. One day a week. A seminary in the literature of the cultivation of plants in various parts of the world, with reviews of periodical literature. Professor BAILEY and Mr. LODEMAN.

4. *Greenhouse Construction and Management.*—Fall. Two hours; one hour of lectures, and one of laboratory work once a week, by appointment. Professor BAILEY and Mr. LODEMAN.

5. *The Botany of Cultivated Plants.*—Winter. Seminary course of one hour, by appointment. Professor BAILEY.

6. *Pomology.*—Winter. Three days a week. Lectures and other class exercises upon the cultivation of fruits. Professor BAILEY and Mr. LODEMAN.

7. *Propagation of Plants.*—Winter. Two hours, by appointment. A practical laboratory course in the multiplication of plants—grafting, budding, making cuttings, pollination, &c. Mr. LODEMAN.

8. *Olericulture, or Vegetable Gardening.* Spring. Two days a week. Lectures. Professor BAILEY and Mr. LODEMAN.

9. *Floriculture.*—Spring. Three hours. Lectures. Two days a week. One hour of laboratory work by appointment. Professor BAILEY and Mr. LODEMAN.

10. *The Theory and Practice of Sproyng Plants.* Spring. One hour course. Lectures and demonstrations. By appointment. Mr. LODEMAN.

11. *Handicraft.*—Practical work in the forcing houses and gardens, with familiar talks. Throughout the year. One to three hours, by appointment. Professor BAILEY and Mr. LODEMAN.

12. *Investigation Incident to Previous Courses.*—For graduates and advanced students. Throughout the year. Hours by appointment. Prof. BAILEY.

APPLE CULTURE.—Professor BAILEY sums up a report on the orchards of New York State, by the terse direction—

"Till,
Feed,
Prune,
Spray."

PLANT PORTRAITS.

- ANTHURIUM SCHERZERIANUM, *Bull. Soc. Toscan. di Orticultura*, July.
- CATLEYA MOSSIE AMENA, *Lindenia*, t. CDLXX.
- CYPRIPEDIUM "FELIX FAURE," a cross between *C. Godefroyae* and *C. callosum*, *Gardeners' Chronicle*, 1895. vol. xvii., p. 228; *Lindenia*, t. CDLXIX.
- LYCHNIS HAAGEANA, L. CHALCEDONICA, *Bull. Soc. Toscan. di Orticultura*, July, 1895.
- MASDEVALLIA LUDIBUNDA and M. TRIANGULARIS, *Lindenia*, t. CDLXXII.
- ODONTOGLOSSUM EDWARDI, *Rchb. f.*, *Lindenia*, t. CDLXXVI.
- ODONTOGLOSSUM PULCHELLUM MAJUS, *Lindenia*, t. CDLXXIII.
- SCHOMBURGIA ROSEA, *Linden*, *Lindenia*, t. CDLXXV.
- STAUROPSIS GIGANTEA, *Bentham (Vanda gigantea, Lindley)*, *Lindenia*, t. CDLXXIV.
- ZYGOPETALUM WENDLANDI, *Rchb. f.*, *Lindenia*, t. CDLXXI.



FIG. 40.—PHYLLSTACHYS KHUMASAQA. (SEE P. 186.)



FIG. 41.—BAMBUSA TESSELLATA. (SEE P. 186.)

on Monday, August 5, Bank Holiday, and notwithstanding the unpromising weather conditions, was very well attended. A number of very interesting new finds were exhibited by Mr. R. LLOYD PRÆGER, of Belfast, who read a most interesting paper relating to them and to the Irish hunting-grounds from which they had emanated, and in which so many close parallels have been found by him, and Mr. W. H. PHILLIPS of same city, to some of the rarest English forms. Mr. SMITHIES also showed a number of finds, among

members generally. A number of new members were enrolled, and the Society is in a flourishing condition, and deservedly so, since, thanks to the efforts of a coterie of true Fern lovers, mainly resident in the locality, a centre has been formed to which, once a year at least, the sincere admirers of our British Ferns may gravitate, exhibit their finds, exchange views, and in a practical fashion determine by the general experience of the members, the vexed question of nomenclature.

GIANT CACTI AT KEW.

SOME interesting additions have recently been made to the collection of Cacti cultivated at Kew, a consignment of big specimens having been obtained from Arizona with the assistance of Prof. J. W. Toumey, of the University of that State. The illustration (fig. 39, p. 187), represents the most striking of these specimens, which are arranged in a group in the middle of house No. 5. The two tallest stems are of *Cereus giganteus*, the most colossal of all Cacti, as it sometimes attains a height of 60 ft. In 1890 a fine stem of this species was obtained for Kew from California, its height being 15 feet, and its weight nearly half a ton. It flowered in 1891, and a figure of it was published in the *Botanical Magazine*, t. 7222. The new stems of this *Cereus* are 9 feet high, and each weighs about 4 cwt. The two large specimens arranged in the corners of the group are fine examples of *Echinocactus Wislizeni*, each weighing 4 cwt., and measuring 6 feet in height, and 3 by 2 feet in diameter. The deep ridges are clothed with tufts of stout spines, of which the central one is 3 inches long, hooked at the tip, and hard and rigid as bone. There are smaller specimens at Kew which, although they have been in the collection ten years, have not grown an inch in height, from which it may be reasoned that these large examples are probably hundreds of years old. Flowers are only developed on large plants; they are about 2 inches long and wide, and are succeeded by cone-shaped fruits 3 inches long, filled with small black Onion-like seeds. The juice of the stems is said to serve as a substitute for water when the latter is scarce, and instances have been known among the white trappers, where the lives of men have been saved by this plant. The stems are also used by the Indians as boilers, the fleshy inside being scooped out, and the tough skin is filled with vegetables and water, and placed on the fire. As there is a plentiful supply of stems in the desert regions where this is practised, the Indians do not trouble to carry this "boiler" about with them, but make a fresh one at each stage of their journeyings.

A still larger species than this is *E. Vinaga*, of which a very fine example was obtained for Kew years ago. Shortly after its arrival, it was described and figured by Sir William Hooker in the *Illustrated London News*. It was 9 feet high, and a yard in diameter, its weight being about a ton. It lived only a year or two, very large stems of Cacti being evidently bad to transport and re-establish, even in gardens near where they grow wild.

Opuntia arborescens, the Elk-horn Cactus, is represented in the group by two specimens, one on each side of the elegant Sedge-like *Restio subverticillatus* in the centre. This Cactus grows to a height of about 30 feet, branches freely, the main branches bearing numerous cylindrical branchlets, remarkable for their oblong tubercles and tufts of long needle-like spines, each enclosed in a loose thin straw-coloured sheath. The skeletons of this *Opuntia*, as seen in the desert places where it is wild, have a singular and startling appearance, being quite devoid of leaves, spines, and flesh, the white ligneous layers forming a hollow cylinder perforated with mesh-like holes. These skeletons are said to stand many years. There are examples in the museum at Kew, and also specimens of walking-sticks made from the stems of this species. *Opuntia fulgida*, another arborescent species with numerous branches and drooping cylindrical red-tinged branchlets, bearing short spines, is represented by two fine specimens.

Other interesting species included in this group are small stems of the new *Cereus Pringlei*, a nearly ally of *C. giganteus*, and *Opuntia arbuscula*, with slender twiggy branches, not more than half an inch in diameter, bearing thin sharp spines an inch long.

The large boulder-like object in front of the picture is an exceptionally fine specimen of *Hottentot's Bread*, *Testudinaria elephantipes*, which was imported from Natal for the Colonial and Indian Exhibition, and afterwards came to Kew. The col-

lection of Cacti now at Kew is richer in species than it ever was, and considering the large size of the house in which they are grown they are in good health. John Smith records that in 1839 a number of plants of *Cereus senilis* were introduced by a trader and sold at six guineas each. What a different story Mr. Sander of St. Albans can tell, for he sent twenty nice plants of this same Cactus to the auction rooms last week, and could not get a bid for one of them; they were afterwards bought to be distributed from Kew at the absurd price of 2s. each. A dozen plants of the recently-certificated *Echinocactus aureus* were bought at the same price. The newly-formed Cactus Society may in time work up an interest in Cacti among English horticulturists—they are certainly out of favour now. *W. W.*

KEW NOTES.

DEODAR STRUCK BY LIGHTNING AT KEW.—One of the finest Deodars at Kew, between the Palm-house and the temperate-house, was struck by lightning on Saturday evening last. The trunk is riven into large fragments, showing that the disruptive force must have been enormous.

BEGONIAS AT KEW.

After the heavy storm of Saturday last, and the drenching showers which have occurred since, it is pleasing to notice that the beauty of the small beds of *Taberous Begonias* near the Show-house, No. 4, is not at all impaired. One bed consists of *Taberous Begonias* of mixed colours, pink and white predominating. This is a very beautiful bed. Equally good are the beds of *B. semperflorens rosea*, *B. Crimson Gem*, and *B. Worthiana*.

HUNNEMANNIA FUMARIIFOLIA.

This is one of the gayest plants in the Kew rockery just now. It is an *Eichscholzia*-like plant, but growing to 18 inches or 2 feet in height, with glaucous very deeply divided leaves, and large cup-shaped canary-yellow flowers. It is a native of Mexico. In a sheltered situation it would form a fine plant for a bed, but as we learn from Mr. Irvine, it is not quite robust enough to stand full exposure to wind and rain.

SOLANUM WENDLANDI.

It is very remarkable how slow is the diffusion in gardens of fine plants when they do not happen to be sent out by the trade. For several years now the magnificent creeper above named has been grown at Kew, both in the Succulent-house and in the Water-Lily house. Thousands upon thousands must have admired its ample panicles of large bluish-violet flowers, which remain in beauty for many weeks, and yet we cannot call to mind ever having seen it in a private establishment. It was figured in our columns, September 16, 1893, but the flowers are often larger than those there shown.

HOME CORRESPONDENCE.

DUKE OF YORK TOMATO.—I grew a few plants of this novelty last year, and have grown some this year. It is a handsome, brilliant-coloured fruit, and if it have a fault, it is that it grows too large. I do not know another variety which produces such an even lot of fruit. *R. P. Brotherston.*

TABLE DECORATIONS WITH CUT FLOWERS, ETC.—Mr. F. W. Seale's strictures in your last issue, with reference to the floral arrangement of dinner tables, seem to me very just. It often happens that insufficient room is left for the dessert and candelabra; these should be the first consideration—the floral decorations ought to be quite subordinate. Most of the dinner-table arrangements I have seen at shows would drive the lady of the house and the butler to despair. The best judges of table floral decorations are ladies, with a butler as assistant. *T. M. Bulkeley-Owen.*

—Mr. F. W. Seale's remarks on the judging of table decorations at flower shows in the *Gardeners' Chronicle* of August 10, p. 160, are to

the point, and I hope that the subject will be well threshed out, as there is, to my mind, no part of horticultural exhibitions so unsatisfactorily judged as table decorations. Over and over again, I have seen prizes awarded to clumsy overcrowded arrangements which had nothing to recommend them but the quality of the flowers used, while taste and pleasing arrangements were passed over. I am quite ready to believe that the judges in these cases wish to be just, but I agree with Mr. Seale when he says "they are totally unfit to judge where taste and refinement are required," and I do think that injustice to all exhibitors, the greatest care should be taken to select judges who have proved themselves capable of judging of these qualifications. If we are to attain a high standard of excellence in this beautiful work, the skilful and artistic decorator must not be driven out of the competition. *R. Potter, St. Clere Gardens, Keming, Sevenoaks.*

TOMATOS.—Tomato-growing in the North appears to be greatly on the increase, not in market-gardens only, but in many private establishments. The fruits are used as freely as any other culinary vegetable, and many of the working-classes now value them as a useful and palatable food-adjunct. The price of the fruit from this cause is well maintained, and is not likely to suffer much for some time to come, the foreign supplies, in northern towns at least, not having increased proportionately to the demand. I have noticed that in the markets fine-looking fruit command a very high price compared with irregular fruit of smaller size. A good bright colour is readily noticed by purchasers. In gardens generally there are varieties which find favour, and grown year after year, cultivators making their own selections, and by such means the quality is improved. *Austen's Eclipse* and *Thomson's Excelsior* have stood the test as well as most in Scottish gardens, but among numerous trials given of varieties, *Frogmore Selected* takes a prominent position. It did well in this garden for early supplies, that is, from the end of April onward, and it is now in good condition as a late fruiter. The earliest fruits were obtained by me from *Acquisition*, a free-bearing variety of sturdy habit, good for pot-culture. *President Garfield* is very large; but it is coarse in the flesh, and not of handsome shape. In cool-houses, where Peaches, Figs, &c., are grown, I obtain fine crops of Tomatos from plants which are potted in rich soil, and allowed to root through the pots into fine loam. The pots are 7-inch, with holes in bottoms made large enough to allow the roots to get outside, and half plunged. Few laterals are formed, the clusters of fruit are close, and they are large and firm. *M. T. Carron, Stirlingshire.*

SLUGS DESCENDING (see *Gardeners' Chronicle*, August 10, p. 160).—The following correspondence will, I think, be interesting, especially as Darwin's letter is characteristic of his modesty, courtesy, and patient attention to details:—

"CHAS. DARWIN, Esq., F.R.S., &c.

"Sir,—I have observed that the small white slug has acquired the power of descending head foremost by means of a thread of slime from branch or leaf of the Vines in a hot-house here. One that I showed to a medical friend lowered itself from the moist end of a stick to a depth of 1 foot, and upon the leaf which was used to entice it being removed, the slug turned in the air and climbed up the thread of slime. It appears to have the power of exuding the slime and of twisting it into a thread as it descends. I shall be happy to forward one of these slugs if the subject be of sufficient interest to you. I am, Sir, Yours, &c., W. R., Sept 6, 1881."

"Down, Beckenham, Sept. 7, 1881."

"Dear Sir,—I thank you for your kindness in having written to me. My memory is not so good as it was, but I am nearly sure that I have read of slugs descending in the manner described, but not of their having ascended. I am so much occupied with another subject that I will not accept your obliging offer of sending me living specimens. It is just possible that the slug may be a foreign species introduced with plants in your hot-house. I think that it would be worth while for you to repeat carefully your observations, with measurements of height of ascent and descent, and then send an account (saying that you were not sure whether the fact was known) to *Nature*, published by Macmillan & Co., Strand.—With my thanks, I remain, dear sir, yours faithfully,

"CH. DARWIN."

I found on further experiment and observation that the small white slugs, measuring from 1 to 1½ inch in length, descended more than 3 feet from the Vines in preference to crawling down their rough stems, but that they could only ascend a few inches in a moist and warm vinery, when by repeatedly touching their heads they were compelled to climb up their own bodies to the thread by which they had been descending. The death of Mr. Darwin terminated my interest in the matter for a time, and I

have not hitherto published the result of my observations. The small white slug may be found in many gardens, and is, I think, a native of this country. *W. R., Streatham Hill.*

— In reply to De B. Crawshaw, Esq. (see *Gardeners' Chronicle*, August 10), I am aware that it is an expedient slugs often adopt when circumstances require it. I have seen them in the act many a time, especially amongst corn-stacks at harvest-time. For instance, the last load of Wheat taken up after the dew has settled on the straw late in the evening may remain on the waggon all night, and should the stubble be somewhat grassy, and slugs abundant, many of them would be located at the butt-end of the sheaves; this end would be placed outward on the waggon or on the stack, and in either case would soon get dry. The slugs which happen to be there find the surroundings uncongenial, and at once descend to the ground by means of a line made of slime. What a trouble these slimy creatures cause to the growers of Orchids I well know, for they can with their slime make a pathway over almost any firm surface, as well as descend through space, in search of a dainty morsel off an Orchid, or a hiding-place. *E. Blandford, Moor Hill, Westend, Southampton.*

— In reference to Mr. De B. Crawshaw's statement in your last issue regarding slugs descending on plants by a line of slime, may I be allowed to mention the fact that I have seen slugs descend that way on two different occasions, once at the Moat Nurseries, East Grinstead, and once at Holmwood Park, Dorking. At the first-mentioned place, the slug descended on to a Primula, and in the other on to a Cineraria. The slugs descended from 3 to 4 feet to get at these plants. *Foreman, Holme Grange Gardens, Wokingham, Berks.*

SLUGS AND WORMS.—In your last issue I notice Mr. Crawshaw has an article on slugs descending by their own slime. I believe that I was the first to draw attention to this fact in your own paper, as Mr. Crawshaw says no notice was taken at the time. I see also a note on worms in lawns. I have no worm-casts here. I have been conversant with gardens for many years (I shall be on September 10 next, eighty years of age), both in England and the Continent. At my last residence, Broomfield, near Chelmsford, and apparently somewhat similar soil, the roller had to be frequently cleaned. I attribute this to an earth slug which lives underground. I saw one dug up out of a flower-bed in the lawn with a small worm in its mouth. Dig where my men will, it is very rare to find a worm here. I should like to know if any one of your numerous readers have ever seen an earth slug, or have a garden lawn free from worm-casts. The slugs are largish, white in colour, and have horns. *Robert Warner.*

CARNATIONS.—I was much interested in reading the account at p. 138 of the Bookham Carnations, where, if anywhere, they are certain to be seen in good form. Readers in general will be pleased to know that they are equally satisfactory when grown along with the multitude of other things that every day engross the attention of the ordinary gardener, and that they are as well fitted for out-of-door culture as for growing in pots. Though all the sorts named in the report in question are meritorious in a high degree, there are some of such outstanding merit that one can hardly conceive of a garden in which sweet Carnations find no honoured place, or being long without some of them. In my opinion the most charming of all is that named George Cruikshank. This variety has not one bad quality, unless it be its too persistent habit of flowering. On that account I had the greatest difficulty last year in getting any stock of it, almost every growth spindling and forming flowering stems, which yielded till late in autumn flowers of the highest quality. No doubt Mr. Douglas will remember examples I forwarded him last October as being as fine as one could expect two months earlier. The Dey, which is not mentioned in your report, is almost as attractive; as a show flower it is, perhaps, better. Mrs. Eric Hambro, again, I should say, is the ideal white for show purposes; it is far superior to Niphetos, and the plant of strong and vigorous growth. I like Sadek very much, but when bloomed under glass, it lacks the rich glowing tint that the flower assumes when planted in the open garden. The plant is of perfect upright habit, with the flowers standing boldly up. Braw Laes I have not yet grown. With regard to Cowslip I have not found it late in flowering. I should term it a mid-season sort, not nearly

so late as Germanis, nor yet so early as Harlequin. It is a beautiful variety, and comes up fine in the open. This, with Harlequin, is an indispensable garden plant. The latter is wonderfully attractive, and the plant vigorous though dwarf of habit, and very floriferous. Henry Irving has also given much satisfaction. It is the darkest of all crimson sorts, and the blooms of exquisite shape and quite distinct in form from all others. Of the new yellow Carnations, the best of all for the open border is undoubtedly Corona; it is by far the most free-blooming of all Carnations. It also possesses the merit of being one of the earliest to flower; and though in some respects inferior to Germania, it is of greater value as a garden plant. Miss A. Campbell is also wonderfully fine, and some will no doubt give it the preference. Duke of Orleans, with the distinct hint of gold in its enormous blooms, is perhaps best suited for indoor culture. *R. P. Brotherston, Tynninghame.*

SOCIETIES.

ROYAL HORTICULTURAL.

AUGUST 13.—The meeting of the Society at the Drill Hall, James Street, Westminster, on Tuesday last, was the occasion of an interesting and beautiful display of hardy flowers in season, including large quantities of Dahlias, Lilies, Gladioli, Gaillardias, &c., and of Orchids. A variety of fruit made its appearance; and we were glad to notice an absence of those enormous trade exhibits so common in recent years, and which serve no useful public purpose.

Floral Committee.

Present: W. Marshall, Esq., in the chair; and Messrs. J. Fraser, J. Laing, C. T. Drnery, H. B. May, H. Herbet, R. Dean, G. Stevens, J. H. Pitt, R. B. Lowe, C. J. Salter, W. Bain, C. Blich, H. J. Jones, J. D. Pawls, C. E. Shea, J. Walker, J. T. Bennett-Pöe, H. Turner, and H. H. D'Oraibrain.

From the famous Fern nursery in Dyson's Lane, Upper Edmonton, Mr. H. B. MAY contributed a capital collection of Ferns that was rich in varieties of Pteris, Asplenium, Adiantum, Nephrolepis, Davallia, Platycerium, Acrostichum, &c. Of Pteris we remarked *P. cretica* Wimssetii, *P. serrulata* gloriosa, and *P. Beaurita* argentea. Of Adiantums, *A. cuneatum* variegatum, *A. plumosum*, and many others, the fine-looking *Nephrolepis davallioides* furcans, *Asplenium Baptisti*, and another much resembling it, but unnamed; *A. marginatum*, with bold fronds of a light green tint; *Oncidium auratum*, *Platycerium stemmaria*, *P. grande*, and *P. Willincki*, *Actinopteris radiata*, a singular-looking dwarf Fern with horizontally poised fronds; *Phlebodium Sporocarpium* glauca, *Adiantopsis radiata* and *A. dolabriforme*. *Polypodium trioides*, &c. (Gold Flora Medal).

A few varieties of Gaillardias in considerable numbers were shown by Messrs. KELWAY & SONS, Langport, Somersetshire. These flowers had chiefly rays coloured crimson as regards the basal part, with more or less of yellow at the tips. The crimson and yellow varieties were Vivian Grey, Vauqueline Gloire, and John Kelway; Gold-dust was of a very bright tint of yellow. They also showed fruiting sprays of *Rubus ponicolastus*, on which were abundance of fruits.

Messrs. CRIPPS & SON, Tuabridge Wells, showed *Asparagus Sprengeri*, which the committee wished to see again; and *Daphne laureola*, with purple foliage. A Clove Carnation of the true colour and scent, came from Mrs. TUDWAY, 17, Lower Berkeley Street. The habit of the plant is good, but the flower was, as seen, too small. A new *Viola*, W. Haig, a beautiful royal blue-coloured variety, came from Mr. CUTBERTSON, Rothsay, N.B.

Messrs. R. WALLACE & CO., St. John's Street, Colchester, exhibited a collection of bulbous flowers, including the following: *Tigridia grandiflora* lilacea, a very handsome variety, of a lilac-rose colour; *T. g. aurea*, quite as pretty in its way as the other; *Montbretias aurea* and *Etoile de Feu*; *Hemerocallis nurantica* major, a fine large flowered variety; *Lilium Henryii*, L. Lowii, L. Batemaniana, *L. auratum* platyphyllum; some varieties of *Gladiolus Lemoinei*, much improved in colour and size of flower and spikes. Altogether an interesting as well as brilliant group of plants (Silver Banksian Medal).

W. ROBINSON, Esq., East Grinstead, showed hardy Water Lilies, and leaves of great vigour and size (Bronze Banksian Medal).

Messrs. J. VEITCH & SONS, Royal Exotic Nursery, Chelsea, exhibited *Begonia scerifolia*, a foliage variety, with velvety leaves of a bronzy colour, speckled with a silvery colour, the main ribs of the leaf being of a light tint of green. The leaf is palmate, with deep rugged indentations on the edge. *B. Burkei* is a vigorous grower, the leaf green, with deep indentations, and leaf-stalk splashed with red colour. *B. decora* is a dwarf-habited variety, with dark-brownish leaves, and veins and ribs of a light-green tint; a pretty variety, even should the leaves exceed their present size.

THOS. WARE, Hale Farm, Tottenham, showed a collection of flowers of bulbous and herbaceous perennial plants, extremely varied as regarded the species and varieties (Silver Banksian Medal).

Mr. R. B. LOWE, gr. to Earl BROWNLOW, Ashridge Park, Berkhamsted, exhibited the seldom-flowered *Brunsvigia Josephina*, a south African bulb, with a flower-stalk 2 to 3 feet high, and a corymb of small scarlet flowers, which as they appear at the extremities of radiating pedicels 1 foot long, and numbered in this example sixteen, are very wide apart. The plant received a First-class Certificate. We heard that Mr. LOWE's success was due to leaving the bulb undisturbed for nine years, and affording it no water during the season of rest, that is, for a period of six months.

The Sweet Pea, Cupid, was again shown by Mr. BURPEE, Philadelphia, U.S.A. Mr. JAS. DOUGLAS, florist, Edenside, Great Bookham, showed Carnation Britannia, a fairly full pale-yellow variety.

Mr. MOARTHUR, nurseryman, Maida Vale, showed *Arisaema fimbriatum* and *Eucharis Gortoni*, the latter, a starry-flowered form, had been grown and bloomed in an ordinary greenhouse. From the same exhibitor there came a quantity of dwarf Bamboos and Lilies, including *L. auratum* and varieties of *L. speciosum* and *L. elegans*; these were arranged together, making a cool, pleasant-looking group (Bronze Banksian Medal). Several flowering plants of *Lxora Duffii*, to show size of bloom and the capabilities of the variety whilst quite young to produce good heads of flowers, were shown by Messrs. B. S. WILLIAMS & SON, Holloway, N.

Messrs. P. BARR & SONS, King Street, Covent Garden, showed an extensive collection of cut flowers of hardy plants, including Phlox, Pentstemon, Lilium, Lobelia cardinalis and *L. Milleri* (bright blue flowers); *Chelone*, *Heliopsis*, *Tritoma*, *Rudbeckia*, *Geothera*, *Agapanthus*, and *Bocconia cordata*. The collection bespoke the great resources of the firm in this direction (Bronze Banksian Medal).

Messrs. J. LAING & SONS, Stanstead Park Nurseries, Forest Hill, S.E., showed largely of *Codæum* (Croton), having small, well-coloured examples of the more novel varieties—Madame A. Bleu, Golden Ring, Memphis, Gordoni, Flambeau, Lady Hillingdon, and superbus. The *Streptocarpus* shown consisted of the varieties Baron Chandon, with violet segments and throat, with purple stripes running down the latter; Oxonian has a deep violet ground colour; the others were less distinct, although pretty enough. They showed also three varieties in white, yellow and crimson, of bedding *Antirrhinums* (Silver Banksian Medal).

B. RICKETS, Esq., Caen Wood Towers (gr., Mr. Bort), showed *Lilium auratum* Burtii, a variety with a crimson band on each segment. We doubt the propriety of attaching a Latin name to a mere garden variety.

From Sir THEODORE LAWRENCE'S garden, Burford Lodge (gr., Mr. Buin), came some stems and leaves of *Setaria alopecuroides*, furnished with greenish-brown plumes. The leaves are of considerable length, and a width of 1½ inches. *Montbretia Soleil Couchant* (Award of Merit), *M. Eldorado*, orange-coloured flowers; *M. Etoile de Feu*, *Anthurium Marie*, with a large white spathe, having a pink-coloured spadix and large leaf; besides these was a quantity of different species and varieties of *Anthuriums* in a cut state, and bunched together in one vessel. A Silver Flora Medal was awarded for the above-named cut flowers, &c.

Mrs. CRAWFORD, Gatton, Reigate (gr., Mr. Slogrove), showed a fine large flowering variety of *Lobelia cardinalis*, named Crawfordense, another example of an improper Latin varietal name.

A. B. FREEMAN-MITFORD, Batsford Park, Moreton-in-the-Marsh, showed the graceful Bamboo, *Dendrosalamus membranaceus*, receiving an Award of Merit.

Messrs. G. BUNYARD & Co., Old Nurseries, Maidstone, showed *Sorbus Aucuparia*, with yellow and red fruits, and a weeping variety of the last-named (Award of Merit).

A *Fuchsia* with yellow variegated foliage and good natural pyramidal habit, came from Mr. WITTY, Nunhead Cemetery, S.E.

Mr. W. H. BELCHAMBER, Rose Cottage, South Park, Reigate, exhibited photographs of bouquets of various kinds, mostly of artistic character, but some also showing what to avoid.

DAHLIAS.

This was the first occasion on which Dahlias put in appearance, and already new forms of the Cactus type are challenging attention. Messrs. J. CHEAL & SONS, Lowfield Nurseries, Crawley, had Arthur Cheal, vivid red, shaded with darker tint towards the centre, a fine and showy variety, singularly bright in colour (Award of Merit); Mrs. Gordon Sloane, brilliant orange-salmon, very pleasing and promising; Mrs. Wilson Noble, crimson, bright in tint, and good Cactus type; Mrs. Broughton-Stirling, bright reddish cerise, very promising; and Mrs. Montefora, bright scarlet. Evidently Messrs. Cheal & Sons have a good strain of seedlings of this type. Mr. J. WALKER, nurseryman, Thame, had a large collection of highly-developed show varieties, very fine indeed for so early in the season, among them being excellent representatives of William Rawlings, Mrs. J. Greaves, a yellow self, Miss Browning, as a pure yellow self, there being an absence of the white tip usually seen in this variety; John Walker, the finest white self; Miss Cannell, J. C. Reid, Royal Queen, Joseph Green, R. J. Rawlings, also a fine yellow self, and Maud Fellowes. Also a number of blooms of Cactus and decorative varieties, chief among the former being Delicata, Mrs. Douglas, Kathleen Pictor, Countess of Radnor, and Mrs. Peart. Mr. S. MORTIMER, Swiss Nursery, Farnham, Surrey, staged sixty blooms of Cactus Dahlias chiefly, in almost every case a row of three blooms of one variety; and among them the following were seen in very fine character, Lady Penzance, Apollo, Delicata, Bertha Mawley, and May Pictor, but all were very good. In a large group of cut hardy flowers, Mr. T. S. WARE had bunches of Pompon and other Dahlias, and a new Cactus variety bearing the name of Mrs. E. Beck, bright pale orange-red, with tubular florets, a fine form of the true Cactus shape (Award of Merit).

GLADIOLAS.

These flowers were represented by a very fine collection of ten dozen spikes from Messrs. KELWAY & SON, The Nurseries, Langport—to two of which, Earl of Cadogan (the individual flowers very large, the colour rose flaked with maroon on the petal edges), and Don José (purple flaked with dark), Awards of Merit were made. This last greatly resembles a variety named Shahzad, which they recently exhibited at Taunton, and for which they received a Certificate of Merit under this name. It is a little curious that two spikes should have been shown in London as at Taunton. Other fine new varieties were Lord George Hamilton, Robert Morrow, Duke of Devonshire (pale scarlet, with a white throat), Col. Welby, and C. T. Ritchie.

From Burford Lodge, Dorking, the residence of Sir TREVOR LAWRENCE, Mr. W. Bain brought a collection of new varieties, English, French, and American novelties, and chief among them Mrs. Beecher (American), a large, rosy-scarlet variety, with a white and purple throat (Award of Merit); and Dr. Sellen (American), bright scarlet with white throat. These two appeared to represent a strain of fine English varieties crossed with the best of the Lemoine type.

CHRYSANTHEMUMS.

The floral surprise of the day were the fine new forms of hybrid annual Chrysanthemums, all single-flowered, exhibited by Mr. HENRY BROWNELL, seedsman, Sale, and obtained by crossing *C. coronarium* on to *C. carinatum*. All the flowers shown, and there were several bunches of each, were cut from plants propagated by means of cuttings, in the same way that the double varieties of *C. coronarium* are propagated by the market growers for market purposes. Awards of Merit were made to the four following varieties:—Sunshine, bright clear yellow, with a golden disc, broad, flat florets, the flowers large, and of fine shape; Princess May, white, with deep yellow ring round an orange disc, florets broad, and of fine shape; elegans, pure white, with a yellow ring round a dark disc; and Chieftain, large bright yellow, with dark disc—very fine. Duke of York, a deep yellow self, also very fine, failed to obtain an Award. These new forms promise to be invaluable for cutting and decorative purposes.

Orchid Committee.

Present: F. W. Burbidge, Esq., M.A., in the chair; and Messrs. Jas. O'Brien (Secretary), A. H. Smee, W. Cobb, J. Douglas, T. W. Bond, E. Hill, J. Gabriel, C. Pilcher, W. H. White, H. Ballantine, H. M. Pollett, De B. Crawshaw, T. B. Haywood, Dr. M. T. Masters, F.R.S.; and Dr. F. K. Szellin of Berlin.

The meeting was a most interesting one, and it was marked by the presence of an unusual number of really good new hybrid Orchids. Foremost amongst these stood the handsome Cattleya × Fowleri (Leopoldi × Hardyana) shown by J. GURNEY FOWLER, Esq., Glebelands, South Woodford, and raised by Messrs. F. Sander & Co., St. Albans. The plant bore an inflorescence of two large flowers of firm texture, in colour of a clear rosy-lilac, except the broadly-expanded, crimped front lobe of the labellum, which was of a rich crimson-purple, the tips of the side lobes, which were white, bearing a blotch of the same colour. The plant received a First-class Certificate.

Equally good and interesting in its way was Cattleya × Eros (Walkeriana × Mosiæ) shown by Messrs. J. VEITCH & SONS, Chelsea, which also secured a First-class Certificate. The plant had the short swollen pseudobulb of *C. Walkeriana*, and flowers equal in size to Cattleya Mosiæ, and of the same warm rose hue; the labellum, which had the open form of *C. Walkeriana*, being crimson in colour and velvety in texture.

Another fine hybrid was Cyripedium × Massaianum superbum (Rothschildianum × superbiens), shown by THOS. STATTER, Esq., Stand Hall, Whitefield, Manchester (gr., Mr. R. Johnson). In form it resembles *C. × Morganii*, but the flowers have broader segments than that variety. The upper sepal was white with a greenish tinge and some purple lines; the petals ivory-white spotted with purple, and the labellum brownish-rose (First-class Certificate). The same cross was shown by Messrs. F. SANDER & CO., and Baron Sir H. SCHRODER, J. T. HOLMES, Esq., Beechen Cliff, Bath, showed the first absolutely pure white form of *Dendrobium Phalaenopsis*, which the Committee decided to name *D. Phalaenopsis* var. *hololeuca*, that already certificated as *D. P. alba*, having pink lines on the lip. This charming variety received a First-class Certificate.

Sir TREVOR LAWRENCE, Bart., Burford, Dorking (grower, Mr. W. H. White), staged a group of Orchids, remarkable alike for their rarity and good culture. One of the most interesting was *Polycypris Lehmanni*, with a spray of very remarkable and pretty flowers. The sepals and petals are reflexed, and in colour yellowish-white spotted with purple. The side lobes of the lip, which has a remarkable structure, are curled back beneath the slender green, purple-tipped column; the broader front lobe being white, spotted with purple, and covered with long, slender hair-like protuberances (Botanical Certificate). In the same group were *Laelia monophylla*, with over forty of its charming orange-scarlet flowers (Award of Merit); the pretty yellow-and-chocolate coloured *Maxillaria fausta*, with sixteen flowers (Award of Merit); three fine forms of *Phalaenopsis* *Esmeralda*, *Laelio-Cattleya* × *Exoniensis*, *Aërides Lawrenceæ* var. *Sanderiana*, *Dendrobium longicornu* (Botanical Certificate); *Calanthe natalensis*, *Vanda Hookeri*, *Polystachya odorata* (Botanical Certificate); the very singular hybrid *Cyripedium* × *Sanderielligeram*, and the noblest plant of *Saccolabium coeleste* yet seen, and which bore fifteen flower spikes (Cultural Commendation). The group was awarded a Silver Banksian Medal.

In the group staged by J. GURNEY FOWLER, Esq., Glebelands, South Woodford (gr., Mr. J. Davis), were also remarked some fine specimens. A grand plant of a noble form of *Vanda coerulea*, named Fowleri, with four spikes, bearing together about forty fine intensely blue flowers, secured a First-class Certificate, the fine old plant not yet having previously been so honoured. *Laelio-Cattleya* × *elegans* was also shown with ten flowers on a spike; and *Zygopetalum rostratum*, *Angraecum Scottianum*, *Catasetum Bungeorthii*, *Cattleya superba splendens*, *Cyripedium superbum*, *Demidoff* var., and others, were also well represented, the group securing a Silver Banksian Medal.

Remarkable for the fine quality of the plants and for artistic arrangement, was a fine group of *Odontoglossum Harryanum* and *Miltonia vexillaria*, staged by T. B. HAYWOOD, Esq., Woodhatch Lodge, Beigate (gr., Mr. J. Salter). The group was divided into three sections, each with a large and graceful *Cocos Weddelliana* in the centre. The middle and extreme ends consisted of *Miltonia vexillaria* and *Maidenhair Ferns*, the two side sections of a large number of excellent *Odontoglossum Harryanum* (Silver Flora Medal).

Baron Sir H. SCHRODER, The Dell, Egham (gr., Mr. H. Ballantine), showed a group of cut blooms of choice Orchids, including *Cattleya Hardyana*, Clark's variety; *Mormodes luxatum eburneum*, *Sobralia Lowii*, *Vanda insignis*, *V. tricolor insignis*, *V. Boxburghii*, *Rhyncostylis gutata*, *Aërides nobile*, *A. Sanderianum*, *Cyripedium Stonei platyanthum*, and a remarkable form of *Odontoglossum ramosissimum*, with a densely branched spike of white flowers having purple blotches at the bases of the segments only (Silver Banksian Medal).

Messrs. F. SANDER & CO. staged an effective group, consisting mainly of many forms of *Dendrobium Phalaenopsis* *Schroderianum*. With them were the beautiful *Odontoglossum Wattianum*, with cream-white violet-spotted labellum (First-class Certificate); *Cattleya Leopoldi*, Sander's var., one remarkable beauty (Award of Merit); *Calanthe Sanderiana*, *C. Lancheana*, *Cattleya × Kienastiana*, *C. × Prince of Wales*, *Laelio-Cattleya × elegans prasista*; the handsome *Cyripedium* × *Frau Ida Brandt* (*Ido grana* × *Youngianum*); *C. × Massaianum superbum*; *C. × vexillarium*, *C. × ananthum superbum*, *Cattleya aurea*, *Catasetum fimbriatum*, *Rodriguezia secunda*, *Miltonia vexillaria rubescens*, *Cirropetalum picturatum* (Silver Banksian Medal).

C. INGRAM, Esq., Elstead House, Godalming (gr., Mr. T. W. Bond), showed *Laelio-Cattleya* × *Elstead Gem* (*C. bicolor* × *L. xanthum*), a pretty hybrid, with yellow sepals and petals, and lip of the rich crimson-purple seen in *C. bicolor*, whose influence in its form was also distinctly traceable (Award of Merit); *Cyripedium* × *album* (*leucorrhodum* × *Schlimii*), and *Laelia* × *striata*, a supposed hybrid, but whose flowers were not fully developed. E. H. WOODALL, Esq., St. Nicholas House, Scarborough (gr., Mr. Hughes), showed a fine form of *Vanda coerulea* (First-class Certificate). Messrs. HEATZ & SON, Cheltenham, sent *Cyripedium* × *pendulum* (*Argus Moensii* × *philippinense*), an elegant and distinct hybrid. Admiral R. P. CATO, Hazelwood, King's Langley (gr., Mr. G. Day), showed *Eria stellata*, with fine spikes (Botanical Certificate). Messrs. B. S. WILLIAMS & SON, Victoria and Paradise Nurseries, Upper Holloway, staged a pretty group of *Cyripediums*, the most striking being *C. × G. H. Rogers* (*insigne* violaceo-punctatum × *C. superbiens*), the ground colour of whose flowers was ivory-white, with markings of rose and purple; with it were *C. × Morganii*, *C. × orphanum*, *C. × vexillarium superbum*, *C. × Ashburntoniae* *expansum*, *C. × Harrisonianum superbum*, *C. tonsum*, *C. × ananthum*, *C. × Wallertianum*, &c. T. STATTER, Esq., received a Cultural Commendation for *Laelia crispa superbum* with eight flowers on a spike. F. HARDY, Esq., Tyntesfield, Ashton-on-Mersey (gr., Mr. T. Stafford), sent *Cattleya* × *Brymeriana* and *Laelia crispa*. F. W. MOORE, Esq., Glasnevin, Dublin, sent *Cattleya glandulosa giganteum*. S. G. LUTWICHE, Esq., Beckenham (gr., Mr. Paterson), showed varieties of *Cyripedium Godefroyæ* and *Zygopetalum stapelioides*. Messrs. HUGH LOW & CO. staged an effective group of Orchids, including *Catasetum purum*, *Cycnoches chlorochilon*, *Cyripedium Parishii*, *C. Charlesworthii*, *Cattleya Eldorado Wallisii*, *Saccolabium coeleste*, &c. R. BROOMAN-WHITE, Esq., Ardarauch, Garelochhead (gr., Mr. G. Roberts), sent a large form of *Odontoglossum Pescatorei*, and three singular varieties of *O. crispum*, one with a broad line on each segment being very remarkable.

Fruit Committee.

Present: P. C. Crawley, Esq., in the chair; the Rev. W. Wilks, Messrs. T. F. Rivers, G. Badyard, J. Saltmarsh, J. Cheal, A. Dean, J. Willard, J. A. Lang, J. Hadson, G. Wyther, W. Balderson, G. H. Sage, G. Reynolds, G. Norman, R. Fife, A. F. Pearson, and A. F. Barron, Secretary.

Earl PERCY, Syon House, Brentford (gr., Mr. G. Wythes), sent Melons *Excelsior*, which gave both white and scarlet-fleshed fruits, James Ranking, and Middlesex Hero, green-flesh. The latter was so good as to receive an Award of Merit unanimously. The parents are Hero of Isleworth and *Sion House*. The Messrs. ROTHCHILD, Gannorsbury House (gr., Mr. J. Hudson), sent Melons *Scarlet Hero* of Lockinge, and *Sutton Scarlet*, both very handsome. Messrs. G. BUNYARD & SONS, Maidstone had *Apple White Transparent*, fruits large, conical, white, and very handsome. This was tasted and found to be so excellent even for dessert purposes, that an Award of Merit was made. Miss HENDESSON, Outlands Park (gr., Mr. T. Taylor), sent very fine Princess of Wales Peaches, richly coloured (Cultural Commendation). Mr. E. J. PRESTON, Kelsey Park, Beckenham (gr., Mr. Webster),

had very fine samples of Red Currant Versailles, and late growths of Raspberries carrying a heavy crop of fruit (Vote of Thanks). Messrs. LAXTON BROTHERS, Bedford, showed Laxton's No. 1 Seedling Apple, from Early Julian and Mr. Gladstone. Mr. F. CLEAVER, Leamington Spa, sent a greenish seedling Apple Cleaver's Favourite. Mrs. ROBE, Rutland Gate, had bunches of *Crataegus speciosa* and of *Pyrus divaricata* in fruit, the latter having both yellow and red varieties.

From A. WATERHOUSE, Esq., Yatenden Court, Newbury, came seedling Peach Epicure, Mr. WAYTON, Hereford, had a box of Victoria Plums, and one of Gladstone Apples, each holding about 20 lb. of fruit, to show how much better it is to pack fruit in this way, the boxes being cheap and non-returnable. The Plums were first-rate, being neatly packed in layers, but the Apples had been broken open in transit, and thus were not seen as they should have been (Vote of Thanks).

Mr. J. BARGO, Highgate, sent a plant of Longpod Bean as a new variety. It was regarded as *Seville Longpod*.

Four varieties of Dwarf French Beans, grown at Chiswick, and awarded three marks there recently, viz., Longfellow, Dwarf Golden Butter, Extra Dwarf Early, and Flageolet Roi des Verts, had the Award of Merit confirmed, as also had Lettnecs not now exhibited, but each awarded three marks at the same time, and mentioned in the *Gardeners' Chronicle*, p. 136.

A First-class Certificate, recommended by the committee which met at Chiswick on July 26, was awarded to Rivers' Early Favourite Plum, also referred to on the same page.

An Award of Merit was given to alpine Strawberry Rouge amélioré, a long-pointed seedling variety of the *Le Quatre Saisons*' section, shown by Mr. J. HUDSON, Gannorsbury House Gardens.

A very interesting exhibit, from Mr. J. CULVERWELL, sent through Dr. MASTERS, was a hybrid Gooseberry, product of a cross between that fruit and the black Currant. The branches were spineless, the leaves Currant-like fragrant, and the fruits, small red Gooseberries, had quite a black Currant flavour. A vote of thanks was accorded for this interesting exhibit. No doubt more will be heard of it at some future day.

A Cultural Commendation was awarded to a collection of ten varieties of Plums from Chiswick Gardens, grown on the walls. These consisted of reds, Sultan, Curlew, Bittern, Late Prolific, and Heron; Early Transparent Gage, McLaughlin's Gage, Golden Esperen, Reine Claude, Comte Althanns, and Cochet Père, rich yellow.

Messrs. J. VEITCH & SONS, Chelsea, showed a fine collection of eighteen dishes chiefly early dessert Apples, numerous Plums, Cherries, Pears, &c., to which a Silver Knightian Medal was awarded. The Apples included Devonshire Quarrenden, Beauty of Bath, very handsome; Mr. Gladstone, Early Harvest, Paradise Pippin, Red Astrachan; the Pears, Benrè Giffard, and Jargonne. Plums were Czar, Frogmore Orleans, Old Orleans, Magnum Bonum, Strut, and Early Prolific, red; and Early Golden Drop, July Greengage, Transparent Gage, Mamelone, and the pretty St. Etienne, also some good alpine Strawberries.

Messrs. G. BUNYARD & SONS, had a splendid lot of Apples, some thirty-six varieties being wonderfully good so early in the season, getting also an award of a Silver Knightian Medal. Fine dishes of Gold Medal, Lord Suffolk, Pact's Seedling, Grenadier, White Transparent, Stirling Castle, Lord Grosvenor Northern Dumping, Old Hawthornden, Duchess of Oldenburg, Sugar Loaf, and Frogmore Prolific. Kitchen sorts gave great promise of what may be looked for at the Crystal Palace later, especially if fine weather would but come. There were also Beauty of Bath, Lady Sudeley, Red Juneague, Worcester Pearmain, Cardinal, Mr. Gladstone, Red Quarrenden, &c., and dessert varieties.

Messrs. T. RIVERS & SONS, Sawbridgeworth, also received a similar award for a good collection of fruit, including Apples, Plums, Cherries, &c. Good Apples were Stirling Castle, Ecklinville, Keswick Codling, Duchess of Oldenburg, Early Rivers Codlin, Cardinal, &c.; Plums, Grand Duke, Mallard, Monarch, Oullin's Gage, from indoors and outside, to show fitness for drying purposes; and of Cherries, Bigarreau, Monstreuse de Mezel and Emperor François, white; and Bigarreau Noir de Guben, and Géant de Hedelfingen, the latter obtaining a First-class Certificate for its rare and rich flavour.

Mr. EMPSON, gen. to VERE WINGFIELD, Esq., Amphil House, had a nice collection of Grapes, including some fair Muscat of Alexandria and hardy fruits; a small Silver Banksian Medal was awarded. He also placed before the committee seedling Grapes from Madresfield Court and from Gros Maroc, but both seemed to be too like their seed-parents to be regarded as distinct. It will be seen that the committee had a busy as well as a very interesting meeting.

LEICESTER.

AUGUST 6.—Promoted by the Parks Committee of the Leicester Corporation, who allotted the liberal sum of £200 to be offered in prizes, the tenth annual show took place in the fine grounds of the Abbey Park, on the above date. The attendance was very good, and nearly 20,000 persons passed the turnstile. That many of them were attracted in a great measure by the Gala held in the grounds in connection with the show, and by the choice music supplied by the four excellent bands in attendance, there can be no doubt; but the crowded state of the tents throughout the day amply proved that the fruits and flowers were the chief attractions. The schedule contained 136 classes, and as many of them were devoted to the exhibits of amateurs and cottagers

whose interests are the special object of the show committee, and whose entries were very numerous, it will readily be understood that an immense amount of work must have fallen on Mr. John Burn, the Curator, and the acting members of the committee. These gentlemen must be congratulated on having brought off such a successful show under somewhat trying circumstances, the weather being very changeable throughout the day.

The principal classes were allotted a marquee apiece, that devoted to Division A—plants being mainly occupied by the groups arranged for effect—which took up the whole of the middle of the tent. As at most large exhibitions, great interest centred in the competition for these groups (to occupy 100 feet), the 1st prize for which was £7. The coveted 1st fell to Mr. C. J. MEE of Nottingham, whose arrangement was perfect from an artistic point of view, and moreover, the plants used in it were for the most part rare, and eminently suitable. The centre was a noble Phoenix rupicola, and set up on little mounds of velvety green moss were Alocasia Sanderiana, Cocos Weddelliana, and other handsome foliage plants, and it was observable that the most was made of every plant in the matter of producing effect. Some of the other groups had ten times the number of plants than this one, but the quantity smothered any artistic effect. The 2nd prize went to Mr. ROGERS, Gipsy Lane Nursery; the 3rd to Mr. H. BLAKENY, Dunsmore, Longy; and the 4th to Mr. GEO. PERKINS, Belgrave Gate; all these being fairly good arrangements. Mr. C. J. MEE's exhibit also secured the 1st prize of £3 offered by Messrs. J. R. PEARSON & SON, Chitwell Nurseries, Notts, for the best exhibit of plants, fruits, or flowers, grown with the aid of their chemical manure.

For six exotic Ferns, Mr. BLAKENY, Dunsmore, secured 1st prize, with very fine specimens; Mr. C. J. MEE, Nottingham, 2nd; and Mr. WHAIT, Oadley, 3rd.

In the class for six stove and greenhouse plants, the specimens in competition were good and well grown, though not large. Mr. W. S. BOLTON, Barkley, secured 1st prize; Mr. C. J. MEE, Nottingham, 2nd; and Mr. G. BROWN, Stoneygate, 3rd.

Both for six single and six double flowered Begonias, Mr. JAS. WRIGHT, Granby Street, Leicester, took 1st, with excellent specimens in each class, and he performed the same feat in both classes for single and double zonal Pelargoniums.

Cut Blooms.—The National Rose Society was associated with the Leicester show this year, and in the Rose tent there was a very fine and fresh-looking display. Messrs. HARKNESS & SON, Bedale, who showed grandly, carried off premier honours for the prize for thirty-six Roses (open); Messrs. J. COCKER & SONS, Aberdeen, being 2nd; and Mr. W. H. FRETtingham, Beeston, 3rd.

For twenty-four Roses (open), Messrs. HARKNESS and Messrs. COCKER also maintained the same position.

For twelve Teas or Noisettes, Mr. H. V. MACHIN, Gateford Hill, was 1st; and for twelve Roses, of any one variety, Messrs. HARKNESS & SON were 1st, with fine blooms of Mrs. John Laing; Messrs. COCKER & SONS being 2nd.

In the bouquet tent, some very fine bouquets, wreaths, epergnes, &c., were shown, the Orchids, which were represented but very slightly in the plant classes, there being no class for them, showing up well in the made-up decorations. Messrs. PEARSON & SONS, Chilwell, took 1st, both for hand and for bridal bouquets.

Fruit.—Fruits were well shown, and the great prize for the best eight distinct dishes of fruit, three varieties of Grapes allowed, two bunches of each, one Pine and one Melon only, fell to Mr. J. H. GOODACRE, Elvaaston Castle Gardens; 2nd to Mr. W. MESSENGER, Woolverton Park Gardens, Ipswich; 3rd, Mr. J. READ, Bretby Hall Gardens, Burton.

Miscellaneous.—Carnations were well represented, and hardy perennials were good, the fine exhibit of Messrs. HARKNESS being a representative one. The vegetables and cottagers' classes were numerously competed in, and among the fine groups not for competition, and which were perhaps the most admired in the show, were the grand bank of single and double flowered Begonias, staged by Mr. T. S. WARE, Hale Farm Nurseries, Tottenham; and that of Caladiums arranged by Messrs. PEED & SONS, Norwood.

The fact that some of the amateurs and cottagers entered each in upwards of forty classes, proves the good work the Abbey Park show is doing, and the interest taken in it by those it is specially designed to benefit and instruct.

WELSHPOOL HORTICULTURAL.

AUGUST 8.—This society is to be congratulated upon the great strides it has made since it was first launched into existence three years ago, and it can be safely predicted of it now that it has come to stay, its management being in the hands of enthusiastic and old-experienced show-promoters.

The show itself, as regards exhibits, both competitive and non-competitive, was emphatically a success; among the latter, most deserving of special mention, was an arrangement of plants in a conspicuous position in the spacious tent from the gardens at Powis Castle; as an effect it was one of the finest things we have seen for some time. The fine tree Ferns, Crotons, Caladiums, Amaryllis, &c., with well-developed spikes of Humea elegans standing above the arrangement, formed miniature mountains, and in the corresponding valley were the popular Caladium argyrites, some nice plants of the new Dracaena Sanderiana, the exceedingly pretty Saxifraga sarmentosa, tricolor, superba, &c., whilst

the supporting poles of the marquee were literally clothed with Maidenhair Fern suspended in terra-cotta wall-pots. Another fine group deserving of mention came from the gardens at Llanelerwyd, Captain LOVELL being president for the year.

Competing groups were numerous and likewise good. Messrs. JONES & SON, Shrewsbury, taking 1st honours, followed by the Misses HOWELL, Rhiewport, Welshpool (gr., Mr. Jones), and Mrs. CURLING, Brooklands (gr., Mr. Mac-falane). The same exhibitors were successful in other plant classes, and in Roses, which were not numerously shown. Messrs. MURREL, of Shrewsbury, came 1st, and Messrs. DICKSONS 2nd. The small classes of cut flowers were well filled, and the quality good, floral arrangements, too, being in the open and amateurs' classes, decidedly good.

The fruit-ranks contained competitors as far off as Staffordshire, who divided the honours with the local growers. Mr. A. JOHNSON, Oulton Grange, Stone (gr., F. Lambert), won 1st for eight dishes, with a highly-meritorious collection. J. TAMS, The Heyes, Stone, was 1st for Hamburgs and Muscats, followed in each case by Mr. F. LAMBERT; other successes in fruit being gained by Mrs. CURLING, the Misses HOWELL, Captain PRICE, Mr. A. C. HUMPHREYS-OWEN, M.P., and others.

The same names were again conspicuous in the vegetable classes, with the addition of Dr. HAWKSWORTH, B. LI. KENTON, Esq., Oswestry (gr., Mr. Durnall), Sir P. P. JONES, Newtown (gr., J. Shute), and Captain DAVIDSON; and a word of praise should be added for the excellence of the exhibits in this department.

The amateur's and cottager's classes bore gratifying testimony in the generally high quality of the exhibits, to the value of such societies as this, in promoting the culture of edible and ornamental vegetation to the undoubted advantage of the public individually and collectively. Space will not permit other than a general notice of the many noteworthy exhibits, but mention must be made of a fine display of herbaceous cut flowers and of tuberous Begonias (for which special awards were granted) from Messrs. W. CLIBRAN & SON, Altrincham; an exhibit of plants by Messrs. DICKSONS, Chester; and a similar exhibit from Messrs. KERR & SON, Liverpool; a table of herbaceous blooms from Messrs. CURBUSH, of Highgate; a miscellaneous exhibit from Messrs. JONES & SON, Shrewsbury; and a large collection of sweet Peas from Mr. ECKFORD's gardens at Wem.

A word of credit is due to Mr. LAMBERT, the indefatigable gardener at Powis Castle, who has worked hard with Messrs. ADDIE and WARD, the secretaries, for the success of the show, and of congratulation to the society on having so noble and public-spirited a patron as Lord POWIS, who allowed the free use of his home park, with the run of the famous gardens, for their benefit. *Visitor.*

TAUNTON HORTICULTURAL.

AUGUST 8.—This was the thirty-eighth annual exhibition, and the society not only holds its own as producing the largest exhibition held in the west of England, but it every year attracts thousands to see it. It was stated that it was nineteen years the show had been held on a wet day; and this occasion proved no exception, the day was perfect up to 3 o'clock, then a slow drizzling rain set in, which continued until night. Despite this drawback, there was a very large attendance. The exhibition took place as usual in Vivary Park, which having now become the property of the town, has been laid out as a public garden, and very greatly improved, though not yet completed. As is usual, there were four very large tents quite filled with exhibits; also one for table decorations; and others for honey and bee appliances.

PLANTS (OPEN).

In the large plant-tent, which contained all the open classes, plants and cut flowers first claim attention, the sum of £20, offered as a 1st prize for twelve stove and greenhouse plants in flower, always bringing a good competition. As is usual, Mr. J. CYPHER, nurseryman, Cheltenham, was 1st, with very fine examples of Bougainvillea glabra and Sanderiana, the latter smaller in the brackets but very deep-coloured; Ericas tricolor rosea, Thompsoni, and obtusa purpurea; Allamandas nobilis and grandiflora; Phorocoma prolifera Barnesii, Ixora salicifolia, &c. 2nd, Mr. W. Rowland, gr. to W. BROCK, Esq., Exeter, who had much the same subjects.

With six plants, Mr. CYPHER was again 1st, having Ericas Austiniana and Aitoniana, Stephanotis floribunda, Bougainvillea glabra, Allamanda nobilis, and Statice profusa. Mr. W. ROWLAND was again 2nd.

The best group of plants arranged for effect came from Mr. ROWLAND, and had as a background Palms and the red-tinged Humea elegans. Bamboos were present, also gay-coloured Crotons and dwarfier plants, foliaged and flowering, forming the foreground. Mr. W. Peel, gr. to Miss TODD, Shirley, was 2nd.

Here was the finest display of large specimen Begonias we have yet seen. With eight plants comprising some fine double varieties, Mr. W. Thomas, gr. to W. MARSHALL, Esq., Norton Manor, Taunton, was 1st, and Mr. W. Bond, gr. to P. V. A. REED, Esq., Milverton, came 2nd; he had admirably-grown specimens of single varieties of high quality, compact in habit, but the flowers had become damaged in course of transit, which probably lost Mr. Bond the 1st prize.

Zonal Pelargoniums, both double and single, were well grown and flowered. Fuchsias were decidedly below what we

are accustomed to see at Bath. The best newly-introduced plant in bloom was Cypripedium Charlesworthii from Mr. W. THOMAS, and Mr. CYPHER was placed 1st with four Orchids; Mr. Murrell, gr. to A. H. MILTON, Esq., Clifton, was 2nd.

Foliaged Plants.—The best eight came from Mr. J. CYPHER, prominent among them were very fine specimens of Keetias australis and Forsteriana, Latania borbonica, Croton Sunset and Queen Victoria, &c. Mr. ROWLAND was placed 2nd. The latter had eight exotic Ferns, having in excellent condition Microlepia hirta cristata, Alsophila exoelsa, Lencostegia immusa, Adiantum assimale, and others, which were deservedly awarded the 1st prize, he being the only exhibitor.

Several classes for specimen stove and greenhouse plants found a place here, but though well grown and bloomed they do not require particularising.

CUT FLOWERS.

Those shown in the open to all divisions, found a place round the sides of the tent. Roses were decidedly good, the dark-coloured hybrid perpetuals largely preponderating. Messrs. HARKNESS & SONS, nurserymen, Bedale, were 1st with thirty-six and also with eighteen varieties; Messrs. TOWNSEND & SON, nurserymen, Worcester, taking the 2nd prizes in each class.

The best twelve blooms of show Dahlias came from Messrs. HARKNESS & SONS; Messrs. KEYNES, WILLIAMS & CO., nurserymen, Salisbury, taking the 1st prize with twelve facies, and also with nine pompons. Mr. A. A. WALTERS, nurseryman, Bath, was 1st with nine bunches of single Dahlias; and Messrs. TOWNSEND & SON with six bunches of Cactus and decorative varieties.

Phloxes were good, and bunches of P. Drummondii very pretty; the quilled and flat-petalled Asters showed traces of bad weather. Collections of twenty-four spikes of Gladioli were very fine; Mr. S. Bird, gr. to W. H. FOX, Esq., Wellington, was 1st; and W. H. FOWLER, Esq., 2nd. Carnations, Hollyhocks, and stands of double and single Begonias were also shown.

Hardy perennial and bulbous plants in eighteen bunches, were very fine. Messrs. HARKNESS & SON, as at Leicester, staging fine exhibits, six varieties of Tigris being especially fine; Mr. A. A. WALTERS was 2nd.

Mr. THOMAS had the best twelve bunches of stove and greenhouse cut flowers, very handsome examples being staged. Mr. Shelton, gr. to C. K. WAIT, Esq., Clifton, was 2nd.

AMATEURS' DIVISION.

Mr. ROWLAND was again 1st with a prettily-arranged group; Mr. T. ESSEX, gr. to C. E. J. ESDAILE, Esq., Bishops Lydiard, was 2nd. Mr. ROWLAND was 1st with twelve stove and greenhouse plants, and Mr. PEEL 2nd; but in the class for six the positions were exactly the reverse. In the class for four plants, Mr. PEEL was 1st, and Mr. BROCK 2nd; and the same with six foliaged plants.

Mr. PEEL had the best six Exotic Ferns, staging good specimens of a Gleichenia, Adiantum polyantha, A. cardiocloha, Davallia Mooreana, &c.

Mr. R. Huxtable, gr. to F. W. NEWTON, Esq., Taunton, was the only exhibitor of Hardy Ferns, and Mosses, taking the 1st prize.

Some fine specimens of Liliun speciosum were staged, and neat bushes of Fuchsias. Mr. THOMAS had the best six plants of single, and Mr. W. H. FOWLER of double Begonias. Some excellent specimens of Achimenes gained a 1st prize for Mr. ESSEX, they were Mauve Queen, Margarets, Perfection, and Ambrose Verschaffel, four excellent exhibition varieties. There were classes also for Coleus, Petunias, Gloxinias, Cockscombs, table plants, &c.

Cut flowers by amateurs were numerous and good, and Mr. THOS. HOBBS, of Bristol, is to be congratulated on beating Dr. BUDD, of Bath, with twenty-four, and twelve Roses; Mr. A. H. GRAY, Bath, being 1st with twelve Teas. Mr. W. H. FOWLER was 1st with twelve fine spikes of Gladioli; and Mr. THOMAS with six bunches of stove and greenhouse cut flowers. Asters were in plenty, as were Drummond's Phlox; there were Dahlias also, Mr. THOS. HOBBS taking the 1st prize with twelve blooms. Pelargonium blooms were very pretty, and Hardy Annuals very gay.

FRUIT.

Our record of the fruit-show is brief, owing to rain having driven the company to the tents and blocked the way to the tables. The best collection of eight varieties came from Mr. J. Lloyd, gr. to V. STUCKEY, Esq., Langport, who had a very fine lot, consisting of Madresfield Court and white Muscat Grapes, Bellegarde Peaches, Pineapple Nectarines, Moor Park Apricots, Hero of Lockinge Melon, Bigarreau Cherries, very fine indeed, and Jargonelle Peas. 2nd, Mr. H. W. WARD, The Gardens, Longford Castle, Salisbury. Mr. A. CROSSMAN, gr. to J. BRUTON, Esq., Yeovil, had the best four dishes; Mr. LLOYD taking the 2nd prize. Mr. WARD was the only exhibitor of two Pineapples. The best three bunches of Black Hamburg Grapes, very fine, came from Mr. A. CROSSMAN; any other black was well-finished Madresfield Court, from Mr. WARD; and he had the three best bunches of white Muscats; any other white being Buckland Sweet-water, from Mr. G. WEBBER, gr. to G. F. LUTTRELL, Esq., Dunster Castle.

Melons, Peaches, Nectarines, Apricots, dessert Pears, light and dark Plums, Apples (dessert and culinary), Cherries, and bush fruits, all made a brave display, the quality very good throughout.

TABLE DECORATIONS.

Were somewhat sparingly shown. There was but one dinner-table, that from Mrs. MACALISTER. Mr. H. B. CARVER had the best centre-piece, filled with dessert fruit; and Mr. J. CYPHER the best epergne. Bouquets and baskets of wild flowers made an attractive feature.

VEGETABLES.

These were so numerous that they can only be briefly referred to. Messrs. SUTTON & SONS, WEBB & SONS, and JARMAN & Co., as well as the Society, offered prizes for six dishes in four classes, and the 1st in each case was won by Mr. T. Wilkins, gr. to T. M. GUEST, Esq., Henstridge, Blandford. All these 1st prize collections were very fine indeed, and set up with admirable taste, and proved valuable object-lessons to young gardeners. Potatoes, in several classes, Onions, Cauliflowers, Carrots, Parsnips, Beans, Peas, Tomatoes, &c. were really superb. In addition, there was a large tent filled with very fine cottagers' productions in great variety, also wild flowers and honey.

MISCELLANEOUS EXHIBITS.

Messrs. JARMAN & Co., Chard and Taunton, had two collections, one consisting of Lilies, foliaged plants, and flowering also, Dahlias, Begonias, and other cut flowers; and a second one of cut flowers. Messrs. BEECHER, JENKINS & Co., Kingstewell, had Begonias, zonal Pelargoniums, &c. Mr. W. J. GODFREY, nurseryman, Exmouth, had his new Carnation, Reginald, in the way of Miss Joliffe, and regarded by market growers as an improvement upon it; also Wilfred Godfrey, a perpetual yellow-ground variety of decided promise; also Sweet Peas, zonals, &c.

Messrs. B. VEITCH & SONS, nurserymen, Exeter, had some very fine seedling forms of *Nemesis strumosa*, showing a wide range of new colours; also examples of their climbing French Beans, Dahlias, Carnations, &c. Messrs. KELWAY & SONS, nurserymen, Langport, had five boxes of *Gladioli*, among them some new varieties of great merit, Certificates of Merit being awarded to the Shahzada, dark crimson-purple, very distinct; Daisy Vane, pale yellow, very chaste; and Robert Morrow, pale rose; also Cannas, Gaillardias, and bunches of hardy flowers.

CARDIFF HORTICULTURAL.

AUGUST 14 AND 15.—This was the seventh annual show, and it must be admitted, despite the changeable season, the best the Society has yet held. The Sophia Gardens, in which the tents were pitched, looked fresh in the extreme after the heavy rains. Eleven tents were required to take the whole of the exhibits, including honey, and the show of vegetables throughout was very fine. The morning opened gusty, but rain held off, and a brilliant afternoon brought together a very large company.

STOVE AND GREENHOUSE plants are always a leading feature, and Mr. J. CYPHER took the 1st prize for an even collection which comprised *Bougainvillea glabra* and *Sanderiana*, *Ixora Duffii*, *Stipice Bougainvillea*, *Erica exquisita* and *Antoniana*, *Clerodendron Balfourianum*, *Allamanda Hendersoni*, *Anthurium Scherzerianum* and *Andranum*, &c. The 2nd prize was withheld.

In the amateur class for four specimens, Mr. J. GUNN, Llandaff (gr. R. McLeod), was 1st, having good examples of *Crinum giganteum*, *Bougainvillea glabra*, and *Cissia corymbosa*; Col. Sir E. S. HILL, M.P. (gr. T. Clarke), was 2nd.

Fuchsias were represented by some very fine plants, large, bushy, and well bloomed. Col. Sir E. S. HILL was 1st; and Mr. T. HILLARD, Cardiff, a working-man exhibitor, was 2nd, also with excellent specimens. Col. Sir E. S. HILL also had the best four in the amateur division; Mr. E. CASHMAN, Cardiff, 2nd.

Very good specimens of zonal Pelargoniums were staged, recalling something of the old days of the London Pelargonium Society, but there is a tendency to train them a little too severely. In the class for six specimens, Mr. T. HILLARD came in 1st; and Mr. J. OXENHAM, Cardiff, was 2nd.

In the class for four specimens, Mr. C. WALDRON, Llandaff (gr. H. Rex), was 1st with finely-grown and finely-bloomed plants; Major THORNLEY, Penarth (gr. E. Perall), was 2nd, also with capital plants. Tuberos-rooted Begonias were good, but not equal to those seen at Taunton; the best dozen came from Mr. J. L. THOMAS (gr. T. Malpas); Mr. E. LEWIS (gr. G. Wale), was a good 2nd. With six plants, Col. Sir E. S. HILL, was 1st; and Mr. A. W. WHITEFIELD, Cardiff, 2nd.

GROUPS OF PLANTS arranged for effect filled one tent. In that filling a space of 100 feet superficial, Messrs. CASE BROS., nurserymen, Cardiff, were 1st, the group arranged in the form of a circle, but bright, light, and graceful, showing excellent taste; Mr. B. CROSSING, Penarth, was 2nd; and Col. C. H. PAGE, Llandaff (gr. Mr. J. Hockley), 3rd. The best group occupying a space of 50 feet, came from Col. HILL, very nicely arranged; M. GUNN, Esq., Presswylia (gr. J. Styles), was 2nd. The best group occupying a space of 25 feet, came from Mr. E. LEWIS; Mr. C. WALDRON, Llandaff, was 2nd. In this tent were also arranged two fine groups of tuberos-rooted Begonias competing for the special prizes offered by Mr. T. S. WARE. Col. Sir E. S. HILL was 1st with a collection characterised by high quality; and Mr. J. L. THOMAS was 2nd, also very bright and effective. Some very good plants for table decoration were shown, all well grown, clean, and bright in appearance. Some very good *Gloxinias* took the 1st prize for Mr. E. LEWIS.

Fine foliaged plants came from Mr. CYPHER and Mr. W. J. BUCKLEY, Llanely (gr. W. Carpenter). The former was 1st with eight. He had *Kentias Forsteriana*, australis, and *Belmorana*, and *Cycas undulata*; and four charming *Crotons*—*Warreni*, *angustifolius*, *Queen Victoria*, and *Williamsii*, all finely-coloured.

The best eight stove and greenhouse Ferns came from Col. Sir E. S. HILL, a very fine lot, chief among them being

Woodwardia radicans, *Davallia Mooreana*, *Adiantum Farleyense*, *A. tenerum*, and *Microlepia hirta cristata*. Mr. JOHN GUNN was a very close 2nd; he had a splendid specimen of *Neottoptaris nidus*, *Davallia Mooreana*, *Gymnogramma chrysophylla*, *Adiantum Farleyense*, &c.

With four fine-foliaged plants Mr. A. PETTIGREW, Cardiff Castle Gardens, was 1st, having very good examples of *Cycas rotundata*, *Davallia Mooreana*, *Phoenix compacta*, and one other. Mr. J. GUNN was 2nd.

With four stove and greenhouse plants, Col. PAGE was 1st, also with very good specimens; Mr. O. H. BAILEY, Cardiff, took the 2nd prize. The best collection of British Ferns came from Mr. W. L. BLAKE, Cardiff.

CUT FLOWERS, both in the open and amateurs' classes, made a very fine display. Mr. S. TRESSIDER, nurseryman, Cardiff, was 1st, twelve varieties of trebles, having good blooms of J. S. Mill, S.-M. Rodocanachi, Mrs. J. Laing, Caroline Testout, Victor Hugo, &c.; 2nd, Mr. B. CROSSING, Penarth.

With twelve varieties of Teas, three blooms of each, Mr. S. TRESSIDER was also 1st; and Mr. B. CROSSING 2nd. With twenty-four H.P. Roses and eighteen Teas, the same exhibitors were again 1st and 2nd. Some of the best Teas were *Catherine Mermet*, *S. d'un Ami*, *The Bride*, *Bridesmaid*, *Medea*, *Marie Van Houtte*, *Franческа Kruger*, and the Hon. E. Gifford. The Silver Medal of the Royal Horticultural Society was also awarded to Mr. S. TRESSIDER, for his twelve trebles of Teas Roses.

In the amateur class for twelve Roses, Mr. E. G. GARRAWAY, Bath, was 1st; and Mr. THOMAS HOBBS, Bristol, 2nd. With twelve Teas, Mr. T. HOBBS took the 1st prize; and Mr. A. HILL GRAY, Bath, was 2nd. Messrs. KEYNES, WILLIAMS & Co., Salisbury, had the best twenty-four Dahlias; and Mr. TRESSIDER was 2nd, both decidedly good for so early a time. With twelve bunches of Cactus, Messrs. KEYNES, WILLIAMS & Co., were 1st, with Harmony, Earl of Pembroke, Bertha Mawley, Lady Penzance, Mrs. Barnes, &c.; Mr. W. TRESSIDER, 2nd. Dahlias were also shown by amateurs. Asters were shown in twelves, the Comet varieties preponderating. The only twelve bunches of hardy perennials came from Mr. G. GARRAWAY, Bath.

Gladioli, shown in twenty-four spikes, were good, Mr. B. MORROW, The Nurseries, Leominster, was 1st, and Mr. G. CLARK, Cardiff, 2nd.

Zonal Pelargoniums in bunches were finely shown by Mr. S. TRESSIDER; Mr. J. MOORE, Cardiff, was 2nd.

The best twelve bunches of stove and greenhouse cut flowers came from Mr. L. GUERET, Chepstow (gr. Mr. Chatfield); Col. PAGE was 2nd.

Annuals, shown in bunches of twelve, were very good indeed, Mr. A. PETTIGREW being 1st with some very fine bunches indeed of *Salpiglossa grandiflora*, *Malope grandiflora*, *Sweet Peas*, *Echsholzia crocea*, *Bartonia aures*, &c.; 2nd, Col. C. H. PAGE.

Herbaceous Phloxes were fairly good. The Silver Cup offered for twelve Carnations and twelve *Picotees* brought no competition.

TABLE DECORATIONS were a very fine feature, Messrs. CASE BROTHERS taking the 1st prize for a table arranged with flowers and fruit; Messrs. PHELPS & Co., Cardiff, were 2nd. In another class, Miss EVAN LEWES, Llandaff, was 1st, and Mr. A. PIKE, Cardiff, 2nd. The 1st prize in this class was a valuable sewing-machine, given by the SINGER MANUFACTURING COMPANY.

Bouquets were very good indeed. Mr. A. E. PRICE, Cardiff, had the best for the hand; Messrs. CASE BROS. was 2nd. Mr. W. TRESSIDER had the best Bride's, a beautiful one, which was also awarded the Bronze Medal of the Royal Horticultural Society; Mr. A. E. PRICE was 2nd.

Wreaths and crosses were enperth. It is doubtful if they are done better anywhere than at Cardiff. Mr. A. E. PRICE was 1st in both classes; Messrs. CASE BROS. was 2nd with a wreath; and Mr. W. TRESSIDER with a cross.

Buttons and lady's sprays were shown, and some pretty baskets and bouquets of wild flowers.

FRUITS filled a commodious tent. The best six bunches of Grapes came from Mr. VINCENT STUCKEY, Langport (gr. J. Lloyd), who had two of Black Hamburgh and Muscat of Alexandria, and one each of Lady Downes and Madresfield Court; Mr. P. A. CLIVE, Hereford (gr. E. Grindrod), was 2nd, having two bunches each of Black Hamburgh, Gros Maroc, and Muscat of Alexandria.

Mr. L. GUERET had the best three bunches of Black Hamburgh; Mrs. PICTOR-TURBEVILLE, Swansea, was 2nd. Mr. H. PITT, Abergavenny, was the only exhibitor of three bunches of White Muscat, taking the 1st prize. Mr. P. A. CLIVE had the best three black, any variety; Mrs. TURBEVILLE 2nd. Mr. PITT had the three best bunches of any other white, having Foster's Seedling; Mr. L. GUERET was 2nd, with the same. Single bunches were also shown.

Melons were numerous, being shown in three classes. The best six dishes of fruit came from Mrs. TURBEVILLE, who had Black Hamburgh Grapes, Pineapple, Nectarine, Golden Eagle Peach, Apricots, Figs, and Melons. Mr. C. LEE CAMPBELL, Glewston Court, was 2nd, also with a good collection.

Mr. H. PITT was 1st with two Pineapples, having a Queen and a Ripley Queen. Mr. W. J. BUCKLEY was 2nd with two fruits of Queen.

Dessert Apples were small, but nicely coloured. Mr. C. L. CAMPBELL had the best six dishes, staging Bed Astrachan, Worcester Pearmain, Lady Sudeley, Mr. Gladstone, Irish Peach, and Quarrenden. Mr. V. STUCKEY was 2nd; he had Ribston, Duchess of Oldenburg, Grand Richard, a very handsome conical-shaped Apple, conical in shape, pale yellow, streaked with bright red; Quarrenden, Early Margaret, and Beauty of Bath.

With six dishes of dessert Apples, Mr. G. GARRAWAY had a fine lot from five-year-old bash trees on the English Paradise stock, the varieties Queen, Ecklinville, Lord Suffield, Peasgood's Nonsuch, Pott's Seedling, and Warner's King; 2nd, Mr. J. BASHAM BASSALIG, who had Prince Albert and Bismarck, differing from the foregoing. The best dessert Apple was Beauty of Bath, very fine fruit of which took the leading prizes. The best culinary, were Peasgood's Nonsuch and Lord Suffield. Cherries, Currants, Peaches, Nectarines, Apricots, Plums, &c., were also numerous shown in single dishes.

VEGETABLES were very fine. The 1st of Messrs. SUTTON & SON's special prizes for six dishes went to M. S. WILLIAMS, Esq., Glyn Neath (gr. C. Foster), a very fine lot. This young gardener promises well to take high rank as a cultivator and exhibitor of vegetables. General LEE, Dinas Powis, was 2nd. General LEE took the 1st of Messrs. J. C. WHEELER & SONS special prizes for six dishes; Mr. T. RICHARDS was 2nd. The 1st of Messrs. WEBB & SONS' special prizes for six kinds went to Mr. W. MOORE, Wentoc; Mr. G. GARRAWAY was 2nd. Mr. E. REES, Merthyr, took the 1st of Messrs. JAMES CARTER & Co.'s prizes for the same number of dishes; Mr. A. THOMAS, M.P., Cardiff, was 1st with their Jubilee Runner Bean. Messrs. GARRAWAY & Co. also offered prizes for six dishes of vegetables, Sir E. S. HILL was 1st, and Mr. E. LEWIS 2nd. Messrs. WARD & Co. did the same; Mr. G. SHEWING took the 1st prize, and Mr. G. CLARKE the 2nd. But these are only a few leading features of a wonderful display of vegetables, the cottagers showing very finely indeed.

Miscellaneous exhibits were plentiful, and greatly assisted the show. A Gold Medal was awarded to Messrs. W. CURTIS & SONS, Highgate Nurseries, London, for a goodly group of plants arranged in excellent taste. Silver-gilt Medals were awarded to Messrs. DICKSONS & Co., Chester, for cut flowers; to Mr. W. BIRKENHEAD, Sale, for a large collection of Ferns; to Messrs. CLIBBRAN & SON, nurserymen, Altrincham, for a representative and unique collection of succulents; and to Mr. PHELPS, floral decorator, Cardiff, for various floral decorations. A Silver Medal was awarded to Mr. A. E. PRICE for Ferns; and a Bronze Medal to Messrs. EDWARDS & SON, Nattall, for Edwardian decorations in Ferns.

SHOW REPORTS, &c.

Owing to the great pressure on our space, several reports of Flower Shows, as well as remarks on the Fruit Crops, are unavoidably kept over till next week.

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.				RAINFALL.		BRIGHT SUN.			
	Above (+) or below (-) the Mean for the week ending August 10.	ACCUMULATED.			No. of Rainy Days since Jan. 1, 1895.	Total Fall since Jan. 1, 1895.	Percentage of possible Duration for the week.	Percentage of possible Duration since Jan. 1, 1895.		
		Above 42° for the week.	Below 42° for the week.	Above 42° difference from Mean since January 1, 1895.					Below 42° difference from Mean since January 1, 1895.	
0	1 +	99	0	+ 133	1 +	137	24.4	26	30	
1	1 +	106	0	+ 32	+ 415	3 +	112	16.5	26	35
2	1 -	113	0	+ 52	+ 277	6 +	116	17.7	28	33
3	2 -	120	0	+ 14	+ 283	8 +	102	14.1	39	39
4	2 -	110	0	+ 33	+ 373	3 +	94	14.3	34	38
5	2 -	123	0	+ 26	+ 333	6 +	91	13.0	37	38
6	1 -	102	0	+ 24	+ 384	10 +	117	18.4	26	33
7	2 -	111	0	+ 35	+ 303	5 +	102	17.4	31	36
8	3 -	106	0	+ 2	+ 337	8 +	97	18.5	28	33
9	2 -	96	0	+ 22	+ 268	2 +	129	18.6	23	32
10	3 -	99	0	+ 79	+ 195	6 +	108	21.0	25	34
* 2	-	125	0	+ 9	+ 248	8 +	111	15.6	39	48

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

0, Scotland, N. Principal Wheat-producing Districts—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S.; Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; * Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending August 10, is furnished from the Meteorological Office:—

"The weather during this week remained in a very unsettled state, with frequent falls of rain in all parts of the

Kingdom. Smart thunderstorms occurred from time to time, and those experienced on Saturday were very severe in many localities.

"The temperature slightly exceeded the mean in 'Scotland, N. and E.,' but was again below it in all other districts. The highest of the maxima were registered on the 10th, and varied from 75° in 'England, S.,' and 74° over our 'Eastern and Midland Counties,' to 85° in 'Scotland, W.,' and to 67° in 'Scotland, N.' The lowest of the minima occurred on the 8th, when they ranged from 38° in 'England, S.W. and Ireland, N.,' and 39° in the 'Midland Counties,' to 44° in several of the northern and eastern districts, and to 50° in the 'Channel Islands.'

"The rainfall exceeded the normal amount in all districts, the fall over England being about twice as much as the mean.

"The bright sunshine was again less than the mean very generally, but showed a slight excess at some of the Scotch stations. The percentage of the possible duration ranged from 39 in 'England, E. and the Channel Islands,' to 26 in the Scotland districts, 25 in 'Ireland, S.,' and 23 in 'Ireland, N.,'"

Italian Rye-grass are held at moderate rates. Bird seeds are for the moment neglected. There is no alteration in either Peas or Haricots. The Board of Trade Returns give the imports into the United Kingdom of Clover and Grass seeds for the first seven months of this year as 246,459 cwt., value £561,063, as against 198,867 cwt., value £502,417, for the corresponding period of 1894.



"* Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.

"* PLANTS, FRUITS, ETC., TO BE NAMED.—Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.

FRUITS AND VEGETABLES.

BOROUGH: Aug. 13.—Quotations:—Onions, 2s. 6d. to 3s. per bag; Horseradish, 1s. to 1s. 3d. per bundle; Apples, 2s. to 4s. per bushel; Currants, 2s. 6d. to 5s. 6d.; Gooseberries, 1s. 6d. to 1s. 9d. per half-sieve.

SPITALFIELDS: Aug. 13.—Quotations:—Carrots, 2s. to 2s. 6d. per dozen bunches; Turnips, 2s. to 2s. 6d. do.; Marrows, 5s. to 6s. per tally; Cabbages, 2s. 6d. to 3s. do.; Scarlet Beans, 3s. to 4s. per bushel; Peas, 4s. to 4s. 6d. do.; Apples, Keswick Codlin, best, 2s. to 2s. 6d. do.; do. Quarrenden, 3s. 6d. to 4s. do.

STRATFORD: August 13.—The supply to this market during the past week has been good, and, with plenty of buyers, a brisk trade was done as under:—Cabbages, 1s. to 3s. per tally; Cauliflowers, 1s. to 2s. per dozen; do., Bruce, 5s. to 8s. per tally; Turnips, 1s. 6d. to 2s. 6d. per dozen bunches; Carrots, household, 3s. to 4s. per ton; do., 1s. to 2s. 6d. per dozen bunches; Mangels, 2s. to 2s. 6d. per ton; Onions, Oporto, 4s. 9d. to 5s. 6d. per case; Plums, 2s. to 3s. per half-sieve; do., 4s. to 5s. 6d. per bushel; Green Gages, 4s. to 5s. per half-sieve; English Tomatoes, 3s. to 4s. per dozen lb.; Mushrooms, field, 3s. to 4s. per dozen lb.; Apples, 2s. to 6s. per bushel; Pears, 3s. 6d. to 6s. per bushel; Scarlet Beans, 3s. 6d. to 4s. per sieve; French Beans, 2s. 6d. to 3s. per sieve; Vegetable Marrows, 1s. to 1s. 6d. per dozen.

FARRINGDON: Aug. 15.—Quotations:—Apples, Quarrenden, 6s. per bushel; seconds, 4s. do.; Keswick Codlins, 4s. do.; Pears, 7s. 6d. per barrel; Green Gages, 6s. half-bushel; Victoria Plums, 5s. per half-bushel; Orleans do. 5s. do.; Grapes, English, 1s. per lb.; Tomatoes, 4s. per box of 12 lb.; Cucumbers, 2s. per dozen; red Currants, 2s. 9d. per peck; Raspberries, 6d. per punnet; Melons, 8s. per case (24); Cabbages, 1s. 3d. per dozen; Lettuces, 1s. 6d. per score; Carrots, 3s. per dozen bunches; Turnips, 3s. do.; Marrows, 1s. 6d. per dozen; Spring Onions, 2s. 6d. per dozen bunches; Mint, 4d. per large bunch; Parsley, 3d. do.

POTATOS.

BOROUGH: Aug. 13.—Quotations ranged between 60s. and 90s. per ton.

SPITALFIELDS: Aug. 13.—Quotations:—Pink Hebrons, 55s. to 80s.; Puritans, 50s. to 80s.; Regents, 55s. to 70s.; Kidneys, 55s. to 70s.; Reading Giants, 60s. to 70s. per ton.

STRATFORD: August 13.—Quotations:—Magnums, dark soil, 57s. to 60s.; do., Uplands, 60s. to 75s.; Snowdrops, 75s. to 90s.; Jeannie Deane, 75s. to 85s.; Beauty of Hebron, 60s. to 100s.; Imperators, 70s. to 75s.; Kidneys, 75s. to 80s. per ton.

FARRINGDON: August 15.—Quotations: Puritans, 90s. to 100s.; White Hebrons, 90s. to 100s.; Red Hebrons, 80s. to 95s.; Reading Giants, 70s. to 80s.; Magnums, 65s. to 70s. per ton.

LONDON AVERAGES: August 14.—Snowdrops, 75s. to 95s.; Puritans, 80s. to 100s.; Hebrons, 70s. to 90s.; Early Regents, 65s. to 75s.; Kidneys, 60s. to 70s.; Early Rose, 65s. to 75s. per ton.

BRAVE RESCUE ON OULTON BROAD.—A serious boating accident happened on Saturday, August 10, on Oulton Broad, in which Miss Lee Barber nearly lost her life. Miss Barber and her brother were having a sail up the Broad in their yacht, the *Talismão*, when a sudden breeze caught the sail and the yacht luffed over. Miss Barber over-balanced herself, and in falling into the water caught hold of her brother and dragged him overboard too. Mr. B. J. Monro, son of Mr. G. Monro, of Covent Garden Market, a visitor staying at 14, Wellington Esplanade, Lowestoft, was passing in a rowing boat at the time, and without hesitation, jumped into the water after Miss Barber, and managed to grasp her clothing as she about to sink for the third time. He then swam with her to a steam launch which was lying near, and also helped Mr. Barber on to his yacht.

ENQUIRIES.

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

GARDENING IN THE CANARIES.—Would some reader kindly inform me in your correspondence column as to the state of gardening in either Madeira or the Canary Islands, and whether there is any opportunities for emigrants? *Madeira.*

TENERIFFE.—Wanted, the names of one or two seed firms in the island of Teneriffe. *F. Y.*

MARKETS.

COVENT GARDEN, August 15.

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

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Arums, p. 12 blooms	2 0-4 0
Asters, English, per 12 bunches	3 0-6 0
— French p. bn.	0 6-1 0
Bouvardias, per bunch	0 6-1 0
Carnations, per 12 blooms	1 0-3 0
Chrysanthemums, per 12 bunches	4 0-9 0
Eucharis, per dozen	1 6-2 6
Gardenias, per doz.	3 0-4 0
Gladioli, p. 12 sprys	0 6-1 6
Lapageria, per 12 blooms	1 0-2 0
Lilium Harrisii, per dozen blooms	2 0-4 0
Lilium lancifolium, per dozen blooms	0 9-1 6
Maidenhair Fern, per 12 bunches	4 0-6 0
Marguerites, per 12 bunches	1 0-3 0
ORCHID-BLOOM IN VARIET	
s. d. s. d.	s. d. s. d.
Mignonette, per 12 bunches	2 0-4 0
Orchids:—	
Ostialeys, 12 blms.	9 0-15 0
Odon to glossum crispum, 12 blms.	3 0-6 0
Pelargoniums, scarlet, per 12 bunch	3 0-6 0
— 12 sprays	0 4-0 6
Pyrethrums, 12 bun.	2 0-4 0
Roses, Tea, per doz.	1 0-2 0
— coloured, p. dz.	2 0-4 0
— yellow (Marabals), per doz.	3 0-6 0
— red, per dozen	1 0-1 6
— mixed, p. doz.	
bunches	4 0-9 0
Stephanotis, dozen sprays	1 6-2 0
Sunflower (small), doz. bunches	2 0-4 0
Sweet Peas, 12 bun.	2 0-4 0
Tuberose, 12 blms.	0 2-0 6

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Adiantum, per doz.	4 0-12 0
Aspidistra, per doz. 12 specimens, each	5 0-15 0
Calceolarias, per doz.	4 0-6 0
Chrysanthemums, p. doz. pots	6 0-12 0
Cockscombs, p. doz. pots	3 0-6 0
Coleus, per dozen	2 6-4 0
Cyperus, per dozen	4 0-10 0
Dracena, each	1 0-7 6
— various, doz.	12 0-24 0
Evergreen Shrubs, in variety, per dozen	6 0-24 0
Ferns, small, doz.	1 6-3 0
— various, doz.	5 0-12 0
Ficus elastica, each	1 0-7 6
Foliage plants, doz.	12 0-30 0
Fuchsias, per doz.	4 6-8 0
Heliotrope, per doz.	4 0-6 0
Hydrangeas, p. doz.	9 0-24 0
Ivy Geraniums, doz.	4 0-6 0
Lilium Harrisii, per dozen pots	12 0-18 0
Lilium lancifolium	12 0-24 0
Lobelia, per doz.	3 0-4 0
Marguerites, p. doz.	6 0-9 0
Mignonette, p. doz.	4 0-6 0
Palms, various, ea.	2 0-10 0
— specimens, ea.	10 6-84 0
Pelargoniums, doz.	8 0-12 0
Rhodantho, per doz.	4 0-6 0

FRUIT.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Apples, per sieve	3 0-4 0
Eggs, per dozen	1 0-2 0
Grapes, 1st quality, black, English, lb.	1 3-1 6
— 2nd quality	0 9-1 0
— Muscates	1 6-2 0
— Guernsey	0 8-1 3
Melons, each	1 0-1 6
Pine-apples, St. Michael, each	2 0-6 0
Peaches, 1st size, doz	4 0-8 0
— 2nd size	2 0-4 0
— 3rd size	1 0-1 6

VEGETABLES.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Beans, Runners	2 0-2 6
Cauliflowers, p. doz.	3 0-4 0
Onion, per doz.	1 6-2 0
Marrows, veg., doz.	1 6-2 0
Mushrooms, per lb.	0 6-0 9
Peas, blue, p. bush.	4 0-5 0
Tomatoes, Home-grown	
— Smooth	4 0-—
— ordinary	3 0-3 6
— Guernsey	3 0-—

POTATOS.

Demand slow at about last week's prices. Supplies fairly good of all kinds. *J. B. Thomas.*

SEEDS.

LONDON: Aug. 14.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that, as regards new Trifolium, buyers find that they can this season satisfy their requirements on extraordinarily low terms. Sowing Mustard and Rape seed are also exceedingly cheap. For new English winter Tares and Eye there is a good inquiry. White Clover seed, Trefoil, and

flowers.—*W. J. J.* 1, Spiræa; 2, Ceanothus azurea; 3, Calycanthus occidentalis; 4, Halimodendrum argenteum; 5, Elæagnus pungens; 6, Sciadopitys verticillata, the Umbrella Pine of Japan.—*R. J. H.* 1, Impatiens fulva; 2, Lysimachia vulgaris; 3, Ballota nigra; 4, Lapsana communis.—*W. E.* 1, Agatheia cœlestis; 2, Aubrietia deltoidea; 3, Veronica incana.—*K. L.* Gentiana aclepiadea, white var.—*A. M.* Polygonum orientale, Zelkova acuminata.—*W. C.* 1, Agrostis alba; 2, Phalaris arundinacea variegata; 3, Oxalis species; 4, Oxalis species.—*J. C.* should address the Editor, 1, Datura Stramonium, purple var.; Rhus Cotinus (Wig-plant).—*H. G. L.* Frankenia laevis.

NEW FRUIT: *W. H., Rochester.* The next meeting of the committees will take place on August 27. Write to Mr. Barron, Chiswick Gardens, for particulars.

NORTHAMPTON SHOW: *A. J. Nightingale.* Will you kindly state in what competition the error you wish corrected was made.

PEACH FRUITS DEFORMED: *A. P.* The fruits appear to have been squeezed out of shape by the branches which might, in some instances, have been prevented by loosening the latter from the shreds or ties that secured them; and those which could not be so freed, should have been taken off at the first thinning.

PEAS AND RUNNER BEANS: *G. F. G.* Gather the young perfect Beans and Peas, shred the former, and shell the latter, and put them into stone jars or wooden tubs, in layers, with salt sprinkled over each layer. French Beans should be put down whole. The salt tends to harden these vegetables, and they will require more cooking than fresh ones. The contents of the vessels will make a certain amount of liquor; if it be not enough to cover them, add boiled water. A floating top should be placed over them, and a clean boulder or piece of stone on that, to keep it under the water. If scum rises, clear it off with a clean cloth. Sauer Kraut is made in this way, only it is pressed more firmly into the vessel than is necessary with Beans and Peas.

SPIDERS IN VINERIES: *Captain.* Vaporise the vineries with Richards' XL All preparation. No harm will be done to the fruit, but every insect and spider will succumb.

THE FLORICULTURAL CABINET: *Enquirer.* Was published between 1833 and 1848, in ten volumes. A second series was issued in 1846. The book has an historic value.

THE HEAVIEST BUNCH OF GRAPES GROWN IN GREAT BRITAIN: *H. B.* The heaviest bunch of which we have any record was one of White Nice, shown by a Mr. Dickson at Edinburgh in 1875. It weighed 25 lb. 15 oz. See *Gardeners' Chronicle* for September 18 of that year.

VINES AND MILDEW: *Vine.* The cause is not always discoverable, although certain conditions of temperature and humidity will cause an attack, but not always. In some districts it is more common than in others. It may be communicated to plants under glass by mildewed plants out-of-doors. The cracking of the skin of the Grape is the inevitable result of mildew, which destroys the elasticity of the skin; and even when the fungus is killed by artificial means, there is no difference. You must cut out and burn every mildewed berry, and such leaves as may be spared, and then apply some of the advertised remedies, or the one we give to *G. F. G.* in this column. Keep the hot-water pipes warm, smear them with whitewash, into which a pound of flowers-of-sulphur has been mixed in a bucketful. Afford air by the upper ventilators, excepting in fine dry weather.

BARRON TESTIMONIAL FUND.—Received £1 1s from D. T. F. The sum will be handed over to the committee when formed.
COMMUNICATIONS RECEIVED.—D. T. F.—B. W.—C. T.—H. F.—W. R.—R. E.—S. M.—T. A. (next week).—J. R. R. (next week).—W. E. (many thanks; petals replaced by leaves).—Dr. K. (next week).—G. M.—J. W. W.—W. S.—C. W.—T. S.—W. J. R.—G. H., Ealing.—G. S.—P. F.—P. D.—G. T. C.—Dr. F. K.—J. A.—H. C. P.—E. F. W. H.—J. G. W.—A. D.—R. D.—G. S. J.—J. Johnson.—H. W. W.—H. C. F.—A. L.—Amateur.—S. S.—F. P.—Constant Reader.—J. D.—S. H.—H. B.—M. K. G. (we cannot undertake soil analysis).—J. Smith (too scrappy).—R. R.—W. B.—F. E. T.—H. J. E.—E. W. C.—P. McC., Cape Town.—J. D., Cork.—W. H. W.—W. W.
PHOTOGRAPHS, SPECIMENS, &c. RECEIVED WITH THANKS.—J. V. & Sons.—W. C.

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COCOA-NUT FIBRE REFUSE,
 6d. per bushel; 100 for 30s.; truck, loose (about 2 tons), 50s. Bags, 4d. each.
SPECIALLY SELECTED ORCHID PEAT.
 LIGHT BROWN FIBROUS PEAT, 5s. 6d. per sack; 5 sacks, 25s.; sacks, 4d. each.
 BLACK FIBROUS PEAT, 5s. per sack; 5 sacks, 22s.; sacks, 4d. each.
 COARSE SILVER SAND, 1s. 9d. per bushel; 15s. per half ton; 28s. per ton, in 2-bushel bags, 4d. each.
YELLOW FIBROUS LOAM, PEAT-MOULD, and LEAF-MOULD, 1s. per bushel.
 SPHAGNUM MOSS, 8s. 6d. per sack.
 MANURES, GARDEN STICKS, VIRGIN CORK, TOBACCO CLOTH, RUSSIA MATS, &c. Write for Price LIST.—**H. G. SMYTH,** 21, Goldsmith Street, Drury Lane, W.C.



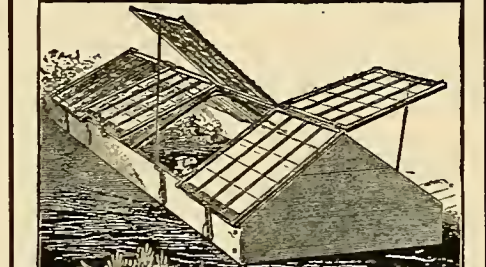
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Diam.	PRICES.	Diam.	PRICES.
1/2-in.	best quality ... 36 3	1/2-in.	cheap ... 19 3
3/4 "	extra stout ... 43 7	3/4 "	best quality ... 21 5
1 "	best quality ... 45 0	1 "	extra stout ... 27 5
1 1/4 "	extra stout ... 52 0	1 1/4 "	best quality ... 28 0
1 1/2 "	best quality ... 52 0	1 1/2 "	extra stout ... 33 0
1 3/4 "	extra stout ... 60 7	1 3/4 "	best quality ... 33 0
		2 "	extra stout ... 40 10

Carriage paid, and dispatched on receipt of order. Awarded 12 Gold and Silver Medals. Also maker of Hoses for Delivery, Steam, Fire, Suction, and Liquid Manures, &c. Supplied to all the principal Corporations, Parks, Estates, &c. at home and abroad. Over 3,000,000 feet in use. Rot-proof Green Shading, 10z. per square yard. Catalogues post-free.—Melbourne Works, Wolverhampton; and London Works, Reading. Maker to Her Majesty the Queen, and H.R.H. The Prince of Wales.

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 HORTICULTURAL BUILDERS.

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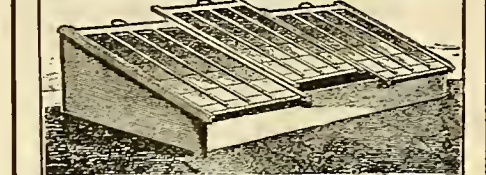


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8 ft. by 6 ft. ... 3 18 0	16 ft. by 6 ft. ... 6 18 0

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 No. 47A.—10 ft. by 7 ft. ... Painted } £8 10 0
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 Carefully Packed and Carriage Paid.

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 OF AUGUST 24.

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 PORTRAIT of the EARL of ELLESMERE.
 VIEWS of the OLD HALL.
 THE LAKE, with ISLANDS and RUSTIC BRIDGES.
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 THE FLOWER GARDEN. THE TERRACE.
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 Second Edition, 216 pages and 93 Engravings,
 2s. 6d. nett, per post, 2s. 10d.

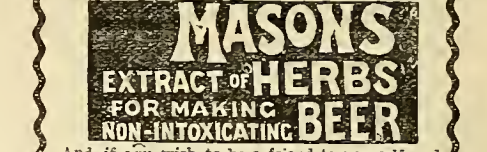
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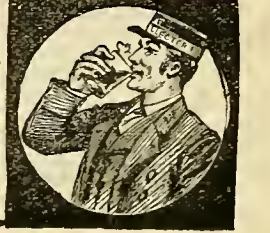
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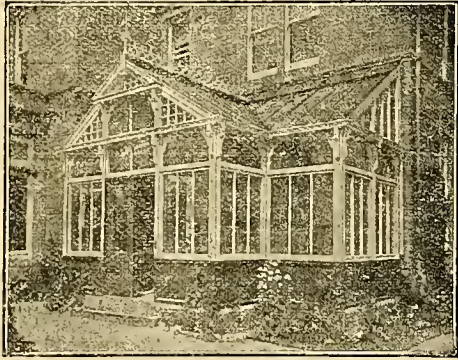
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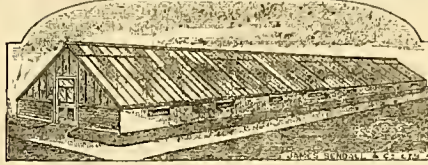
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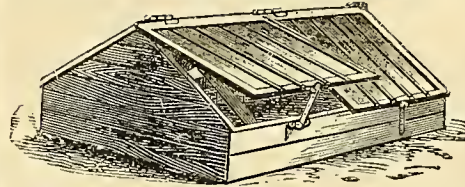


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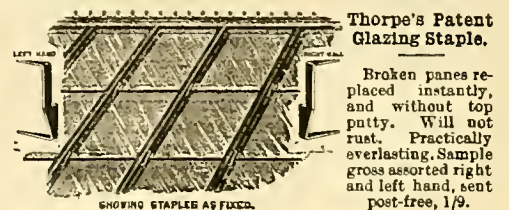


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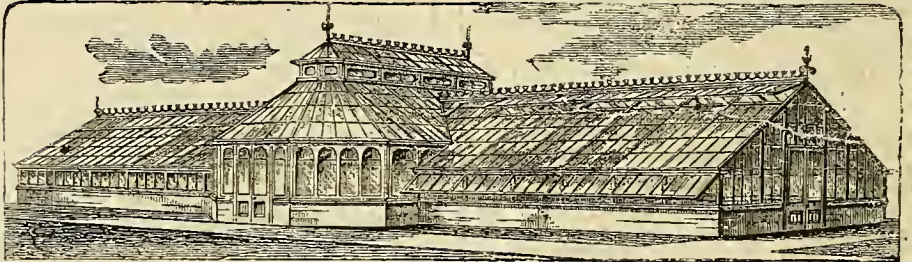
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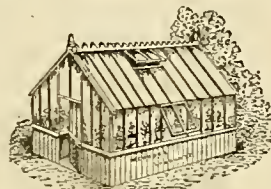
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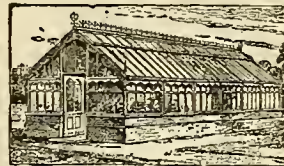


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The GARDENERS' CHRONICLE

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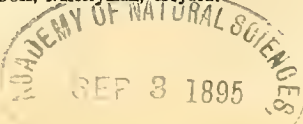
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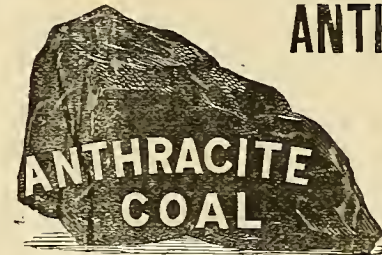
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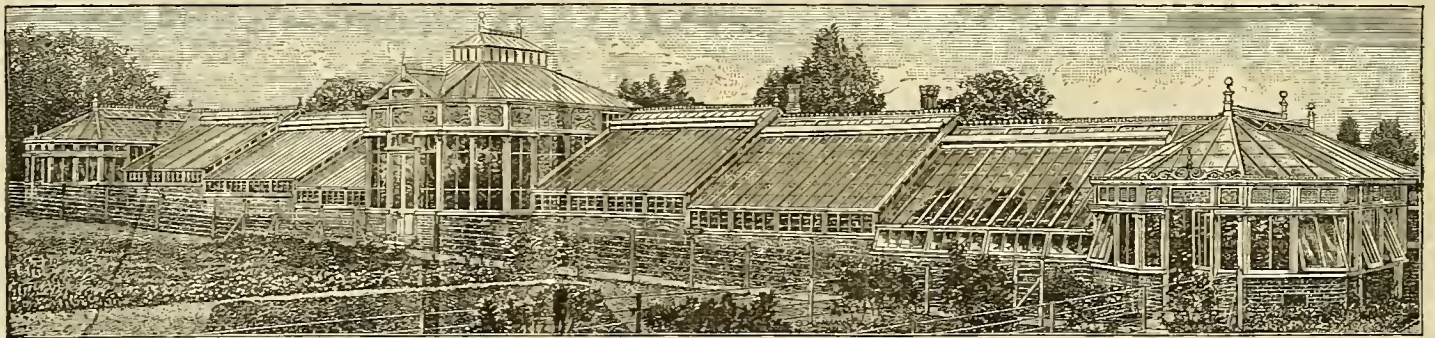
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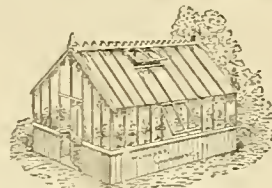
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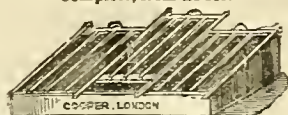
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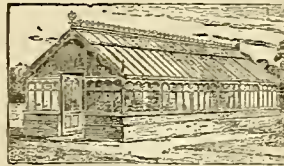


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" Gaskelliana alba	Lycaste Skinneri alba superba
Odontoglossum Vuytstakianum	" " armeniacæ
Cypripedium Morganii Burfordianum	Dendrobium nobile Sanderianum
Schomburgkia lepidissima	Cypripedium hybrida, &c.

The Plants offered by Messrs. F. Sander & Co. are exceptionally fine.

Every Plant is in fine condition, and has been specially selected for this Sale.

EACH PLANT IS FULLY DESCRIBED IN THE CATALOGUE. AMONG OTHERS,

Phaius Owenianus (P. bicolor Owenie x P. Humboldtii).
" Marthæ (P. Blumei x P. tuberculosis).
Phaius-Calanthe Arnoldie (Calanthe Regnierii x Phaius grandifolius).
Lælio-Cattleya The Hon. Mrs. Astor (Cattleya Gaskelliana x Lælia xanthina).
Cattleya Miss M-sures (C. speciosissima x C. velutina).
" Carbeilana (C. Loddigesii x C. marginata).
Lælio-Cattleya Albanense (Cattleya Warnerii x Lælia grandis tenebrosa).
Lælia Oweniana (L. pumila Dayana x L. xanthina).
Cymbidium Wianianum (C. giganteum x C. eburneum).
Masdevallia hybrida.
Subralia Amesie (S. Wilsonii x S. xantholeuca).
Cypripedium Albert Truffaut (C. Harrisianum vivicans x C. Spicerianum).
Cattleya labiata var. with pure white sepals and petals, and crimson.

ALSO,

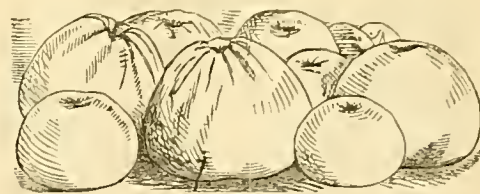
CYPRIPEDIUM BELLATULUM ALBUM, BOLLEA SCHRODERIANA, New DENDROBIUMS, ANGRECUM EICHLERIANUM, CYPRIPEDIUM A. DE LAIRESSE, and many other fine Orchids, in great variety.

About 100 lots of IMPORTED ORCHIDS, including—

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TUESDAY AND WEDNESDAY, August 27 and 28, 1895.



THE

Gardeners' Chronicle.

SATURDAY, AUGUST 24, 1895.

THE ROSE GARDEN IN AUTUMN.

VARIOUS are the Rose gardens of England, in their characters and contents; and seldom do we come across what may be called an ideal one. Some are cramped by want of space, and, although their ambition may be great, they are unable to gratify it; others are formed to meet the wants of an exhibitor, and, while it is perfectly true that, if you want to grow Roses of first-rate character, you must be guided by the principles, and follow the methods adopted by that class of growers, we are fain to confess that they do not conform to any æsthetic ideas of garden beauty. There are others, again, in which no respect is paid to regularity; their owner does not know much about them, and tells you that he only wants a quantity of blooms, and it is in such gardens as these you are apt to come across flourishing bushes of Manetti. The grouping of Roses, that is, the employing a good number of the same variety, is one of the points on which, if there were space and means, one would very strongly insist. Sometimes one does come across beds of Mrs. John Laing and other well-known flowers, and the effect is very charming; but as it was not given to everyone in old times to get to Corinth, so there are heights in Rose-growing to which humble mortals cannot aspire. But there are some things which are common to all kinds of Rose-gardens, and suggestions which are applicable to all; and the Rose-grower as he looks round upon his garden may be thankful that such things as Roses in autumn can be written about—there was a time when we had nothing of the kind. Hybrid perpetuals (a very misleading name to be given to them) were unknown; there are many of them which, while they have a good bit of the hybrid, they have very little of the perpetual in them—but, nevertheless, there are many which give us blooms after the first flush of the summer flowering is over, leading us to pleasant reminiscences of the triumphs of the past, and cheering us with hopes of the future.

Then we were without those lovely Roses which Philip Noisette and the French raisers generally have added to our gardens in the beautiful Noisette and Tea sections; then a few of the Bourbon Roses were hailed with gratitude when such varieties as Souvenir de la Malmaison, Mrs. Bosanquet, and Sir Joseph Paxton favoured us with flowers. But now when we go out in autumn into our Rose gardens we are surrounded with lovely blooms of the many varieties of these classes which the last thirty years have added to our collections. Shoot succeeds shoot, and flower after flower opens, and until the cold grip of frost lays hold upon the bushes they never cease to enliven our gardens; it is true they are not brilliant in their colours, and so there is not the blaze amongst them that proceeds from a bed of hybrid perpetuals (indeed, we do not want that),

but it is the exquisite and delicate colouring into which no crudity or coarseness enters that constitutes one of their chiefest charms.

The extraordinary character of this season seems to be maintained throughout, and now a spell of hot autumnal weather has set in after the heavy rains which we experienced in the latter part of July and the earlier part of August, we seem to be assured of a plentiful supply of flowers. For the past few years I have adopted a plan which seems to me to thoroughly suit the Rose, namely, that of cutting out the old wood which has flowered and thus done its duty, for if the plants (of course, I am speaking of dwarfs), have done well, they will have sent up strong shoots, which will form the staple of blooms for next year. In fact, it is very much the same sort of treatment to which we subject our Raspberries, and for the same reason the old wood is useless, and its removal admits free circulation of air to the plants, and thus tends to the ripening of the wood. When these new shoots are very long, it will be necessary to stake them; but as one very much objects to such aids when they can be dispensed with, it may be sufficient, unless in very exposed situations, to top these long shoots, and thus not give so much play to the wind. In these suggestions I have had in view those dwarf plants which are cultivated in the orthodox style. Where it is intended to form large bushes, and get a quantity of flowers irrespective of quality, the plants may be left to grow more naturally, although the pruning-knife will be required to keep them, to a certain extent, in shape. Where mulching has been adopted in the summer months—a practice pursued by some, especially by those who have exhibitions in view—it will now be time to remove that unseemly addition to Rose garden. I have been into some Rose gardens from which all appearance of beauty was taken away, and the whole thing was suggestive of a farm-yard with Roses planted in it; if there be any of this mulching now remaining it ought to be removed. Roses on walls will now require some attention—long shoots will make their appearance; these ought to be nailed-in, and provision made for removing the old wood. Most of these wall Roses will probably be of the Noisette or Tea sections, and with which of these the Gloire de Dijon race is to be classed it would be difficult to say, for the origin of the illustrious mother of this family is obscure, it having come up accidentally in a walk of the garden of Mons. Jacotot at Dijon; but in all probability it and some of its progeny such as Madame Bérard, Bonquet d'Or, Belle Lyonnaise, Madame Trifle, and Beauté de l'Europe will be found amongst these wall Roses, for I can hardly call them climbers, because they do not climb. I never can speak of Maréchal Niel as a satisfactory Rose for a wall, the pendent habit of its bloom exposing simply the discoloured outside petals; in the same way, I think, objection must be taken to W. A. Richardson, not for the same reason, but because as far as my experience goes, it is apt to lose its brilliant colour and become simply a white Rose. Why it should do so I cannot understand, because I have seen it most beautifully coloured under glass, notably at Lord Brassey's at Normanhurst, where the heat would, of course, be much more intense than that on a wall. Some people, however, say that there are different strains of it, and that there are some which always will go white; if so, the sooner they are discarded the better, for it is useless in that form, while in its normal condition there is no greater favourite, especially with the ladies.

This month is that in which Rose growers take stock and consider what alterations they shall make, and what new varieties they shall obtain; a great taste for what are called garden Roses, and more especially the single or semi-double varieties, has been developed of late years. It would be a great pity if this taste were checked, but I think those who are contemplating an increase in their stock of these should in planting recollect that they are of a very fleeting character. The single Roses, with the exception of *Macrantha*,

which now and then gives a late bloom, are truly summer Roses; while Lord Penzance's hybrids of the Sweet Briar partake very much of the same character, and as yet, so far as I have seen, develop nothing of a tendency to second blooming, although I am informed that some of the newer varieties have more of this character. My own striped Briar, "Janet's Pride," which seems to be increasing in popularity, gave me last year a considerable number of second blooms, but it cannot be depended upon to do this; therefore I would say, to all who intend to increase their collection of these varieties, make up your mind beforehand as to how you are going to use them, and consider when you are planting out in your mind a Rose-garden for next year whether you are going in for effect, or simply for the enjoyment of the individual flowers.

I do not here enter on the subject of new Roses, which I think it would be well for our growers to add to their collections, because, until the announcements are made, we do not know what they may be. I speak, of course, of those raised by our home growers, for we have long ceased to feel much interest in the long, wordy and flattering descriptions of the foreigners, few of which now seem to find a footing on our shores, nurserymen and amateurs alike seeming to think they are not worth all the trouble of growing, propagating, and then perhaps throwing away; whereas in the case of our own raised flowers, we have many opportunities of seeing them, and are guided in our selections not by what we have been told, but by our own knowledge of them, either in their growing state or when staged for exhibition.
Wild Rose.

NEW OR NOTEWORTHY PLANTS.

DENDROBIUM (PEDILONUM) GLOMERIFLORUM, Krzl., n. sp.*

The habit of the plant is promising, but the pale rosy flowers are comparatively small and insignificant. As they appear in dense clusters of 1 to 5 on each stem, the effect is rather agreeable, nevertheless the plant cannot be ranged among our garden beauties. It flowered at Messrs. F. Sander & Co., St. Albans, July last. *Dr. F. Kränzlin.*

ORCHID NOTES AND GLEANINGS.

AËRIDES SANDERIANUM.

FASHION has as strong a hold upon gardeners and their employers as upon ladies and their dresses. Even in the cultivation of Orchids, Fashion asserts her sway, and the beautiful and graceful genera, *Vanda*, *Aërides*, and *Saccolabium*, are now-a-days neglected. I send you a raceme of the lovely *Aërides Sanderianum* to prove, were it needed, that this genus is well worth taking pains with. Not only are the racemes and individual flowers beautiful, but the habit of the genus is very graceful, and the numerous species present marked distinctions. I may remark that Williams' *Manual* devotes only thirteen of its 800 pages for *Aërides*, while it allots ninety to *Cypripedia*! *T. L.*

CYPRIPEDIUM SELLOEUM.

Mr. W. Bull kindly sends a flower of this species with two lateral sepals, one petal median and opposite the lip. This reversion to a two-membered flower is not uncommon in Orchids. Was the ancestral Orchid of this nature?

* *Dendrobium (Pedilonum) glomeriflorum*, Krzl., n. sp.—Caulibus maximis crassissimis multiaarticulatis ad 70 cm. altis, 1—2 cm. diametro; foliis oblongo-lanceolatis, acutis; apicis glomeratis multi v. plurifloris, floribus inter minores generis; sepalis dorsali oblongo obtuso, lateraliibus multo majoribus semioblongis obtusis antice omnino liberis pseudocaulis obtusissimum globosum quam ovarium semilongum brevis formantibus; petalis quam sepalum dorsale paululum minoribus marginatis ciliatis; labello basi linearis oblongo margine ciliato ceterum integro excavato obtuso; gynostemio brevi valde carnoso trinque juxta androclinum emarginato obtuso; anthera plana antice retusa fere quadrata postice bilobata; pollinia generis; rostellis antice rectilineis, fovea stigmatica satis plava. Flores pallide rosei v. carnei, 8 mm. diametro. Habitat?

CATTLEYA GASKELLIANA.

To the courtesy of Mr. W. Macdonald, Pitlochry, we are indebted for some curious specimens of this plant. There were three flowers on the raceme, each one normal except that the inner half of each sepal was lip-like, thus affording an instance of partial petalody of the sepals. We understand the plant flowered in a similar manner last year.

THE DAISY, BELLIS PERENNIS:

YOUR illustration of Daisy The Bride recalls to my mind the once prominent part Daisies used to form in our spring bedding. The lovers of this flower will not have forgotten the great display of spring flowers at the late Mr. Quilter's grounds, Lower Aston, during the year 1873, in which the modest Daisy played so prominent a part. I have as vivid a recollection of it now as I have of the boiler trials, and the ladies falling over the muddy planks, scrambling to get a view of the Sultan of Zanzibar. Here the Daisy and Viola tried to outvie each other in quantity and attractiveness, but the Daisy took the lead. Nowhere was the Daisy to be seen in such quantities and perfection as at Aston; it not only formed long vandyked lines, zigzag and diamond beds, various other designs, but filled up in masses some of the most prominent places in the grounds. Now in some of our prominent public gardens where flowers are planted in the beds to make a spring display, the Daisy is not to be found, as, for instance, at Hampton Court, where nearly the only spring flowers are about three colours of Polyanthus, or bunch Primrose, more properly called; these are very well done, and make a good display, but every one gets tired of the same thing year after year. Now, if some of these beds were edged with Daisies, *Violas*, *Anubrietas*, &c., they would certainly prove more interesting and attractive. Even carpet-beds could be made of the different varieties of Daisies, which, I venture to say, would prove more interesting and be better appreciated than this one solid mass of bunch Primrose, as variety is charming at all times, and we have plenty of materials wherewith to make spring bedding charming. One would think that spring bedding is losing ground, for we hear very little of it now—even the three champion places, Aston, Cliveden, and Belvoir, are silent. Now the Daisy is a very important little thing in spring bedding, easy of culture, a general favourite, and can be adapted for almost any sort of artistic work; it is true we have not much variety in colour, but enough for most purposes required for so sturdy a little grower, and I would much like to see it more brought into cultivation again. I had a fine collection at both Osberton and Enville just formed when I left, and spring bedding was given up. I had, at the latter place, all the varieties I could procure, variegated and otherwise, and found ample colour and variegation with the aid of other things for all my requirements. It seems quite unnecessary to give any instructions as to its culture, being only a Daisy—but still a few remarks respecting it may not be out of place. The best soil suitable for the Daisy would seem to be a good alluvial loam, well drained—a too light soil is soon penetrated by drought. Propagation is best done in the spring by dividing the roots as soon as they have done flowering selecting a rather shady spot for their summer quarters. Numbers of Daisies are lost annually through not sufficient care being taken of them after their removal from the flower-beds to the reserve. Daisies are apt to degenerate if they are permitted to remain long unremoved; it is best to have them taken up every second year, planting them in fresh earth. For seedlings with a chance of variety, sow in spring, in a pan or box, prick off the seedlings into a bed in summer, attend to watering and weeding the plants, and by the autumn many of them will flower and continue doing so until stopped by frost, but will start again as soon as the milder weather will permit. From these plants the best should be selected and the remainder thrown away. *E. Bennett, Lyne, Chertsey.*

THE FRUIT CROPS.

[For Tabulated Summary, see p. 119.]

(Continued from p. 152.)

2. ENGLAND, N.E.

NORTHUMBRLAND.—The Apple crop is quite extraordinary, with the trees in splendid health. Pears on walls irregular. Plums on walls and in the open are very fine, especially Denyer's Victoria. Of Gooseberries, red Currants and Strawberries the crop is quite exceptional, finer than we have had for many years. *George Harris, The Castle Gardens, Alnwick.*

— Apples an average good crop. Stirling Castle, Ecklinville, Hanthouse, Domino, and a few other varieties are bearing heavy crops. Pears not so good. All small fruits are good. Strawberries and Raspberries are excellent; Raspberry Superlative is a first-class variety, it is the heaviest cropper of any I have tried, and it seems to withstand dry weather better than any other. Gooseberries and red Currants enormous crops. All trees and bushes are very healthy. *David Inglis, Howick Hall, Lesbury, R.S.O.*

DURHAM.—Apples and Pears are about the average, on some trees none at all. This applies to the early flowering sorts, the cold east winds having cut off the blossoms. Strawberries were a bad crop, owing to the dry weather, and Raspberries are few, the severe winter having killed most of the canes. The greenfly and smut was very bad, but of late the thunderstorms have washed the fruit. *R. Draper, Seaham Hall.*

YORKSHIRE.—Strawberries in this district were a heavy crop, excellent in quality, and at this place they were ripe in abundance by the middle of June, which is very early for this district. Laxton's Noble was the first to ripen, and the crop of it was a heavy one, the fruits large, and owing to the dry weather the flavour was good. It is an excellent variety and stands the drought well. Next in the order of ripening was J. Ruskin, the crop heavy, but quality poor; Black Prince came next, a heavy crop, and excellent in quality; President and Sir J. Paxton were large and good, and the latter kept in bearing very well; Elton Pine, British Queen, and Aberdeen Favourite, were fine crops, of good quality, Morellos and sweet Cherries carry heavy crops; Apricots are a thin crop outside, but there is an abundant crop in our open shed. Of Pear-trees on walls, Easter Beurré and Beurré Diel have nice crops. Lord Suffield and Keswick Codlin Apples have good crops of fruit. *B. Wadds, Birdsall, York.*

— Strawberries have been an exceptionally heavy crop, the individual fruits large, and of excellent flavour. Apples will be plentiful with us, the younger trees bearing very heavy crops of fruit where they had shelter from the cold cutting winds which prevailed during the flowering time. Damsons are abundant, but the fruit is likely to be small owing to their great abundance. *J. Riddell, Castle Howard Gardens, York.*

— Apples showed remarkably good blossom, but were seriously affected by the cold winds and storms from the north and north-east about the middle of the month of May. In favoured spots Apples are, perhaps, above the average. Pears and Plums showed only moderate blossom in this district. Cherries showed plenty of blossom, but the cold clayey nature of the soil is not adapted to their successful cultivation; only Morellos do well. Apricots, the heavy crops of which so exhausted the trees during 1894, and the growth being made late, did not get ripened. Small fruits are excellent, except black Currants, which are almost a failure. *J. P. Leadbetter, Tranby Croft Gardens.*

— The cold, wet, sunless autumn of 1894 has left its mark on the fruit crops of 1895. In spring the first surprise was the almost total absence of Apricot bloom. Pears and Plums did not carry nearly their usual amount of bloom, and it was small and weak, not setting well; a few trees on walls with a south aspect are bearing heavy crops. Apples bloomed fairly well, but the crop is not in

proportion; the earlier varieties appear to be carrying the best crops. Strawberries most abundant and good. Gooseberries, Raspberries, red and white Currants extra good. Black Currants not so plentiful, but clean and good. *William Higgin, Stanwick Gardens, Darlington.*

— The very hot and dry spring weather has much benefited all outdoor crops of fruit. Apples are looking uncommonly well, especially free-growing culinary varieties, which is rather remarkable after the plague of caterpillar we had; but thanks to the use we made of the garden hose, we cleared this plague off. Pears, too, are promising well, also Plums, Cherries and Strawberries. I never saw more or better fruits, but the latter, through continued heavy rain, rotted ere they ripened. *J. Robert Dawes, Temple Newsam.*

— Apples in this district are a good average crop. A few kinds, viz., Lord Suffield, Keswick Codlin, Prince Albert, Nonsuch, Yorkshire Greening, Easter Pippin, Greenup's Pippin, and Tower of Glamis for instance, are carrying heavy crops. Pears are a fair average crop, both on walls and standards. Plums have fair crops, and a few have full crops. The Gooseberry bushes were dreadfully infested with caterpillars of the sawfly; I never saw them so bad before. Of Strawberries, President and Vicomtesse H. de Thury were by far the best out of many varieties. *J. Hughes, Wentworth Woodhouse Gardens.*

CAMBRIDGESHIRE.—The fruit crops here are, with the exception of Plums and Apricots, very good. Apples are the best crop that has been for some time. Pears were sadly thinned by the cold winds, and are nothing near a crop. Plums also suffered from same cause and through the drought. Gooseberries and late Strawberries are very small. Peaches and Nectarines are, as usual, very good, although a lot of the unripened shoots were killed by the frost. Apricots were spoilt from the same cause. Quinces are a crop. Taken on the whole, it is the best fruit crop that has been for some years. *J. Hill, Babraham, Cambridge.*

— The fruit crop in this district is good on the whole, with the exception of Pears; Lane's Prince Albert being by far our best cropping Apple, Ecklinville Seedling coming next. The red-spider is a very bad plague in most gardens hereabouts on Gooseberries, the result of neglect, there being plenty of water in this district, and any ordinary force-pump on wheels, with a small pipe and a tap to regulate the quantity of insecticide, would answer. I find petroleum the best thing to dress the trees with, and in its passage through the pump and a few lengths of the hose it becomes well mixed with the water. It is fatal to the black Currant-bud mite. *Wilson C. Smythe, Upwell House Gardens, Wisbech.*

ESSEX.—Apples are remarkably good, the trees clean and healthy. The great drought stopped the growth of these and all other large and small fruits, but all are now going on healthily. The Strawberry crop was exceptionally good, and all small fruits abundant, but they suffered greatly from drought, and on that account Gooseberries lacked flavour. *Jas. Douglas, Great Gearies, Ilford.*

LINCOLNSHIRE.—Apples upon the whole are a good average crop, although in some cases it is a very partial one, the severe storms of May 17 and 18 having greatly damaged the blossom and foliage where exposed to the full force of the wind. Pears are a very light crop; Apricots, scarcely any of the trees suffered much during the winter; and Peach and Nectarine trees on a south-east wall are bearing abundantly. All trees are now making good and healthy growth, not having suffered so much from the drought here as in some localities. The rainfall for June was 2.70 inches. The Gooseberry-caterpillar is very troublesome. *E. F. Hazellon, Brocklesby Park Gardens.*

SUFFOLK.—The Apple crop in this district is not only under the average, but is very partial. Here and there a tree carries a fairly good crop, while on others not a fruit is to be seen. I consider the

failure is entirely owing to the continued frosts and cutting winds that prevailed during the flowering period, as all the trees were masses of bloom. Pears are thin, but the fruit promises to be good. Apricots are a failure. Peaches and Nectarines are very good. Plums thin, but Cherries are a good crop, both dessert kinds and Morellos. Strawberries were excellent. All small fruits are very abundant. *H. Fisher, Flipton Hall Gardens, Bungay.*

— Apples variable; most old trees well clothed after months of dropping, which pulls the crop up to an average. Pears much whipped by winds, as well as checked by drought. Plums decidedly scarce; few blooms, which set fairly well. The only full crops of the Plum family are Bullaces, the black, where grown, being as heavily laden as the common Bullace. Peaches and Nectarines are a full average, but Apricots are thin. Gooseberries, Currants, Raspberries, extra crops, smaller than usual from lack of rain. Walnut trees much injured by the February frosts; very few Nuts. *D. T. Fish, Bury St. Edmunds.*

— The severity of the winter months, coupled with the low night temperatures which continued up to the end of April, had a disastrous effect on fruit crops; the growth of fruit trees was slow and weak, on Apple trees there was a prevalence of insects which riddled the young leaves, Pears also suffered, then drought set in, and during the months of May and June only nine-tenths of an inch of rain fell. In some cases Apples that appeared to have set freely in spite of unfavourable conditions now dropped off, strewing the ground, and those left refused to grow larger. Pears also fell off, but at an earlier stage. Strawberries suffered greatly on light soil, the fruit was small, and almost cooked on the plants when ripe. Cherries have been clean and good. Plums are a short crop, and Apricots almost a complete failure. *John Wallis, Orwell Park Gardens.*

— The fruit crop of 1895 promised to be an exceptionally good one, but the long continued drought was disastrous to early Pears, and most of the fruits dropped. Marie Louise, Doyenné du Comice, Beurré Diel, and later varieties of Pears are likely to be very good. Apples, especially the culinary varieties, are a fair crop and very good. *H. Rogers, Rendlesham Gardens, Woodbridge.*

4. MIDLAND COUNTIES.

BUCKINGHAMSHIRE.—Although the drought interfered in some degree with the Strawberry crop, in other respects it did but little mischief. Among notable subjects in this department, the early varieties of the Peach demand a remark. Early Beatrice, Early Amsden, Waterloo, and Alexander have produced excellent crops of fruit of good size and quality—in fact, they ripen outside even before our good old early varieties with the assistance of glass; these are, therefore, an acquisition sufficiently great to be appreciated. *G. T. Miles, Wycombe Abbey.*

— Generally speaking, the fruit crops of South Bucks are well up to the average. Apples in some districts are over average; here we have a fair crop. Of orchard trees Quarrenden, King of the Pippins, Cox's Orange Pippin, Dutch Mignonne, Wellington, Fearn's Pippin, and Starmer Pippin are heavily laden, while Blenheims and Ribstons and some others are very thin. Of a number of bush-trees on the Paradise stock, Lord Grosvenor and Grenadier, two early cooking Apples, invariably crop heavily, and this year look remarkably well. Other kinds also bearing good crops are Eclinvile, Pott's Seedling, Lord Derby, Warner's King, Cox's Pomona, Cox's Orange Pippin, Worcester Pearmain, Prince Albert, Stone's Apple, Ribston, and Bramley's Seedling. Pears on walls and bush-trees are scarce, while a few orchard-trees, Beurré Clairgeau, Louise Bonne of Jersey, and Autumna Bergamot are cropping heavily. All varieties of Peaches and Nectarines have required a considerable thinning of fruits, but notwithstanding the long spell of drought look remarkably well; this latter remark applies to all fruit trees. Apricots are rather under average crop. Plums and Cherries good. Small fruits and Strawberries very good, although the latter suffered

somewhat from the dry weather. Nuts are very plentiful throughout this district. *Chas. Herrin, Dropmore, Toplow.*

Plums and Apples a very heavy crop, trees clean and healthy. Among early Apples bearing freely are Irish Peach, Mr. Gladstone, Lord Suffield, and Seaton House. Among Strawberries, Royal Sovereign, British Queen, Laxton's Latest of All, and Waterloo have been very fine. *J. Smith, Mentmore, Leighton Buzzard.*

Apple Lord Suffield, Lord Derby, King of the Pippins, Cox's Oranges Pippin, and Blenheim Orange are very good here; in fact, the Apple crop is decidedly a good one. The following varieties of Pears are carrying good crops, viz., Comte de Lamey, Pitmaston Duchess, Beurré Clairgeau, Vicar of Winkfield, Black Worcester, Marie Louise, Easter Beurré, Louise Bonne of Jersey, Glou Morceau, and Doyenné de Comice. *F. Capp, Wezham Park Gardens, Slough.*

CHESHIRE.—Apples are very good crops, more especially the following useful varieties:—Lord Suffield, Lord Grosvenor, Grenadier, Hawthornden, Cellini, &c., which are overladen with fruit. Pears are very good crops, too, Marie Louise, both on the walls and in the open, being full of fruit. Victoria Plums are so heavily loaded with fruit that the branches require support, other kinds fair. *Robt. MacKellar, Abney Hall Gardens, Cheshire.*

With the exception of Apricots, which are almost a failure here, the fruit crop is a most satisfactory one. Apples are a very full crop, the fruit remarkably clean, and the trees free from blight. Plums and Damsons are also a full crop, in some cases, trees of the latter have suffered a great deal from spider. Pears are much below an average crop. There was very little bloom in the early spring, doubtless accounted for by the heavy crops carried last year, and this remark applies to Apricots as well. Strawberries have been a very heavy crop, and of excellent quality. With me, Royal Sovereign has established its claim as a first-class second early variety for pots, as well as outside. Cherries and small bush fruits are an abundant crop. Old brakes of Raspberries suffered somewhat severely from the frost, but younger brakes have carried enormous crops; and out of a number of varieties, I find Superlative the best. *N. F. Barnes, Eaton Hall Gardens.*

DERBYSHIRE.—Apples and Pears, favoured with magnificent weather whilst in blossom, set a prodigious crop, but the long-continued drought thinned them considerably, and advantageously. Pears, however, are still a very heavy crop, particularly such varieties as Jargonelle, Beurré de Capiaumont, Easter Beurré, Vicar of Winkfield, Williams' Bon Chrétien, &c. Our heaviest crop of Apples are Gravenstein, Keswick Codlin, Emperor Alexander, Cellini, and Northern Greening. Our newly-made Strawberry beds suffered terribly through the exceptional severity of the winter, hundreds of plants being killed outright. *Ben Ashton, Glossop Hall Gardens.*

The present season is one of the most fruitful we have had for many years, both in gardens and orchards; the trees are literally loaded with fruit, and considering the long spell of dry weather we have experienced, the trees are wonderfully free from insect pests. *J. Bottrell, Sudbury Hall, Derby.*

LEICESTERSHIRE.—The Apple crop on standard trees is heavy in this district, especially of the varieties Blenheim Orange Pippin, Wellington, Queen Caroline, Duchess of Oldenburgh, Kentish Fillbasket, Lord Suffield, and Pike's Pearmain. Pyramidal trees have fair average crops of Duchess of Oldenburgh, Domino, Pott's and Bramley's Seedling, Prince Albert, Frogmore Prolific, Newton Pippin, Braddick's Nonpareil, Lord Lennox, Waterloo, Fearne's Pippin, Golden Russet, and Irish Peach. *Alfred Hamshere, Beau Manor Park Gardens, Loughborough.*

Apple trees are remarkably healthy this year, and the fruit is swelling well. Some of the trees are without fruit, owing to inclement weather,

and severe attacks of insects last season, which weakened them considerably. Pears set well, but have fallen much since from maggot and other causes. All bushes are clean and healthy, but Gooseberries were severely attacked by caterpillars during the late dry hot weather. *W. H. Divers, Belvoir Castle Gardens, Grantham.*

The crop of Apples this year is particularly good, pyramid trees on Paradise stocks being heavily laden, and require severe thinning. Bismarck, Seaton House, Lord Grosvenor, Stirling Castle, Frogmore Prolific, Prince Albert, Cox's Pomona, Potts' Seedling, Warner's King, Tyler's Kernel, and The Queen (Saltmarsh) are amongst the most noticeable. Of orchard standards, Keswick and Manx Codlins, Ecklinville Seedling, Queen Caroline, Winter Hawthornden, and Bramley's Seedling are the best. Amongst Pears on the walls, Marie Louise, Passe Colmar, Beurré Sterckman, Winter Nelie, and Louise Bonne are the most productive. Raspberries, Gooseberries, and Red Currants are abundant. Strawberries have been a phenomenal crop, but the bulk were soon over, owing to the drought. All fruit trees are clean and in good condition. *Danl. Roberts, Prestwold Gardens, Loughboro'.*

OXFORDSHIRE.—The unripened shoots on the lower parts of Peach trees were killed by frost, but the crop nevertheless is a good one. Amaden's June, Alexander, and Waterloo Peaches were ripe on July 24. Strawberry President was particularly abundant and fine. Fruit trees of all kinds have kept remarkably clean this year. *G. Stenton, Park Place Gardens, Henley-on-Thames.*

Fruit trees this year are, on the whole, almost free from green-fly, the severe winter probably having destroyed their eggs. Considering how scarce Apples were last year, it is remarkable that we should have another bad year following, for although early varieties are plentiful enough, the later and main croppers are very deficient. The trees had scarcely any blossom; perhaps the cold wet summer had most to do with this failure. *A. J. Long, Wyfold Court.*

SHERPESHIRE.—Apples full crops, though partial in places, some trees loaded and others bare, many falling through drought. Pears are thin and small. Plums especially plentiful on walls. Damson trees are breaking down with the weight of their crops. This year's rainfall for May was 0.60, for June, 1.0. Last year it was for May, 3.04, and for June, 2.4, these figures speak conclusively as to the drought. *A. S. Kemp, Broadway, Shipnal.*

In this district Apricots are the only fruits that are a partial failure, which considering the crops of the past two years is not surprising. Apples are a heavy crop, and the trees very healthy. Many varieties are grown, and all are good. Unfortunately a hailstorm of unusual severity passed over this neighbourhood on July 21, damaging the Apple crop badly, cutting and bruising the fruit. Pears are a good crop, Marie Louise better than last season. Peach and Nectarine trees are bearing good crops. Plums have not required so much thinning, but the trees have a full crop. Small fruits have been abundant and good, but caterpillars have been bad on Gooseberries and Currants on north walls. Strawberries have been very plentiful, and Laxton's Noble, President, and Waterloo, are the varieties that do best and keep up a long succession. This season we are discarding Sir Harry, Lord Napier, Vicomtesse Hélicart de Thury, Elton Pine, and Serling. *S. Backhouse, Onslow Gardens, Shrewsbury.*

STAFFORDSHIRE.—The Apple crop in this district is the best we have had for some years, such varieties as Keswick, Lord Suffield, Manx Codlin, Cellini Pippin, Small's Admirable, and Stirling Castle, being so loaded with fruit, it would almost pay to thin them. Pears are a good average crop, and promise to be good in quality; the same may be said of Plums. Cherries have also been very good; and Strawberries excellent both in crop and quantity. Noble, that has the character of being deficient in flavour, has been very good this year, could not wish for better flavoured

fruit. Gooseberries and all kinds of Currants have been plentiful and good. *John Wallis, Keele Gardens.*

It is the first time I have been able to give you such a good report of the fruit crop generally from this district. Almost every Apple tree is loaded with fruit, free from blight, and where proper thinning has been done a good harvest may be looked for; in many cases old dwarfed, moss-covered, and Ivy-bound Apple trees, that have been struggling for existence for years past, are wreathed with small fruit this year. Pears on wall are good average crop and quality, standards are remarkably healthy and good. Cherries, small fruits, and Strawberries (under good cultivation), have been all that could be desired. Some of the causes of past failure other years have been caused by late spring frost. I must also add that birds have been responsible for a great deal by taking the buds in winter and spring, the frost since winter has greatly reduced their number—less buds were taken this year than usual. *H. G. Wilks, Sandon Hall Gardens, near Stone.*

WARWICKSHIRE.—The wealth of blossom on all fruit trees and bushes, except Apricots, has more than fulfilled expectations, for the abundance of fruit matured and maturing has not been equalled for many years. Apples of most varieties usually grown are almost breaking the trees, Plums also requiring to be propped up. The drought of May and June told on the size of Strawberries, but the quantity and quality quite compensated for that. *A. D. Christie, Rayley Gardens.*

(To be continued.)

ROOT PROPAGATION OF SHOW AND FANCY PELARGONIUMS.

A CAPITAL method of propagation, but one that is not much known, is by means of root-cuttings. As soon as the flowering season is past—say, in July or August, the plants are turned out of their pots, the stronger roots cut off, the whole of the soil shaken clean off, and the root-mass washed in water to make them clean. After this is done the plants should be repotted in fresh soil. By this repotting, the gardener is rewarded by a number of fine large roots, which can be removed without inflicting the least injury to the plants. The stronger roots should be placed in cutting-pots, the thicker end just appearing above the surface of the soil. The best kind of soil for the cuttings consists of peat and decayed hot-bed manure. The cuttings should be lightly watered-in, and afterwards occasionally sprinkled. Of course, they must at first be put into a frame, and kept close, and shaded, but as soon as growth appears, ample ventilation must be afforded. Shoots begin to appear in fourteen days, and as a rule several of them appear on each piece of root. When these shoots have reached a desirable length, the point may be taken off and treated as a cutting, if further increase be required. The rooted plants should be repotted when the cutting pots get full of roots, and at such a depth that the point of origin of the shoot or shoots comes below the surface of the soil.

LILIUM PARRYI.*

At one of the recent meetings of the Royal Horticultural Society, flowering specimens of the above-named citron-yellow, fragrant Lily (fig. 42, p. 209) were shown by Messrs. Wallace of Colchester. As the

* *Lilium Parryi*, Watson, *Botanical Calendar*, vol. ii. (1889), p. 165. Elwes' Monogr. genus *Lilium* (1890), tab. 49. "But small, somewhat rhizomatous, of numerous thick-jointed scales about an inch long; stem slender, glabrous, 2-5 feet high, 2-10 flowered; leaves usually scattered, sometimes the lower in a whorl, linear obcordate, 4-6 inches long by about half an inch wide, mostly acuminate; flowers pale yellow, sparingly and minutely dotted on stout pedicels about an inch long; segments 3 inches long or more, 5-6 lines wide, somewhat spreading above, or the lips at length recurved; stamens and styles a little shorter; anthers oblong, brownish, 3 lines long; capsule narrowly oblong, acutish, nearly 2 inches long, by 6 lines in breadth.—*Proc. Davenport Academy*, li. 183, t. 6, 6, and in a marsh in San Geronimo Pass in the coast ranges of San Bernardino county; first collected by Dr. C. O. Parry in July, 1876, in flower."

plant is as yet little known, we append the following particulars taken from Elwe's noble monograph:—

“Extract from Dr. Parry's account of the plant:—

“In one of my last botanical excursions in the vicinity of San Bernardino in July, 1876, I accepted an oft-repeated invitation to visit the intelligent brothers J. F. and F. M. Ring in their mountain

sion of the South Pacific Railroad. In one of these mountain nooks the Messrs. Ring have located a Potato ranch, the elevation of over 4000 feet giving a sufficiently cool, moist climate, while the adjoining mountain-slopes afford an extensive summer cattle-range long after the herbage of the lowlands has dried up.

np with rank Willow and Alder growths, and occasionally expand into small meadows of coarse grass and sedges.

“On all the steep gravelly slope adjoining, there was the usual display of Californian evergreen shrubbery, including the Heath-like *Adenostoma* (which, under the name of 'chamisal,' is largely



FIG. 42.—LILIUM PARRYI: FLOWERS CITRON YELLOW, FRAGRANT. (SEE P. 208.)

retreat near San Gorgonio Pass. Leaving the broad and picturesque basin of the Santa-Anna Valley near the emergence of the stream from the rugged mountain-wall of the San Bernardino range, our route, after crossing Mill Creek, hugged the foothills bordering the Upper Yucaipa valley; thence, by a more rapid ascent in a nearly direct easterly course, we reached an elevated bench scattered with Pine and Oak groves, overlooking the broad sweep of the San Gorgonio Pass, now traversed by the eastern exten-

“In scattered groves of *Pinus Coulteri*, the ground was strewn with the massive cones of this peculiar species, its dense scales armed with formidable hooked spines. Many of the cones were fully 6 inches in diameter, with a length of 9 inches.

“The few perennial watercourses here met with are mostly confined within deep and inaccessible ravines; but more frequently scanty springs ooze out from beneath deep layers of porous strata, and spread out into boggy marshes, generally choked

used for fuel), the Holly-leaved Cherry (*Prunus ilicifolia*) exhaling a strong odour of bitter almonds, the *Heteromeles arbutifolia*, with glossy varnished leaves, and a prevalent form of 'California Lilac' (*Ceanothus crasseifolius*), with thick leathery foliage. The dull green hue which everywhere characterises the moorish growth, is at this time of year partly relieved by brilliant scarlet festoons of *Pentstemon cordifolius* trailing over adjoining bushes, or the less showy blossoms of *P. ternatus*.

"But what soon attracted more exclusive attention was a conspicuous yellow Lily growing abundantly on the boggy ground adjoining Messrs. Ringe's house, and sharing with the Potato-patch the care and attention of the undisputed possessors of the soil. Though not so showy as some other members of the Lily family in this region, there is a grace displayed in its large drooping flowers, surmounting a slender stem beset with narrow scattered leaves, which are occasionally crowded at the base into a distinct whorl."

TREES AND SHRUBS.

SAMBUCUS RACEMOSA, RED-BERRIED ELDER.

This plant stands out well at the present season as an object of beauty, with its clusters of coral-red berries; and so fond are the birds of the ripe seeds, that plants from the voided seeds are found all over the garden, and in some instances in exactly ideal positions. For instance, we have several large specimens growing among trees, Box towering well above them, and I think that a better groundwork could not be found for the Elder than the Box. Our stock of plants is also increased by cuttings put in during the autumn.

SAMBUCUS NIGRA FOLIIS AUREIS.

This is another capital garden shrub, and well adapted also for planting near the margins of woods and at the sides of the approaches to the mansion. It should be severely cut back in the spring if it is to look its best. The plants at this place grow in peat beds among the Ghent Azaleas, and the foliage of these colours well.

SAMBUCUS NIGRA VAR. FOLIIS LUTEO-MARGINATIS.

This is a variety of the common Elder, which I can recommend for planting in a shrubbery or on the edge of woods. It retains its variegation when planted in partial shade, in fact it grows satisfactorily under the shade of trees. [As does the type. En.] *Herbert May, Markree Castle, Sligo.*

RUBUS LASIOSTYLUS.

The number of Rubi known to botanists has been very considerably increased by the explorations of Dr. A. Henry in China, but our knowledge of most of these new species is at present dependent on herbarium specimens. *R. lasiostylus*, however, a species discovered by Dr. Henry in 1888, in the province of Hupeh, China, is now in the living collection at Kew, having been raised from seed. It flowered for the first time in June, 1894, and has recently been figured in the *Botanical Magazine* (t. 7426). The flowers are small, and the petals of a bright reddish-purple. They are, however, very fugacious, and whatever value the species may possess from the horticultural standpoint, lies in its being an addition to the white-stemmed kinds, of which we have already three or four in cultivation—*lencodermis*, *biflorus*, &c. The stems of this new species are at present 4 feet high, thickly armed with prickles, and covered with a bluish-white bloom which rubs off at the touch. The leaves are pinnate, the leaflets sharply and irregularly serrated, and the mid-rib and petiole armed with short spines. Having stood the winter of 1894-5 with no protection of any kind, and quite uninjured, it may definitely be included among perfectly hardy shrubs. *W. J. B.*

CLERODENDRON TRICHOTOMUM.

The only species of *Clerodendron* of truly shrubby habit that is hardy in England is *C. trichotomum*. It is a native of Japan, and is found in various parts of that country. Although it is said to have been first introduced in 1800, it is far from being as extensively cultivated as its beauty and distinctness from all other hardy shrubs entitle it to be. It grows to a height of 10 to 15 feet, the wood being soft, and the branches largely composed of pith. The large, broadly ovate leaves are soft and of a flaccid texture, entire or slightly toothed, and, like

many of the *Clerodendrons*, emit a disagreeable odour when bruised. The flowers appear during the months of August and September, and are produced in loose terminal cymes. The corolla is white, the lower part being tubular, but the upper part divides into five spreading, oblong segments, and measures $\frac{1}{2}$ inches across. Surrounding the corolla, and making an effective contrast to it, is the purple-red calyx, which is inflated, and traversed by five ridges. The species is easily increased by means of suckers and root cuttings. *W. J. B.*

MAGNOLIA GLAUCA.

Whilst the American representatives of the genus *Magnolia* never display that magnificent wealth of blossom which renders the Asiatic species and hybrids the most lovely of spring-flowering trees, they possess sufficiently good qualities to make them indispensable to every garden with space enough for their development. They flower, too, when their allies from China and Japan are long past. Just now *M. grandiflora* and *M. glauca* claim most attention. The latter is somewhat hardier than *M. grandiflora* and its flowers, although much smaller, have a more exquisite, if less powerful, fragrance, suggesting at once a delicious fruit, and a bunch of Tea Roses. The flowers are never seen in great numbers at one time, but a single shrub will keep up a succession of them for ten or twelve weeks. Each flower is from 2 to 3 inches in diameter, and cup-shaped, the colour a soft creamy-white. In some localities in the United States this *Magnolia* attains the dimensions of a small tree, with a well-formed slender trunk, but in Britain it rarely gets beyond the shrubby state. It usually retains a large proportion of its foliage throughout the winter, but different plants vary a good deal in regard to the persistence of the leaves, some, even in mild seasons, becoming almost bare. The leaves are oblong, smooth, and glossy-green above, but vividly glaucous beneath. The species has been in cultivation in England over 200 years. There is a fine variety of it known both as major and as *Thompsoniana*. It has larger leaves and flowers than the type, and is equally fragrant. *W. J. B.*

THE DEVELOPMENT OF THE CARNATION.

By the merest accidental circumstance a visit was paid recently to the gardens of Mr. John Garnett, nurseryman and florist, at Bowness-on-Windermere. Here we fortunately encountered the arboreal and genial proprietor, whose extensive stock of every description of flowering plants is a rare sight to be seen, cultivated on what appears to be little better than rocky barren ground; but the reverse is the case, though the blue, ragged limestone of the district projects above ground in every direction, and thus forms a grand nesting place for an immense collection of rare and other Ferns. But Mr. Garnett figures most prominently as a breeder and raiser of Carnations, of which there are many hundreds of different varieties growing in the open in a light soil, which evidently overlies a rocky foundation. The richness and purity of the productions prove that the ground is well adapted for the purpose, many of the blooms measuring $4\frac{1}{2}$ inches in diameter, and showing good sound calyces and brilliancy of colour, in which many of the tints of the rainbow can be discerned. Mr. Garnett's great aim for some years past has been to produce a blue Carnation, and he considers that he is now on the brink of success. Many scores of blooms were pointed to as possessing the skyblue tint on the fringe of the petals, but it is inside one of the glasshouses that the coming flower is carefully tended.

The great difficulty, as Mr. Garnett explains, was to obtain the proper combination of opposite colours for a foundation to work upon, which is an entirely different process to that adopted by the artist; but after continued perseverance his efforts have been rewarded by a single bloom of pure indigo-blue, showing only the faintest shade of violet on the calyx.

This plant differs considerably from the rest of the stock, and has but a weak and rather sickly appearance; but Mr. Garnett is firmly convinced that if he can retain it and induce it to produce prolific seed, that by a cross with another variety upon which he has already fixed, but of which he did not reveal the name, he will meet with the result which he seeks, and in the course of another remove or two will be able to produce a bright blue Carnation.

Many other experiments which he has made in hybridizing have produced remarkable and beautiful effects; and a short time previously he had despatched two or three single flowers to the Carnation and Picotee Union for inspection, though not with a view to competition. A letter just received from the secretary and treasurer, Mr. Arthur Medhurst, showed that these had attracted the attention of the judges, as in reference to them the following was embodied in the judges' general report:—"The seedlings show good blood, and are decidedly promising; but as it is a rule to give certificates only in cases of two or more blooms of one variety being shown, no award of certificate could be made on this occasion without infringing the rules." *J. W.*

KNIPHOF'S BOTANICA IN ORIGINALI, 1758—1764.

The name Kniphof, as commemorated in the genus *Kniphofia*, is not unfamiliar, but comparatively few persons will know anything of the history of the man who was the author of the work of which the above is the abbreviated title. An uncut copy of this rare and curious botanical book has lately been added to the Kew library. It is interesting historically, both on account of its being a record of plants cultivated at that date in Germany, and chiefly, in all probability, at Erfurt, as it was there the author resided, and also on account of its being one of the earliest, if not actually the first, work of considerable extent, in which the process of nature-printing was employed to illustrate plants. It would appear that D. Brückmann, a contemporary of Kniphof, was really the inventor, if it may be so termed, of this method of representing plants, as there is a published letter by him on the subject addressed to Kniphof, dated 1733; but this is not in the Kew library. The title is, *Sendschreiben an J. H. Kniphof, die Art die Kräuter nach dem Leben abzuzeichnen und also compendiöse Herbaria picta zu machen, vorstellend*. The full title of the work in question is, *Botanica in Originali seu Herbarium Vivum in quo Plantarum tam Indigenarum quam Exoticarum peculiari quadam operosaque enchiresi atramento impressorio obductarum Nominibusque suis ad Methodum Illustrum nostri aevi Botanicoorum Linnæi et Ludwigi Insignitarum elegantissima ectypa exhibentur. Opera et Studio Johannis Godofredi Trampe*.

There are two foolscap folio volumes containing 1202 figures, one on each leaf, besides a number introduced on the title pages of the twelve parts in which it was issued, for the purposes of embellishment, making a total of 1250 species represented. Figure 545 is missing. The Kew copy is probably unique in being coloured, the colouring being most likely the work of a private person, for there is no mention of coloured copies by any of the bibliographers. The colouring is generally well and effectively done, though in some instances it is to some extent neutralised by the too intense blackness of the print. This copy first belonged to J. G. Menn, M.D., Professor Publicus Primarius at Cologne, who seems to have acquired it in 1764, the date of the publication of the last part. Subsequently it must have passed into English hands, as some person has written, in a very neat hand, the English names of many of the plants.

The arrangement is alphabetical, with the Linnean names of the first edition of the *Species Plantarum*, and references to the pages of that work, as well as the *Systema*, and Ludwig's *Definitiones Generum Plantarum*. The "specific phrases" of the *Species Plantarum* are also reproduced.

**STREPTOCARPUS LAING'S
MULTIFLORA.**

IMPROVEMENTS are taking place with rapidity in the size of the flowers, and in the colouring of *Streptocarpus*. The plants now vie in beauty with *Gloxinias*, and in general usefulness and length of

A MOTH-CATCHING PLANT.

The following curious story of a well-known plant appeared a short time since in the *Detroit Free Press*, under the title of "A Moth-catching Plant." The plant in question, the *Araujia albena*, or as it is now known as *Araujia sericifera*, is described by

immense numbers of white or pinkish flowers, which have a very agreeable scent. These flowers attract innumerable moths. On a summer evening a hedge of *Araujias* will be covered by a perfect cloud of moths, and in the morning there will not be a single flower that does not imprison one or two, and sometimes as many as four, insects, of various sizes and genera. The action of the *Araujia* is purely mechanical. The calyx of the flower is rather deep, and the receptacle for its sweet juices is placed at its base. Attracted by the powerful scent, and the prospect of honey, the moth dives down the calyx and protrudes its proboscis to reach the tempting food, but before it can do so, the proboscis is nipped between two strong, hard, black pincers, which guard the passage, and once nipped, there is no escape for the moth, which is held as in a vice by the extreme end of the proboscis, and dies miserably. The rationale of the process is not yet explained. A plant of *Araujia*, covering a space of 10 yards in length, will destroy many hundreds of moths every night, and consequently prevent the ravages of fifty times as many larvæ. It is however a singular fact that in New Zealand, where the plant has often been cultivated for the express purpose of destroying the detested Codlin-moth (*Carpocapsa pomonella*), that wily insect declines to enter the trap.



FIG. 43.—STREPTOCARPUS MULTIFLORA.

time that a plant will remain in flower greatly excel those plants. The variety depicted in our illustration (fig. 43), was exhibited by Messrs. John Laing & Sons, Forest Hill, at the Royal Horticultural Society's meeting on Tuesday, July 9, of the present year. The flowers are of a bluish-purple ground colour, with purple lines in the throat. There were thirty open flowers borne by the plant, which was growing in a 5-inch pot.

our contemporary as a native of South Africa, when it is, in fact, a native of Peru. It is, however, stated to have been introduced to New Zealand quite accidentally about seven years ago, and since then to have been extensively propagated there on account of its effective service as a killer of destructive moths. Wherever the climate is mild the plant is an exceedingly free grower. It twines and climbs with great luxuriance, and produces

APOGAMIC FERNS.

ALTHOUGH the discovery of apogamy, or the power of the Fern prothallus to produce the spore-bearing generation by simple budding, instead of through the interaction of the antherozoids and archegonia, dates back some twenty years, a practical application of the knowledge then gained and published by its discoverer, Professor Farlow, and subsequently by Professor A. de Bary, appears only now to come into question when the hybridising and crossing of species and varieties is being conducted on a systematic basis. We have been led to this conclusion by the fact, that for the purpose of obtaining a created *Cyrtomium*, we made not long since several sowings of spores of *C. falcatum* and *C. caryotideum* mixed with spores of *Lastrea pseudo-mas cristata*, thinking that, as these two species were very closely allied, the chances of a cross were great. Pending, however, the appearance of the young plants, a study of the literature of apogamy in connection with the curious prothallus illustrated in your column (November 10, 1894), of which more anon, led us to De Bary's discovery, set forth in the *Botanische Zeitung*, July 19, 1873, and the following numbers, of the fact that precisely *L. f.-m. cristata* and *C. falcatum* are invariably produced apogamously, that the first curiously enough justifies its common name of male Fern by never bearing archegonia, while the second only produces these sparingly and never perfects them—buds, and buds only, being produced in both cases. Obviously, therefore, a cross is impossible. Unfortunately for the ordinary Fern cultivator, the development of Ferns in this asexual way, demands the utmost skill of the microscopist for its determination, since the Ferns so produced usually spring from precisely the same parts of the prothallus as those yielded sexually, and being of exactly similar appearance cannot be discriminated from them by ordinary observation. Hence if such pitfalls are to be avoided as the one we have described above, the would-be hybridist must look to the specialist in microscopic dissection to help him, and we think renewed research in the line of De Bary's investigations would well repay the trouble. In the first place, although De Bary tested a considerable number of Ferns, and found the large majority capable of normal, i.e., of sexual reproduction, thirty-six indeed as against three (*Pteris cretica*, *Lastrea filix-mas cristata*, and *C. falcatum*), yet in those days the possible discoveries in connection with abnormal varieties were almost entirely ignored, and of the thirty-nine Ferns named by De Bary, only three are abnormal, of which, as it is noted, one, *Lastrea filix-mas cristata*,

is constantly apogamous, though the normal uncreated form is not so, the apogamy being thus correlated with the tasselling, a point to our mind of great importance. The folly of applying the term of "garden varieties" to many of our abnormal forms is seen in this connection, since De Bary alludes to *L. filix-mas cristata* as such, and assumes, therefore, that the date of origin can be ascertained, while, in point of fact, it was found wild, and is as purely a natural product, i.e., as independent of human cultural influences as the common normal form.

Another point is, that the crested male Fern has been found as widely differing and altogether independent sports in various parts of the British Isles, the whole of the three sub-species, *L. propinqua*, *L. filix-mas*, and *L. pseudo-mas*, having afforded examples. We ourselves found a splendid form of *L. f.-m. polydactyla* near Kilmarnock, and a thorough *L. f.-m. cristata* at Kilrush in Ireland. Mr. Dadds found examples at Ilfracombe, Dr. Willis near Chard, and extreme forms have been found elsewhere. Now it is here that the Fern specialist should go hand in hand with such investigators as De Bary, in which case we should probably know, as we now do not, whether apogamy is always correlated in this species, i.e., in all three sub-divisions with *cristata*, or in a relatively varying degree, or not at all. A point also would have been that various sub-varieties exist, and did then exist, which are the reputed offspring, and in themselves bear evidence of being so of the identical *L. f.-m. cristata*, which is in question. *L. f.-m. cristata angustata* is one of these, and more recently, that lovely silken form, *L. f.-m. cristata fimbriata* has been raised, while a dense narrow-crested form raised by Messrs. Lang of Kirkcaldy, bears every evidence of being a cross between *L. f.-m. c. angustata*, and one of the dwarf forms of the same species. From these facts, it is clear that within this single section of the various crested male Ferns, there are ample possibilities of further light being thrown upon apogamic reproduction, since though we have no reason to assume apogamy is a bar to variation any more than other bud-forming phenomena, yet the reputed crosses point distinctly to exceptions which De Bary failed to find.

Our British Fern varieties, we are convinced, are replete with possibilities, their diversity of form being, as we know, attended occasionally by such modifications of reproductive energy as were quite undreamt of. Externally, they form a chapter of wonders to any one who cares to study them, and it would be strange indeed were this diversity all skin-deep only, leaving nothing for that deeper research which we suggest.

Reverting to the curious prothallus mentioned above, the two horns developed therefrom bear at present two similar *Athyria*, thus, at any rate, affording an instance of true apogamy in that family, the normal form of which, as well as *A. f.-f. Frizelliae* were found by De Bary to be normally fertile. In this case the phenomenon appears in a different form altogether from any noticed by him, the seats of the bulbils being far removed from the archegonial sites, or from any projection such as he observed in the indentation of the prothallus. Each Fern shows three fronds, one developed, and bearing no less than ten pairs of pinnate pinnae, instead of the usual much simpler primary frond. Roots, however, are only now forming, and the plants are consequently of very slow growth. One very curious feature is that the horns bearing these plants, and which were at first sharply pointed, are now in both cases dilating at the tips, the stronger of the two forming a distinct fleshy prothallus. A second prothallus in the same batch developed a similar but smaller horn direct from the upper surface; a bud appeared on this in precisely the same fashion as the others, but the resulting plant, also an *Athyrium*, is of very different form, promising to be well crested, while the others are plain. Nothing at all akin to this case has, we believe, been noted or recorded hitherto. *Chas. T. Druery, F.L.S.*

PLANT NOTES.

STOCK PRINCESS ALICE AS A BEDDING PLANT.

This comparatively new variety of Stock is a decided advance and improvement on older varieties, and forms a very beautiful subject for bedding purposes. It is of snowy whiteness, perfect habit, and a continuous bloomer. Raised in heat in March, and planted out early in May, it blooms from June until cut down by frost. Large beds have been planted in the grounds under my charge this season, having a broad edging of "Croton-leaved" Beet or scarlet Verbena, and the effect is charming. It also seems to me to be more powerfully fragrant than other Stocks. *W. H. Aggett, Bermondsey, S.E.*

THE APIARY.

THE TREATMENT OF ROBBER BEES.

It is easy to prevent bees robbing each other's hives, if the hive of the robbers can be ascertained. Search should be made for it, and when found fumigated with musk or camphor, so as to give the bees living in it a strong smell, by which the bees in other hives will know, and be warned against them. It is also good to give the robber bees some work to do in their own hive by strewing the floor with chaff, sawdust, &c.; and to turn the robbed stocks to face in another direction, or place them elsewhere. Placing the hive of the robbers in a cool, dark cellar may also be recommended. If the bees then acquire better behaviour, they will have forgotten their robber habits. If the robbers are the property of a neighbour, he should be requested to put these regulations in force.

THE WEEK'S WORK.

THE HARDY FRUIT GARDEN.

By W. POPE, Gardener, Highclere Castle, Newbury.

THINNING THE CROWNS OF ORCHARD TREES, ETC.—Now is an excellent time to operate on the tops of orchard or other standard trees that may have failed to fruit, or on early kinds that need it after the fruit has been gathered, in taking out superfluous wood, and so admitting a little sunlight and air to the interior. It is necessary to proceed cautiously with old and hitherto neglected trees, as thinning in their case may easily be over done, and the remedy is then sometimes worse than neglect. While the foliage is on the trees, it is easy to see where to thin out branches with advantage to the tree, and by taking out a few small ones here and there, or a larger branch occasionally when deemed necessary, in a few years many trees now practically worthless might be annually bearing fairly remunerative crops of fruit. It is a good plan the first year to take out all crossing and interfering branches; this, with shortening a few overgrown spurs here and there, will often be sufficient for one season, and it should be followed by a good dusting with quicklime as soon as the leaves have fallen. This, if applied whilst the trees are damp, will destroy lichens and mossy growths, and conduce to the health and well-being of the trees.

PREPARATIONS FOR PLANTING.—Those who contemplate planting to any extent should make a point of visiting some good fruit nursery at this season, and select the trees required to be sent as soon as the leaves fall. It is always more satisfactory to the purchaser if he can select his trees, as he then knows exactly what to expect from the nurseryman when the time comes to plant. It will be well, too, to prepare the ground at once, if it can be so managed. When a border or quarter is to be planted, the ground should be trenched at least two spits deep, making sure that the drainage is good; and if not, the land must be thoroughly drained. If some good turfy loam can be obtained, for placing round about the roots when planting, all the better; if not, a heap of compost should now be got in readiness, which may consist of road-scrappings, decayed and charred vegetable refuse, wood-ashes, or the like, which should be put into a heap and turned two or three times. If wall fruit-trees are to be planted, the

stations may be prepared by trenching and draining, but the holes should not be left open. It is well to preserve all old mortar, plaster, &c., for mixing with the soil in which stone fruits are to be planted, as well as for working-in round the roots of existing trees which may require it.

THE ORCHID HOUSES.

By W. H. WHITE, Orchid Grower, Burford, Dorking.

REPAIRS AND MAINTENANCE.—At this season the heating-apparatus should be overhauled, and put into order for the winter season. The boilers should at least be cleared of sediment, if nothing else be done, and the doing of this will empty the pipes of water, but they should not be left empty. If the boilers have manholes or openings that are large enough for a scraper or iron chisel to be used, the incrustation which is sure to take place with ordinary water at points where the fire is hottest, can perhaps be removed. This will enable the boiler to do its work more efficiently, and save the material of the boiler from being destroyed by the action of the fire. Loose joints in the hot-water pipes must be made good; valves oiled, and overflow and feed pipes put in good order. The fire-bars, fire-lumps, flues round and over the boilers, and ash-pit doors should receive attention. The hard frosts of last winter must have severely tested the heating capacity of many a boiler, and proved the inefficiency of others, and now is the time to make provision for another winter. Unless an Orchid grower has an apparatus that will maintain the right degree of warmth in his houses, the plants must suffer in health. Some persons are under the impression that so long as the pipes are as hot as they can be that is sufficient, but it is a mistake, for the plants quickly deteriorate when pipes have to be kept fiercely hot on purpose to warm the air of the house. It is better to furnish water and keep them moderately warm. When this kind of work is to be carried out the plants should be allowed gradually to become dry. I allude to those species which occupy the hottest houses. If during the performance of the work any of the plants appear to suffer from dryness, water may be afforded in about one-half the usual quantity.

CATASETUMS, MORMODES, ETC.—Particular attention should be given to plants of *Catasetums*, *Mormodes*, and *Cycnoches*, which having bloomed, have finished growth for the season, in the matter of maturing that growth by sun-heat. Such plants should be placed where they may obtain uninterrupted sunshine, and the atmosphere is drier and less close than the houses they have hitherto occupied. Whilst the leaves remain fresh keep them supplied with water at the root. When the growth is properly matured the plants will go for a very long period uninjured, without receiving any moisture at the root. So soon as the leaves turn of a yellow colour, the water supply must be gradually reduced, and when they drop, discontinued entirely. If the pseudo-bulbs keep plump-looking no more water will be required before the plants begin again to break. *Cyrtopodium*, *Lisochilus*, *Cyrtopora*, *Thunia*, *Bletia*, and the deciduous *Eulophias* may be similarly treated. As regards all of these species, it is certain that the treatment afforded during rest is as important as that during their growth.

THE KITCHEN GARDEN

By JOHN LAMBERT, Gardener, Powis Castle, Welshpool.

BOX EDGINGS.—From now onwards, these edgings may be trimmed; and in order to give slugs and other creatures but little covert, the edgings of Box should be kept to about 2 inches in height, and the same in width at the bottom, and 1 inch at the top. When Box is cut at this season, new leaf growth has time to mature, and is, therefore, not browned by frost, which is the case with late trimming. Repairs may now be made, although the spring is a better time for lifting and dividing the plants. Box, to look nice, should be kept true to line whether curved or straight, and cut very evenly at the top and sides.

THE COLLECTING OF SEEDS.—Seeds of Spinach, Borecole, Turnip, Broccoli, and Cabbage may be gathered as fast as they become ripe, or the entire plant pulled up by the root. Lay the seed out in the sun on cloths or trays. Do not collect seeds when damp with rain or dew. Turn the seed-heads over occasionally, and in about a fortnight they should be quite ready to be threshed or rubbed out. In rainy weather, and during the night, the seeds ought to be placed under cover. Open sheds and early vineries are good places for drying seeds of all kinds.

CARDOONS.—The earliest plants are now ready for blanching. For this purpose procure hay-bands—not musty ones; and when commencing the job, put a strip of wide bast around the leaf-stalks, to keep them better together, and then wrap them in hay-bands, being careful to place each coil close to the next one, so as to shut out the light.

FENNEL AND ANGELICA.—Fennel and Angelica may be sown at this date, instead of in the spring, some gardeners fancying that autumn-sowing gives stronger plants. Sow the seeds thinly on a piece of ground, in an open place.

ONIONS.—In some parts of the country the Onion crop is still in full growth, but as soon as the majority of the bulbs show signs of the tops falling over, a man should go with a wooden rake and press over the tops generally, and in ten days afterwards, if the weather is sunny, the crop should be lifted, and the bulbs laid out in a dry shed or on sheep-hardies, &c., in the open. When dry, twist off the leafy part and the outermost skin, and store in a cold, dry room. Keep the spring and autumn-sown produce apart; in fact, the different varieties should be stored in according to their use at different seasons. If the bulbs are roped, that job can be done at leisure.

FRUITS UNDER GLASS.

By RICHARD PARKER, Gardener, Goodwood, Chichester.

PRUNING.—The advantage of pruning the different kinds of fruit trees soon after the crop is gathered, and before the foliage falls, is not so generally known as it should be. The gardener who prunes then, is in a better position to see what quantity of wood is required to properly furnish a given space, and the removal of superfluous growth gives that of the current season a good chance of thoroughly maturing, a very essential condition for good fruiting. Peach and Nectarine trees should have all of the weakly or unfruitful wood cut out; and it may be necessary to cut back some of the stronger growth where crowded, as in all cases sufficient space must be allowed for the full development of the leaves. Care must be taken to retain young fruitful wood in sufficient quantity at the base of the tree. Some of the stronger shoots on these fruit trees in the earlier houses may also be shortened back, and any growths that were tied across others, so as to enable the sun to reach the fruit, may be loosened, thus exposing all parts to the action of direct sunshine. In the case of the Cherry, Pear, and Apple, whose shoots were pinched, so as to compel the fruit-spurs to form on them, these will in the course of a few years become crowded, and the foliage very dense, by pruning these trees at this season it will be an easier matter to see which fruit-spurs ought to be removed to enable light to penetrate the crown.

FIG-TREES.—These will require but little pruning at this season if they were properly managed during growth, still, it may be desirable to cut back weak shoots, but not the extremities of the main ones, as it is on these that the earliest fruits form.

WATERING.—Water should be copiously afforded to Peach and Nectarine trees, dryness at the roots at this season often causing bud-dropping at a later date.

SYRINGING.—Continue the syringing of fruit trees and Vines twice daily during hot weather, and where possible, the roof-light may be taken off the houses.

TOMATOS.—Plants that have been placed in their fruiting-pots should not receive much water at the root; the stem should be secured to a stout stake, and the side growth removed—pulled out. Utilise any spare lights during rainy weather, to keep the plants dry.

THE FLOWER GARDEN.

By BAILEY WADDS, Gardener, Brixall Gardens, York.

FLOWER GARDEN ARRANGEMENTS FOR NEXT SEASON.—The present is a good time to decide upon any alterations that may be required to be made in the bedding-out next season, and the number of the plants needed to fill the beds. It is always a good thing to make some alteration in the arrangements of the colours, so as to impart freshness to the scene. The fashion of using plants so as to give masses of colour is disappearing in favour of less vividness, by the use of plants of varied habit, foliage, &c.

DAHLIAS.—The various show, fancy, pompon, Cactus, and the varieties of single and decorative Dahlias, might be more employed than at present in the beds in the flower garden proper. We possess in these plants beautiful colours which are not to be found in any other summer-flowering plants. Dahlias, moreover, are plants easily propagated, and stored when out of bloom. The double and single varieties of Cactus Dahlias being particularly attractive, should be largely used in beds and borders, or in the kitchen garden for cutting purposes. Good varieties are H. Cannell, Dr. Masters, Lady Marcham, Mr. A. W. Tait, Marchioness of Bute, Rayon d'Or, Harry Freeman, Claxton Harlequin, Mrs. John Arnold, Matchless, Mrs. A. Peart (grand), and Duke Alexia.

PROPAGATION.—For some few weeks to come, the propagation of hardy and half-hardy subjects will require unremitting attention. Pelargoniums struck in the early autumn flower more satisfactorily than those raised in the spring, and the cuttings strike freely out-of-doors up to the middle of the month of September.

CENTAUREA CANDIDISSIMA.—If side shoots be taken off old plants, they will strike freely when inserted in pots filled with sandy soil, placed in a warm house and shaded for a fortnight. For affording cuttings, it is necessary to keep some plants in pots, and if the plants are kept somewhat dry, they make numbers of side shoots suitable for cutting. When the Centaurea is required to make a specimen plant, several years elapse; but for an even batch of small plants for making panelling or edgings, seedlings raised in February are the more suitable.

FUCHSIAS.—Cuttings of the varieties which stand an ordinary out-of-doors winter, viz., Riccartoni, Meteor, Corallina, and Elegans, should now be struck in slight bottom-heat under a hand-glass or in pots. Fuchsia Riccartoni is a very useful plant in shrubberies and as solitary plants on the turf, and in some districts it will stand our winters well and grow to a great height. It can be increased by offsets and division early in the spring.

SALVIA FULGENS AND S. PATENS.—Cuttings will strike in a moist, warm frame if carefully shaded at this season. Salvia patens being tuberous-rooted may be lifted and stored away for the winter after it is cut down by frost.

SUCCULENTS.—The propagation of Sempervivum, Mesembryanthemum, Sedum, Kleinia repens, &c., should be now pushed on. These cuttings should not be inserted as soon as made, but the cut surface allowed to become dry. Place cuttings in a pit or frame in moist soil, but afford no water for a time, and no shading.

TUBEROUS-ROOTED BEGONIAS.—Cuttings strike freely in boxes or pots in an airy frame, affording them but little water, and not depriving them of light and air, their treatment generally being that of the zonal Pelargonium.

MISCELLANEOUS.—Heliotrop, sweet-scented Verbena and Cape Pelargoniums used in bedding, Ageratum, Lantana, Hydrangea, Verbena, bedding Tropaeolum Miss Clibran and Scarlet Bedder, are plants which may now be struck from cuttings. Koenig variegata is a useful plant for edgings, and variegated Alyssum saxatile deserves to be used more than it is. It strikes and grows well, and is most useful for summer edgings; also Nierembergia gracilis and rivularis, beautiful for edgings of small beds, and for filling baskets, but seldom seen now. Besides these, Gazania splendens, and Agatheae celestis, a pretty blue Marguerite, and Mangle's variegated Pelargonium, and the varieties of Anagallis, crimson, blue, and white; Lobelia speciosa in variety, are plants required to be kept as stock, cuttings of which should now be rooted. All of them strike readily on a slight bottom-heat, carefully shading them whilst the sun shines, and keeping the light close, except for an hour in the morning to dissipate moisture and dry the leaves. To keep the young plants stocky, the cutting-pots must be not more than 6 or 9 inches distant from the glass. When it is seen that any potful of cuttings is rooted, remove it to a more dry frame.

HERBACEOUS BORDERS.—Seedling perennials and biennials raised last month should be transplanted from the seed-beds to the borders in places reserved for them. Dig in some rotten manure before planting them, place a small stake against

each to save them from being trampled upon, and afford a watering. The present is a good time to plant permanently prepared offsets of various hardy herbaceous and perennial plants, as they will be enabled to get established before the season of growth comes to an end.

SOWING SEEDS.—The seeds of Sweet Peas, Digitalis, Delphinium, Antirrhinum, Pentstemon, Poppy, Mignonette, &c., should now be gathered, and dried in the shade. Our Sweet Peas, that were sown in pots and transplanted, have been very beautiful objects, the varieties being Countess of Radnor, Princess Beatrice, Mrs. Gladstone, Captain of the Blues, and others.

PLANTS UNDER GLASS.

By W. H. SMITH, Gardener, West Dean Park, Chichester.

NERINES (GUERNSEY LILIES) will require watering in every case, and those which have not exhibited signs of flowering will scarcely do so now. Nerines do not flower satisfactorily if disturbed at the root; but if it is a necessity to increase the stock of the plants, any potfuls that are much crowded with bulbs may be shaken out, divided, and the bulbs re-potted separately in flower-pots of 3 to 4½ inches in diameter. The compost employed in potting should consist of turfy loam, leaf-mould, and sand, and a small quantity of finely-broken charcoal. The pots should be thoroughly well crocked. Very little water will suffice for these newly-potted bulbs, and a light syringing overhead will be beneficial. Bulbs that need no re-potting should be top-dressed with the above compost, or afforded a little of Clay's Fertiliser in the proportion of a teaspoonful to each 32-sized flower-pot.

FANCY PELARGONIUMS.—Old plants will now be ready for being pruned hard-back to well-ripened wood of the current year. After pruning, place them in a common frame close to the glass, and when they commence to break, shake the soil from the roots, turn the latter slightly, and repot them in pots of the same or smaller size, pressing the soil with moderate firmness. Replace in the frame, syringe regularly, and afford air at the top and bottom of the lights. Cuttings of these varieties which were put in at the beginning of last month, being rooted, will be ready for potting into 3-inch pots. A suitable soil will consist of turfy loam and leaf soil, with a small quantity of sharp sand if the loam be heavy.

COLEUS.—The present is a good time to strike a quantity of cuttings for stock purposes, as these keep better through the winter in small pots, than older and larger plants. Moreover, they do not occupy so much space. Coleus cuttings strike almost anywhere now in a little bottom-heat. They keep perfectly throughout the winter, if placed on a shelf close to the glass in the stove.

PINKS.—In case the quantity of Carnations for winter and spring flowering is limited, some of the older plants of the Pink should be potted up, planting them in a cold frame and keeping close for a few days. The plants soon make fresh roots, and may then be stood outside. Before hard frosts set in place them in cold frames. They may be gently forced into bloom, commencing in January. Suitable varieties are Mrs. Sinkins, Ernest Ladhams, Her Majesty, Mrs. Lakin, and Mr. J. M. Welsh.

A NEW PENCIL.—The Blaisdell Paper Pencil Company, Philadelphia, U.S.A., has introduced a kind of pencil, the lead of which is seen, on examination, to be covered with many very narrow strips of paper. The pencil never needs cutting in the ordinary sense of the word, but, to expose more lead, all that is necessary is to make a small slit in the paper near the lead, thus raising a tiny flap. By gently pulling and unwinding this, working towards the point, a spiral of paper is twisted off, and a length of the lead is laid bare. This process can be repeated as required, till the pencil is too short to be used at all, and is less laborious, and is more certain in results than is cutting with a knife. The lead is excellent in quality, and keeps a good point. In appearance this pencil always resembles an ordinary cedar pencil, the "uncut" end of it being covered with red glazed paper, which increases the likeness, and is pleasant to handle.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETING.

TUESDAY, AUG. 27 { Royal Horticultural Society's Fruit and Floral Committees.

SHOWS.

TUESDAY, AUG. 27—Brighton New (two days).

WEDNESDAY, AUG. 28 { Reading. Bath Floral Fête (two days). Harpenden.

SALES.

MONDAY, AUG. 26 { Special Trade Sale of Dutch Bulbs, at Protheroe & Morris' Rooms.

TUESDAY, AUG. 27 { Sale of the Wilson Collection of Orchids, at Protheroe & Morris' Rooms (two days).

THURSDAY, AUG. 29 { Special Trade Sale of Dutch Bulbs, at Protheroe & Morris' Rooms.

FRIDAY, AUG. 30 { Imported Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—60°·7.

Watering. THERE is probably no one operation in the whole routine of gardening that is more thoughtlessly carried on than that of watering. The individual requirements of particular plants are little thought of, and "watering" is administered indiscriminately to each and all alike. Where there is a mixed collection to be dealt with, the difficulties in adjusting the supply to the needs of the individual are, no doubt, great, but in market establishments, where large quantities of one plant are grown, and where a house or houses are set apart for the exclusive cultivation of some particular subjects, the difficulties are materially lessened, though not overcome. In any case it is most important to gain a knowledge of the principles which govern the relations between the growing plant, the amount of water it receives, and the period at which it receives the supply.

That a plant needs water, suffers if it gets too little or too much, that it requires more at one time than at another, and that different plants vary in their requirements according to their conformation and structure, and the circumstances under which they are growing—all this, of course, is well known, though in practice it is often not remembered or acted on.

Again, the influence of excess or deficiency of water may affect not only the individual plant, but may determine variations in the productiveness of the plant, and induce variations in the number, size and vigour of the seed and its contained embryo. In reference to these matters, the *Revue Scientifique* for July 6 publishes a report of a thesis prepared by M. EDMOND GAIN, and presented to the Paris Faculty of Science. The general character of this thesis may be gleaned from what has already been said, but it may be of interest to add a brief summary of the conclusions at which M. GAIN, a well-known author on agricultural chemistry, has arrived, as they

are of great practical importance. There is, says M. GAIN, an alternation in the requirements of plants for water. Continuous deprivation or continuous supply of water are alike contrary to the physiological requirements of plants. In all M. GAIN's experiments those plants which were supplied with water at the two critical periods—the commencement of the unfolding of the leaves, and the beginning of the flowering period—and at no other time, did as well as those provided with a continuous supply of water during the whole period of vegetation. Further, the experiments of M. GAIN showed that this influence of moisture is not felt equally by all the organs: it has a greater effect on the aerial than on the subterranean organs. The result of this differing influence is shown in the fact that plants grown in dry soil have thicker roots than plants in damp soil, though the stems may be equal in weight. This is in accordance with the well-known fact that plants of very dry countries have frequently roots which are very large in comparison with the weight and height of their aerial parts.

With regard to the influence exercised by the greater or lesser quantity of water on the propagation of the species, the researches of M. GAIN have established the two following facts, relating, the former to seeds, the latter to the tubers:—

1st. The humidity of the soil favours and greatly augments the number of fruit and seeds, but drought induces the formation of larger and heavier seeds. On damp soil a plant yields smaller seeds, which, consequently, tend to bring about the degeneration of the species.

2nd. The number of the tubers is but little influenced by the variation in the retentive powers of the soil for water, but on damp soil the plant yields larger tubers. There is then an increase in weight; the polarity of these tubers is, however, not much marked, and they are consequently less perfect than those which have been submitted, in the earth, to relative dryness.

It may be repeated that moisture perceptibly increases the immediate yield, but tends to the formation of imperfect reproductive organs, which produce less vigorous plants. This is to the advantage of the individual, but to the detriment of the conservation of the species. The practical inferences are obvious.

VIEW IN THE GARDENS AT BOSAHAN (see Supplementary Illustration).—The accompanying illustration represents one of the many charming bits of scenery to be found round Bosahan, the Cornish seat of Mr. PENDRYVES VIVIAN, situated about 6 miles from Falmouth, on the Helford River, and commanding lovely and extensive sea and land views. The mansion was completed, and the grounds and gardens laid out in 1837. The *Ginnera manicata* here depicted was a small nursery plant five years ago; it now measures 24 feet through, 12 feet high, and averages about 8 feet across the leaves. It is planted adjacent to a pond, and seems to be quite at home, retaining its handsome appearance until quite late into the autumn, and is simply covered over with its own leaves as a protection from frost when winter sets in. Amongst the many half-tender plants found here may be mentioned *Eucalyptus globulus* (as note the large one to the left of the illustration), *Cordyline australis* and *C. indivisa*, *Embothrium coccineum*, and Palms, including *Chamærops Fortunei*, *C. excelsa*, and *C. humilis*, some of which have attained a height of 10 feet; also *Raphia flabelliformis*, *Sabal Blackburniana*, and *Phoenix rupicola*; these exist out-of-doors all the year round, and so far with marked success. In one of the little glens may be seen a clump of some twenty-seven Tree Ferns (*Dicksonia antarctica*), varying from 2 to 10 feet high, which were imported direct from New Zealand about six

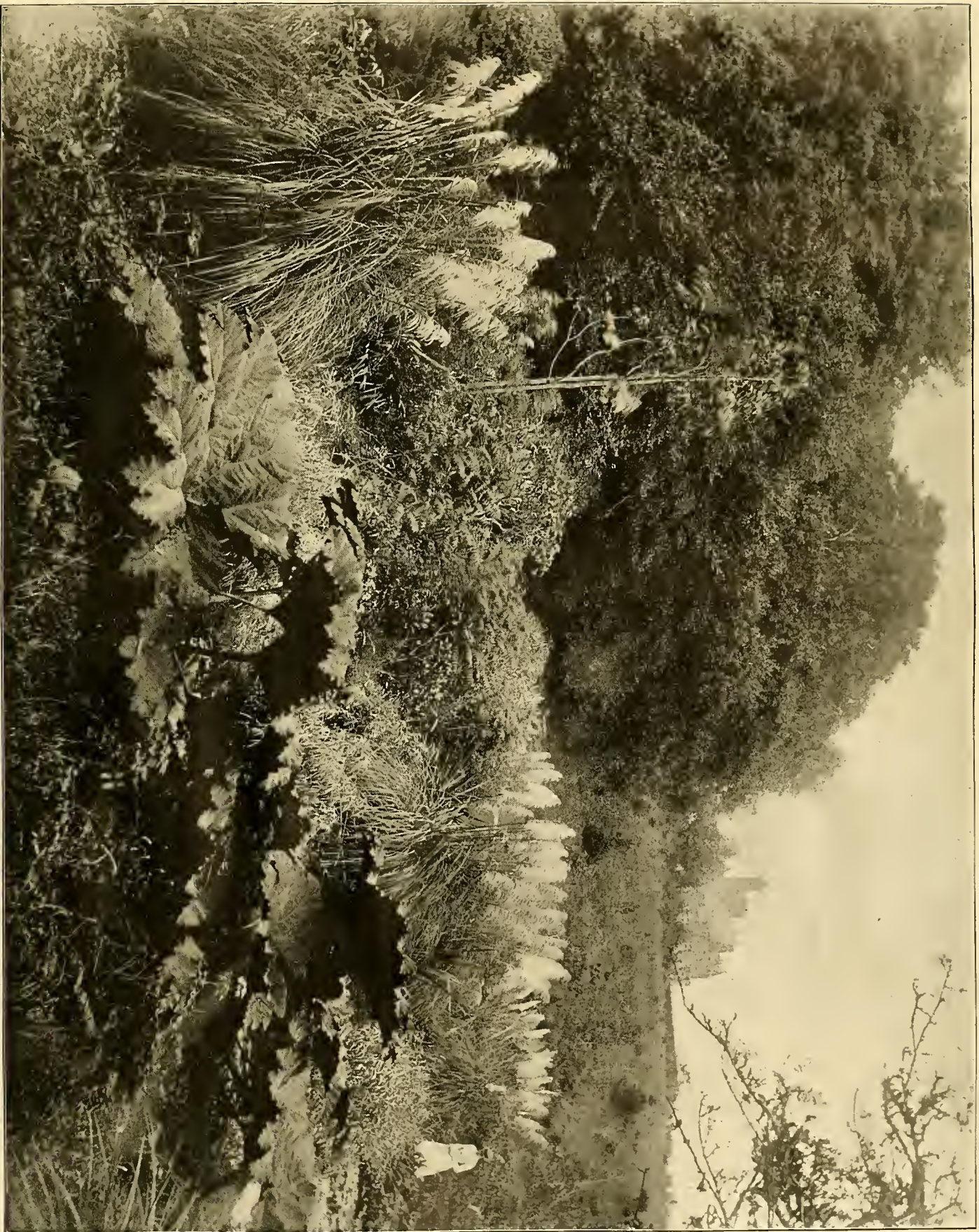
years ago, which are now looking as fresh and green as if they were under glass. As showing the mildness of the climate, it may be mentioned that 10° of frost was the maximum we had during last winter, which was elsewhere considered quite an exceptionally hard one. *Thomas Crawford*.

MR. BARRON'S DISMISSAL.—As the circumstances connected with the dismissal of Mr. BARRON have become known, a feeling has arisen that the Council has committed a blunder by appointing, unknown to their own garden committee, a number of private gardeners to visit and report on the condition of a garden, the objects of which are so different from those of which they have cognizance. That the Council should have taken such a step, and further that they should have dismissed their Superintendent also without consulting the Chiswick Board, shows something more than a want of courtesy. The treatment accorded to Mr. BARRON is also felt as a slur on the community of which he is so distinguished a representative. That such a result should have been, as we believe it was, unintentional, only shows the gravity of the blunder. In the meantime the warmest sympathy is felt for Mr. BARRON.

— We learn that at a meeting of the Fruit Committee held at Chiswick last week, it was resolved, after discussion, to invite the members of the committee to attend a special meeting of the body to be held at Chiswick on September 10, to consider the desirability of this body promoting a special testimonial to Mr. BARRON from the members in recognition of his long and valued services to the committee as its secretary. It is proposed that contributions be restricted to past and present members of the committee, and that under no circumstances should the proposed testimonial conflict with any other originated from the general body of fellows of the Royal Horticultural Society. A meeting for a similar purpose will be held at the "Windsor Hotel," on Tuesday next, at 3 P.M.

ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Royal Horticultural Society will be held on Tuesday, August 27, in the Drill Hall, James Street, Victoria Street, Westminster. At 3 o'clock a paper by Mr. C. F. BAUSE, on "Codiaums and Dracænas," will be read.

GREAT GRIMSBY FLOWER SHOW.—The first horticultural show at this town was held under the auspices of the Great Grimsby Gardeners' and Amateurs' Mutual Improvement Society, and took place on Thursday, August 8, in the Vicarage grounds. The opening ceremony was performed at 2 P.M. by Mrs. G. MARSHALL, who was supported by Mr. G. Marshall, Mr. and Mrs. Jack Sutcliffe, Councillors H. J. Curry, W. Goodwin, and others. Much of the success of the undertaking was due to the untiring exertions of the secretaries, Messrs. J. L. Robinson and F. Isle. The treasurers are Messrs. J. Norton and W. Williamsmith. Special features of the show were the groups of miscellaneous plants. Cut flowers were excellent, especially the Roses sent by Messrs. Pennell & Son, nurserymen, of Lincoln. Fruit was well, if not very abundantly shown. There was an open division, which included groups, stove and greenhouse plants, table plants, Ferns, Tuberosus Begonias, Dahlias, Coleus, Gloxinias, and Fuchsias; cut flowers, under various headings of the flowers in season, as Asters, Gladiolus, Marigolds (dearly loved in the North), Carnations, and Picotees; bouquets of various kinds; fruit of almost all kinds; also vegetables. An amateurs' division, in which the more limited means and appliances of the grower, who is not a "gardener," are taken into account. This division included plants, cut flowers, fruit, and vegetables; and, finally, there was the division in which cottagers (and, we suppose, allotment-holders) competed, and which was open to residents in the borough only. This is a division, the items of which require considerable extension, so as to admit of greater variety of produce being grown, the provision for fruit being very meagre.



VIEW IN THE GARDEN OF A. PENDAWES VIVIAN, ESQ., BOSHAM, CORNWALL.

CHISWICK—The garden is now looking particularly well. The collection of *Phloxæ* is a sight to be seen, whilst the beds of *Zinnias*, *Tea Roses*, *Begonias*, and other plants are remarkably good. The fruit crops are generally satisfactory. Some of the houses are full of *Fuchsias* and *Cannas*, so that a visit just now will well repay the gardener.

NEWCASTLE AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.—The monthly meeting of this society was held at their room, 25, Westgate Road, on Tuesday, August 13, Mr. LAKE, North Dene, Gatehead, presiding over a good attendance of members. The secretary, Mr. J. ELLIOT, Jun., read a paper on the *Cyclamen*, in which he recommended sowing the seed in July and August, or as soon as it was ripe, in preference to the spring. A discussion followed, in which many took part.

MR. SOWERBY.—Coincident with the retirement of Mr. BARRON from Chiswick comes news of the withdrawal of Mr. SOWERBY from the management of the garden at the Regent's Park, with which he has so long been connected. Mr. J. B. SOWERBY succeeds to the post vacated by his father.

WOBURN EXPERIMENTAL FRUIT FARM—A party of forty agricultural students attached to the summer college of the Bedfordshire County Council, visited the above farm on Tuesday, August 20, by permission of his grace the Duke of BEDFORD and SPENCER PICKERING, Esq. They were conducted over the grounds by the manager, Mr. CASTLE, and the general scope of the experiments already commenced was explained. Much interest in the work was evinced by the visitors, who were chiefly schoolmasters engaged in the county, and who are qualifying for teaching classes under the technical education department.

HARDY PLANT COLLECTING.—In the columns of the *Garden*, Mr. BURBIDGE advocates the formation of a club or co-operative society for the purpose of defraying the expenses of resident collectors in various countries. In this way the services of consuls, missionaries, and traders could be utilised. An organising secretary is needed, and the services of a competent botanist to indicate likely countries and desirable plants, and to identify them when received are also desirable.

ADDITION TO THE LINCOLN ARBORETUM.—The formal ceremony of opening the new portion recently added to the Lincoln Arboretum took place on Wednesday afternoon, August 14. The piece of land, about an acre in extent, was purchased by the late Mr. NATHANIEL CLAYTON, to prevent the building of houses overlooking the mansion and grounds known as Eastcliffe, and last year was presented to the Corporation by Mr. N. C. COCKBURN, his grandson, on the understanding that no building, unless it be a lodge, should be erected thereon. The land has been handsomely laid out with flower-beds and trees. Inside the entrance-gate is a granite slab setting forth that the land was the gift of Mr. N. C. COCKBURN. The cost of the work is about £1000. At the opening ceremony, Mr. G. H. PACK, chairman of the Arboretum Committee, presented the Mayoress, Mrs. A. W. HALL, with a silver-gilt key, which fits the lock to the entrance gate. She then declared the new portion open, and votes of thanks to the donor of the land, to the Mayoress for her services, and to Mr. H. E. MILNER, of Westminster (who furnished the design), were passed. *The Yorkshire Daily Post*.

APONOGETON DISTACHYON VAR. LAGRANGEI, ANDRÉ—This is a seedling variety, raised at Oullins (Rhône) by M. LAGRANGE. It differs from the type in its larger leaves, purple on the under-surface, and in the floral bracts being of a dull rose-colour. A coloured figure is given in the *Revue Horticole* for August 16.

RUBUS CAPENSIS—In the *Garden* for Aug. 17 is an illustration of this interesting species from

a photograph received from Mr. BURBANK, Santa Rosa, California. The leaf is palmately 5-lobed and rugose, like a Mulberry-leaf. The fruit is purplish and of excellent quality. It is supposed it may be the *Rubus* of which STANLEY speaks as growing in places in tropical Africa.

WINTER IN NEW SOUTH WALES—Britons are apt to think that the right to a peculiar and changeable climate, and the habit of making it the topic of everyday conversation, is exclusively their own. Our correspondence with all parts of the world often puts us in possession of information proving that, in neither particular, are they different from their brethren in what are considered more favoured climes, for everywhere peculiar weather looks in at times, and those experiencing it think it is fair game to talk or write about. Writing from New South Wales under date July 8, 1895, our correspondent, "J. H. K.," says:—"I think this is the most severe winter I have experienced in this country during the long time I have been here. Every morning during the past week there have been 8° to 9° of frost, and consequently some of our shrubs have suffered, *Allamanda nerifolia* and the *Melastomas* in particular. The *Bougainvilleas* are uninjured. I am surprised to find what a hardy old thing *B. speciosa* is. Several large pieces growing in my garden have been repeatedly frozen, not only this season, but previously, and come out quite unharmed. My experience is, that the more exposure it gets the freer it blooms.

PETER LAWSON & SON, LIMITED.—At the ordinary general meeting of the shareholders of this company, held on Thursday, August 15, within the registered office, No. 1a, George IV. Bridge, Edinburgh, the report as issued to the shareholders was unanimously adopted, recommending a dividend of five per cent. per annum on the paid-up capital, free of income tax, should be paid on September 2, and that the balance of £4683 0s. 3d. be carried forward to next year's account. The retiring directors, JAMES S. EASTES, Esq., Ashford, Kent, and ANDREW PATERSON, Esq., C.A., Edinburgh, were re-elected.

DISA GRANDIFLORA.—We have had sent for our inspection by Mr. H. BAILEY, the gardener at The Briars, Reigate, some flowers of *Disa grandiflora* which are of an astonishingly large size, most of them measuring on arrival 5 inches from the tips of the sepals to that of the lip. As cut flowers, these *Disas* are admirable, lasting in water for quite one week. Mr. BAILEY has been successful in flowering these plants for the past twelve years.

"BOTANICAL MAGAZINE."—The August number contains coloured figures and descriptions of the following plants:—

Prochyanthes Bulliana, Baker, t. 7427.—This is the plant described by Mr. BAKER in our columns in 1884, ii., 328, as *Bravoa Bulliana*. As a genus, it is intermediate between *Polianthes* and *Bravoa*, having bell-shaped purplish flowers, curiously bent downwards in the middle. It is a native of Mexico, and flowered at Kaw in 1894.

Saccolabium Mooreanum, Rolfe, t. 7428.

Spiræa bracteata, Sabel, t. 7429.—A Japanese species, which has been called in gardens *S. media* or *S. rotundifolia*, or *S. rotundifolia* var. *media*. We hope the nomenclature may now be considered settled.

Pyrus sikkimensis, Hook. f.—A Himalayan Crab-apple flowering at Kaw, and presumably introduced from Sikkim by Sir JOSEPH HOOKER.

Pleurothallis Scapha, Rehb. f., in *Gardeners' Chronicle*, 1874, vol. ii., 162.

MELON GROWING AND ARTIFICIAL MANURE.—The gardener at Minstead Manor forwards a photograph of a Melon-house under his care, to show the effect of the Chelsea Manure. The manure, he says, soon takes effect, and he was enabled to cut 175 fruits from fifteen plants on which it was used, the total weight of which was 4 cwt. 1 qr. 2 lb.

M. J. VESQUE.—We hear with great concern of the death of M. JOLIEN VESQUE, one of the most accomplished botanists of France. M. VESQUE paid great attention to physiological botany in its application to agriculture and gardening. The relation of minute structure to function and the adaptations to altered conditions were studied by him with success. One of his latest works was a volume of the *Suites au Prodromus*, devoted to a *Monograph* of the *Guttiferae*, in which the anatomical structure of the leaves is made use of as a "character" to be utilised with others in the discrimination and delimitation of species. We have no doubt that similar monographs will in future be compiled.

THE SUPPLYING OF BULBS TO THE LONDON PARKS.—Messrs. JAMES CARTER & Co., seed merchants, 237, 238, 246, and 97, High Holborn, London, W.C., have again been honoured with the commands of Her Majesty's Commissioner of Works to supply the bulbs for the Royal Parks of London; and they have also received a similar favour from the London County Council for the parks, gardens, and open spaces under their control.

BOOK NOTICE.

A GARDEN OF PLEASURE. By E. V. B. (Elliot Stock.)

The pleasant articles in our columns descriptive of a Buckinghamshire garden, and reprinted under the title *Days and Hours in a Garden* are still held in fresh remembrance. The present volume is of a similar character. Its records pertain mostly, if not entirely, to the same garden, and they are framed in the same refined, sympathetic, and original way. They are not meant to be criticised, but merely to be read and enjoyed. One or two points we may be permitted to allude to, and first as to the gracious remembrance of the gardener.

"And now, departing not from the custom which holds with letters as with prefaces, and by which the last word is wont to be the most important, a word must be said for the Chief Tiller of the garden, in whose hands lies the responsibility of success or failure. Perhaps there may not be many who would choose a gardener on such lines as these; not many would, so to speak, take the candidate into the garden, and pointing to a Cabbage or a Currant-bush, give the order thus:—Dig a hole and plant that Currant head downwards, and if forthwith the man did as he was told without a word, engage him on the spot! Yet I believe such imperiousness does exist, and then is fatal to the garden. We may love dearly our flowers; we may know (or think we know) everything about them, and call them all by their names. We may believe we are Master, and that things being done entirely under our directions, everything will grow, and all will be well. Yet nevertheless nothing will grow, nothing will be well unless the gardener is also in a sense, on his side, master. When his worth is ascertained, give him a free hand over all affairs which come specially under his control. Give him a living interest in the garden by letting him exercise his taste (subject always to yours) in planting and in arrangement of colors, &c., and by showing your own constant interest in it; and if the man be possessed of good intelligence and Experience, if his heart is in his work, if he has it in him to Succeed, succeed he will. The garden and the gardener will grow, as it were, to understand one another, and you to trust and understand them both, while your content and gladness in the garden will increase and grow with the years' increase. . . .

"And here a grateful tribute must find place, for the gardener, JESSE FOULK by whose rare skill this plot grew into a Garden of Pleasure, whose ceaseless care has maintained its charm for three and twenty summers, and who completes the Thirtieth year of his devoted service on the 22nd of May (1895), with which well-omened date I close my Preface."

With such reciprocal good feeling all ought to go well, and generally does go well, in spite of the contrarieties that always will arise in the best regulated of gardens, from causes beyond the control of master or man. To one other subject we may refer, in the hope that the authoress may clear the matter up.

With reference to the introduction of the Pine-apple to this country, there are some discrepancies. "E. V. B." here tells us that John Tradescant lived once at Dorney Court, near Maidenhead:—

"There is some tradition that there he presented his Pine-apple to Charles II., and it is not many years since a little wayside public-house near retained still the sign of a Pine-apple. The [Pine-apple] was the first grown in England. At Dorney Court there is an old engraving which represents Tradescant kneeling before the King in a garden presenting his Pine-apple."

So far "E. V. B." But according to Johnson's *History of English Gardening*, it was John Rose, gardener to Charles II., at St. James's Palace, who presented his Majesty with the first Pine. "There is a portrait of Rose in oils at Kensington Palace, representing him giving the first Pine-apple cultivated in England to Charles II., whilst that monarch was on a visit to Rose's mistress, the Duchess of Cleveland, at Downey (sic) Court, Buckinghamshire." John Evelyn says he saw the first Pine-apple presented to the King in 1661, and twenty-seven years later he was privileged at the Banqueting-house to taste a piece from His Majesty's own plate; but apparently he was not courtier enough to fall into ecstasies over it.

A copy in water-colour of the picture in Kensington Palace above referred to, was in the library of the Royal Horticultural Society even so lately as the time when the Lindley Library was housed in the nearly inaccessible shed at South Kensington, but, unfortunately, it has disappeared, and we believe it has not been seen since the transfer of the books from South Kensington to Victoria Street. It may be that this Pine was not grown here, but in Holland.

In any case, we have Tradescant and Rose, St. James's Palace, Kensington Palace, Downey Court, and the Banqueting-house, all mentioned in connection with the first Pine grown in this country. It is not likely that both the gardeners and all the localities mentioned were concerned in the matter. What, then, is the true version?

It is probable that there is some confusion between the Pine imported from Barbados and elsewhere, and that which was really ripened under an English sun. It is also on record that another Charles, that is Charles V., was offered a Pine-apple, but refused it, and declined to taste it. Better authenticated cases of Pines presented for Royal acceptance are that weighing 9 lb. 4 oz., and presented in June, 1820, to his Majesty George IV. by John Edwards, Esq., of Raedla, Glamorganshire. In 1821 another fruit of the same variety, and weighing 10 lb. 8 oz., was grown at Stackpool Court Gardens by Mr. Buchan, gr. to Lt. Cawdor, and forwarded by the Royal Horticultural Society to his Majesty. This fruit was served up at dessert at the coronation banquet.

Our author's book has rendered us disservice. It is permissible to be so in due season. Let those interested in gardens who want a pleasant book to stow away in their portmanteau for perusal during vacation hours not forget this *Garden of Pleasure*.

RAVENS COURT PARK, HAMMERSMITH.

Amongst the smaller suburban parks under the control of the London County Council, this (about 35 acres in extent) certainly ranks as one of the prettiest and best kept. The grounds here, when in the possession of the late George Scott, Esq., were laid-out by the famous landscape-gardener, Repton, who made great improvements. A very fine avenue of Elms leading to the house (now converted into a Free Public Library) is a feature of the place. This was formerly the Manor-house, and was called Ravenscourt, a capital mansion, built in the style of the French architect, Mansart.

The place has interesting horticultural associations, for opposite to one of the main entrances to the Park once lived Louis Weltjie, Esq., at that time a famous grower of Auriculas; his name is still perpetuated in Weltjie Road. Not a stone's-throw from here lived, too, one who in his day made himself famous by his culture of Dabbias and Celery—to wit, the late Charles Lidgard, of the Old Thatched House. Hammersmith will always be noteworthy from a horticultural point of view in connection with the very old firm of Lee.

Returning to the Park, it is a great boon as an open space to the inhabitants of Hammersmith, with its beautiful flower beds, stately trees, winding walks, and sequestered seats, and lake. Several

improvements have recently been carried out. An addition to the lake has been made by carrying the water round some large trees, forming an island which has greatly improved its appearance, and will give increased facilities for skating.

The rough piece of ground adjoining the main road has been laid out in beds and shrubberies, the bare places between the newly-planted shrubs being filled up with a good selection of Canterbury Belle, Carnations, and various bedding plants, edged with *Viola*, making quite a bright and pleasing display. One long border was very gay with an edging of *Viola picturata*, a profuse bloomer. The effect produced by these mixed borders is far preferable to the formal lines so often seen. A great advantage possessed by the mixed system is, that as the plants go out of flower they can be replenished without much trouble from the reserve-ground, not necessitating the taking up whole lines of plants.

Pelargoniums are not used in any of the beds, but in the mixed borders *Fuchsias* were largely used for beds, and dotted on the grass; how effective and graceful they are used in the latter way! A very large scroll-bed (of which we give a sketch, fig. 44) was an effective feature, being done in a free-hand design, representing a trailing stem with leaves. The main stem or scroll was composed of *Alternanthera versicolor*, the large leaves were done with *A. magnifica*, small leaves with *A. aurea*, the groundwork being *Sedum glaucum*.

Several beds were edged with a very profuse blooming dwarf white *Alyssum*, which I have not seen before. The rockery here is getting established, and is a source of interest when its various occupants are in flower. It should be mentioned that the park is well managed by Mr. W. B. Gingell, who has effected several much-appreciated improvements since he took charge some five years since.

Other plants used in the design are *Kleinia repens* for the larger leaf-veins, *Alternanthera anrea* for the smaller ones, *Echeveria secunda glauca* for the edging; whilst *Herniaria glabra*, green *Sempervivum* and *Mesembryanthemum cordifolium variegatum* are also used in places which the limited size of our illustration does not permit us to indicate specially. *J. B.*

HOME CORRESPONDENCE.

A NEW VARIETY OF GOOSEBERRY.—I have sent you a few Gooseberries for your inspection, which I have named White Warrington, the result of a sport. Never having seen any myself before, nor anyone about here, I think they will be a great acquisition, as every gardener knows the good qualities of the Red Warrington. I have two nice bushes, and have had them for six years, and they always keep the same. Please let me know if you have ever seen or heard of any before. *L. Dow, Newbyth, Prestonkirk, N.B.* [It is identical in shape of berry, hairiness, and flavour to the Red Warrington, and is likely to become as great a favourite as a dessert variety as that one. The skin is fairly tough, as in the red variety, and the berry should be as good a keeper. *En.*]

PRESERVING FRUIT.—In reply to the various queries of Mr. D. T. Fish in the *Gardeners' Chronicle* of August 17, p. 180, upon the subject of preserving fruit, I beg to submit the following replies:—1. The time for the development of the maximum properties of the gelatinising of fruit in the process of preserving them should not exceed one hour. The time must of necessity vary according to the juiciness of the fruit. 2. The maximum time for the development of fruit jelly should not exceed twenty minutes. In a discussion which followed the delivery of Miss Parloa's lecture, she repeated her remarks about pectine, to impress upon the minds of the audience the fact that much cooking of fruit in making jelly tends to impair the quality of the jelly; and that in many cases the product is not jelly, because that principle in the fruit had been expelled by the cooking, leaving a thick syrupy fluid. 3. With regard to the use of Lemon juice to keep fruit white after paring, it would appear that the acid forms an organic compound on the outside of the fruit which prevents the discolouring. 4. It is most probable that sun-dried Strawberries are a luxury denied to English housewives. *J. J. Willis, Harpenden.*

SLUGS AND WORMS.—The animal which Mr. Robert Warner mentions in your issue of the 17th inst. under the name of the "earth-slug" is evidently a *Testacella*, which is the only British genus of slugs which have an external shell (which is situated at the end of the tail), and which feeds on live worms. The large black slug, *Arion ater*, is reported to eat worms, but my observations during more than fifty years incline me to the belief that *Arion ater* wants somebody to catch and kill a worm before he could make a meal of it. *W. T., Bishopsteignton.*

SLUGS DESCENDING BY A LINE OF SLIME.—The several communications in your last two numbers are very interesting, but only confirm what has long been known to students of British mollusca. If Mr. Da B. Crawshaw will kindly send me the next specimen he may find alive, I shall be pleased to identify it for him. I suspect it may prove to be *Limax arborum*, as I have caught this species coming down from a tree in Knole Park, Sevenoaks, within a mile of Mr. Crawshaw's house. Other slugs known to descend and climb, are *L. agrestis*, which is creamy or pale grey, and about 1 inch long; and *L. Sowerbii* (formerly known as *L. carinatus*), which is chocolate-coloured, has an orange keel down the middle of the back, and is 2 inches long. Both these species are common at Sevenoaks. *W. Thomson, Bishopsteignton, South Devon.*

FAILURE OF PLANTS OF SUMMER-FLOWERING ASTERS.—I send herewith two or three Asters which have gone to the bad. Can you tell me in your next issue the cause, and, if possible, the remedy? I have only lost about a dozen plants in this way. They are perfectly healthy one day, and next morning they look as if the leather-grub had been doing his worst, but I have not been able to find the culprit. I am told that a gentleman in Spalding, whom I know very well, paid no less than £5 this year for Aster seed and plants. He has a very extensive garden, and I have but a small one; notwithstanding this, however, I have at the present moment perhaps the finest show of Asters in the district. It is very annoying to have your plants go off just as they are coming into bloom, and I hear that his plants have served him the same trick. Any information or advice will be thankfully received by *Robert King*. [An expert to whom we sent the plants writes:—"The plants are perfectly free from all forms of fungoid disease, and I cannot suggest any cause for their peculiar behaviour. *G. M." En.*]

BEDDING ARRANGEMENTS IN ST. JAMES'S PARK.—On entering the park from the entrance on the western side of the Horse Guards Parade-ground, on the left will be seen some groups of plants on the grass, consisting of *Dracænas*, mixed *Fuchsias*, and *Heliotropes*, which now look very well. Going further west, we come to a mixed border of *Fuchsias*, *Heliotropes*, *Cannas*, *Marguerites*, *Nicotiana affinis*, *Pentstemons*, &c., furnishing a grand appearance. Here are also five beds (three circles and two oblongs); the oblong beds are planted with Ivy-leaved *Pelargoniums* *Ryecroft Surprise*, with a carpet of mixed *Violas*. Three circles:—The centre bed is *Fuchsia Marinka*, having a carpet of *Alternanthera major*; the two end beds looking very good, being planted with *Fuchsia Mrs. Rendell*, having a carpet of *Alternanthera major*, and some dot plants of *Abutilon Boule de Neige*. At the rear of these beds is a large circular bed, planted with mixed sub-tropical plants, which are doing well. Still further west is a dell having plants of *Musa Ensete* and *Palma*, plunged in the grass, and presenting quite a tropical appearance. Most of the borders in the park have their margins planted with the usual summer bedding plants. Bold massive groups of *Iris*, *Polygonum*, and other plants at the edge of the ornamental water give the park quite a unique and effective finish. In the square near the Houses of Parliament there are some beds which at the present time are doing well; they are planted with *Fuchsias*, *Pelargoniums*, *Cannas*, and *Eucalyptus*. Considering that they are surrounded by dusty roads and other unfavourable conditions, it amply demonstrates what can be done in a gardening way in what may be called the heart of London. *J. B.*

THE DOUBLE ROCKET.—Of this old inhabitant of our gardens there are three varieties, as far as my own knowledge goes—viz., the true double white, which one finds in Lancashire, Yorkshire, and the north, which does not appear to do well in the southern counties; the taller and more robust-growing French white, the flowers of which when they

age becomes tinted with pale lilac; and the double purple, which is inferior as a decorative plant to either of the foregoing. A fourth might be added—the double yellow-flowered *Barbarea vulgaris*, which is known in some localities as the double yellow Rocket. The first three appear to be getting scarce plants, they were scarce fifty years ago, and it sometimes does badly, and hence it appears to be worn out. I do not believe that the plant is worn out; any loss of vigour may, I think, be owing to improper culture or neglect. The double Rocket is a plant that declines in health as soon as it is neglected, and there is no doubt but that the fine specimens sometimes met with in cottage gardens are potted plants, and therefore well looked after. Of methods of propagation, that by means of cuttings is preferable to division of the roots in September. The advantage of propagating by cuttings is that the plants have more time to establish themselves before inclement weather sets in. Cuttings should be taken when the shoots are 10 to 12 inches in length, dividing them into three joints in length, the

some flattering notes I made last year of the fine trees seen in the Bournemouth Cemetery. These were pictures of health, verdure, and beauty, with no trace of the rusting or dying off the lower branches that so often mars the symmetry and beauty of *Arancarias*. The lines along each side of the main walks were in robust health, and specially green and flourishing. It seems a mistake to call any number of lines of Chili Pines avenues, as most of us associate the name with lines of overarching verdure and beauty, and it would be impossible for *Arancarias* to form such avenues, however high or wide they might grow. Nevertheless, regular lines or ranks of stately *Arancarias*, or groups or masses of them, where they do as well as around Bournemouth, Bicton, and a few other places, have a striking and a very original appearance. Possibly, Mr. Ward is right about the soil being somewhat light sandy peat about Bournemouth. The common Scotch and other Firs thrive well in it, and so does the *Arancaria*. And yet I have seen the Chili Pine do well on loams of various textures. Provided the latter is well drained, fairly dry, a moist genial atmosphere has

that were in water on the counter, viz., Lottie Eckford, Emily Henderson, and Princess Beatrice. The first being white tipped with blue, the second a well-known white, and the third a deep pink. [He did what he undertook to do, although the flowers were changed into other glasses, and correctly naming each of the three varieties by its fragrance only. The manner in which the testing was done is given in the words of an onlooker, and is too long for us to insert. Ed.] I do not give this through egotism to the readers of the *Gardeners' Chronicle* as being anything wonderful, but venture to suggest that colour in flowers may have something to do with perfume. In Roses, for instance, the rich crimson are always the richest in odour. [How about *Maréchal Niel*? Ed.]; and I think Rose-growers may, blindfolded, be able to do with Roses what I did with Sweet Peas. Certainly the one called Cardinal, in scarlet, is to my mind, almost the finest in perfume, excepting Princess Beatrice, a rich pink. The variety Emily Henderson is the weakest, but the best of whites. What say your readers? *Wm. Bayler Hartland, Ard Cairn, Cork.*



FIG. 44.—CARPET-BED, RAVENSWORTH PARK, HAMMERSMITH. (SEE P. 216.)

terminal bud being taken out, otherwise it may become a blooming shoot. A bed for the reception of the cuttings should be prepared under a wall, or better still, in a small frame; and a compost for them to be inserted in, made up by mixing three-parts of good mellow loam with one of sharp sand, taking care the latter is in quantity near the surface. The cuttings should be inserted with two eyes or buds below the surface; a good sprinkling is then given, the light placed on the frame, and the cuttings shaded from the sun, water being afforded as may be required. When treated in this way, cuttings rarely fail to root. An old gardener, who was very successful with the culture of the double Rocket, states:—"Where it is wished to grow this plant in a high state of perfection, care should be taken that no manure whatever forms a part of the soil in which they are planted, as it will cause a strong exuberant growth, and materially diminish the chances of propagation, either by cuttings or division." The double Rocket does well in a good fresh loam, with which a little leaf-soil may be mixed if thought to be too heavy; in such the plants will grow stocky, they will throw up many stems, and bloom in thick dense spikes 1 foot or so in length. Some of the old growers who made a pet of this plant would allow their plants to bloom but twice only, considering they had reached their highest stage of perfection when they flowered the second time. A few cuttings should therefore be struck every year, so that a succession of plants may be assured. *R. D.*

ARAUCARIA IMBRICATA AT BOURNEMOUTH.—Mr. H. W. Ward's remarks about the fine Chili Pines at Banksome Dean Park, Alderbury Vicarage, in the *Gardeners' Chronicle* for July 20, reminds me of

probably more to do with its verdure and health than any particular soil. At Castle Kennedy in Scotland, as well as in other genial places throughout the United Kingdom, fine *Arancarias* may be met with. But in East Anglia, the climate seems too dry for it. I had, however, a fine specimen under my care for some years at Glevring Hall near Woodbridge; this was said to be one of the earliest imported. For many years it continued a picture of health and beauty. No surface care, however, nor top-dressing could stop the bottom branches from rusting off. This fine specimen, however, was on heavy loam. Others on lighter soils, however, followed its example after a time, and the majority of the Chili Pines in many moist localities. Even at Bicton in Devon, under the skilful culture and planting of the late Mr. James Barnes, so distinguished for his cultivation of this and other hardy and semi-hardy trees and shrubs, and where the *Araucaria* grew so freely, and coned so well, that not a few began to see in it a future source of food grown in these islands, not a few of the fine stately trees became more or less ragged. And Mr. Barnes' bold venture of growing and ripening Pine-apples in the open air is about as likely to be realised as the successful culture of the Chili Pine to the highest perfection of symmetry and verdure. *D. T. F.*

COLOUR AND PERFUME IN SWEET PEAS.—Have any of your readers observed how different are the perfumes of Sweet Peas? Some of them have that of the Rose, all more or less quite distinct from each other. The white varieties are particularly weak in odour, while the scarlets and pinks are very strong. To-day I ventured to suggest to a few friends, and my warehouse assistants, that I could blind-folded tell the names and colours of three very distinct varieties

LAW NOTES.

THE NATIVE GUANO CO. v. HIBBERD.

IN the City of London Court, before Mr. Commissioner Kerr, the case of the Native Guano Co. Ltd. v. Hibberd was heard, in which the plaintiff company, of 29, New Bridge Street, E.C., sought to recover from the defendant, Mr. Henry Hibberd, gardener, Grange View, Batley, Hants, the sum of £3 for guano supplied. Mr. James Welfare appeared for the plaintiff company. The defendant said the reason he declined to pay for the guano was because the material which was sent to him turned out to be different to what it was represented he should have. He had to give it a trial before he knew what it was like, and so he had broken into it. As soon as he found out what it was really like he wrote to the plaintiff company and disputed his liability. Mr. Commissioner Kerr said it might be useful to the defendant and others to know that when he received goods which were not according to the representation he should at once return them, and on no account keep them on his premises. He had been telling people so for a long time, but they did not seem to pay attention to what he told them. The defendant might bring an action for damages if he liked, but in future he must see that he received the right stuff. For thirty years he had been warning people against the advertised stuff which were continually sold. The only thing he could do was to find for the plaintiffs for the amount claimed, and give them the costs of the litigation.

A QUESTION IN THE SEED TRADE.

Messrs. Toogood & Sons, seedsmen, were summoned before the Southampton magistrates on Tuesday for selling seeds improperly described. Mr. E. J. Trustram prosecuted, and Mr. Page defended. The question raised was whether the seed trade generally was allowed to sell a particular kind of seed which has been named after the original producer, or whether the inference should be gathered that in consequence of that seed having a particular producer's name, it must necessarily have been produced by him. Mr. Shephard, seedsman, of Stockbridge stated that after many years' trial he had produced Shephard's Kale, which was registered as a trade-mark, and which he supplied to farmers only, and not wholesale. He had never supplied any to Messrs. Toogood, and the seed sold by them was inferior to his. He claimed that there had been an infringement of his trade-mark, and that when a personal name was put to a seed it was supposed to be grown by that person. He would not swear as to the custom of the trade, but only as to Kale. After formal evidence of purchase, it was agreed to adjourn the case until September 11, counsel stating that the case was so important that it might go to the House of Lords. It was intimated there was a perfect defence, and that the defendants had only followed the custom of the trade. *Times*.

LOW'S GROUND-COMPASSES.

As the ground season will soon be upon us, when many will be busy renovating old and laying out new gardens, permit me to direct the attention of your readers to this useful patent of Mr. Low, for many years the gardener to the Duke of Grafton at Easton Park. In this position Mr. Low has had much experience, not only in the furnishing of the flower-gardens, but has likewise had much practice in remodelling and making the major portion of them on new and more graceful lines. The character of the garden, as well as of the mansion, almost necessitated formal or geometrical treatment, and all who have had any experience in such work know what material help may be derived in the laying-out of flower-beds and borders from reliable compasses 4 feet long with a radius of 6 feet to 6 inches or less. This necessity as usual became the mother of this most useful invention, which I have found to do readily and well all the work promised for it, and more than is promised in Mr. Low's prospectus. They are superior to any others I have used for landscape-work, in their neatness, fixity, certainty, and durability. As seen at a glance by the woodcut (fig. 45, p. 219), the staff shows the patent compasses at rest, posing or reposing. A sight-staff for the forming of perpendiculars, B, shows them at work with the left leg resting on a solid base, and the right fixed to any given radius by the slender connecting-rod, secured in position through the small thumb-screw on the opposite or describing leg; the compasses also secure fixity of depth and certainty of radius. The square block, pushed into the ground, with its brass-furnished hole, for the stable leg, securing the first, and the connecting-spline and thumb-screw the second. What these two conditions are, and how much they mean, can only be thoroughly understood by those who have had to lay out difficult and delicate designs with common compasses.

As to durability, both legs are shod with brass, and the wood is of the best, and thoroughly seasoned. For setting out small holdings, allotments of fruit, flower, or vegetable gardens, walks, measuring the distances between fruit trees and bushes, or other crops, setting out smalls, these compasses form the handiest of all measuring-rods. *D. T. F.*

SOCIETIES.

ROYAL HORTICULTURAL
Scientific Committee.

August 13.—Present: Dr. M. T. Masters, in the chair; with Mr. McLachlan, Mr. Burbidge, Mr. Weathers, and Rev. G. Henslow, Hon. Sec.

Black Currant × *Gooseberry*.—A fruiting specimen of this hybrid was sent by Mr. CULVERWELL. It was previously received and described in the minutes of the Scientific Committee for June, 1890. The fruits are small, and have a very slight taste of the Black Currant. The bark reveals the scent more distinctly, while the skin of the fruit has the glandular hairs of the latter mixed with the ordinary hairs of the Gooseberry.

Lilies Diseased.—Specimens of the foliage of *L. Lowi* and *L. nepalense* were received from Messrs. WALLACE, of Colchester, attacked by apparently the too common "Lily disease" fungus. Bordeaux Mixture is suggested as the best remedy. He observed that the disease in his garden only attacks the Lilies received from Burmah. It was formerly thought that burning was the only means of extermination; but experience has shown that the bulbs may not be at all injured, and that as the disease may be very prevalent one year and very scarce the next, it will be better in future to leave the bulbs, only destroying the aerial portions attacked.

Lime and Bees.—A spray of a Lime tree was received from Mr. F. ENOCK of 21, Manor Gardens, Holloway, to be named. It proved to be *Tilia petiolaris*, D.C. He also observed that numerous dead bees were found under the tree, suggesting that the honey might be of a poisonous nature. In a communication from Kew, whither the specimen had been sent, it is observed:—"We have long noticed at Kew that bees are killed after visiting the flowers, and quite a circle of dead bodies are found under the branches every summer." Mr. McLachlan remarked that this occurrence has been long known to entomologists, and by the watching of the trees by Mr. E. SAUNDERS he found that the death of the bees was caused by the attacks of tomits, apparently by extracting their honey-bags.

Lettuces attacked by Aphides.—Plants received from the Chiswick Gardens showed the roots to be badly infested by these insects. They were forwarded to Mr. G. B. BUCKTON for further examination.

Potatoes Diseased.—A communication was received from Mr. ASHLEY, Elmcroft, Staines, stating that "the leaves appear to be spotted with brown, where holes appear; the leaves subsequently curl up. The disease occurs in patches, and gradually spreads. It is not confined to one sort of Potato alone. I noticed the same disease on some early Potatoes about two months ago, and washed the leaves with very weak paraffin and water. [This seemed to stop it." Having been forwarded to Kew for examination, the report is as follows:—"The young leaves are in the first instance punctured by an insect; the wounds made are the points afterwards attacked by a microscopic fungus—*Macrosporium Solani*—which completely destroys the tissue, hence the holes in the leaves. Spraying with Bordeaux Mixture will destroy both insect and fungus; but if a solution of very weak paraffin has proved effectual it would be wise to continue its use. The great point in spraying, whatever solution is used, is to thoroughly wet the leaves. A little soft-soap mixed with the liquid assists in doing this."

Photo of Cedrus Deodara Struck by Lightning.—Mr. WEATHERS exhibited a photograph, taken at Kew at 7 A.M., August 12. It represented a *Deodara* which was shattered by lightning on the night of August 10. The main trunk is cleft in twain almost to the base, while large splinters and branches are scattered about. The wood is perfectly sound, and shows no signs of charring. The tree was about 30 feet in height.

Cuscuta vesca, Female replacing Male Flowers.—Mr. HENSLow exhibited specimens of this exchange of sex, as being particularly abundant on a Chestnut-tree this season; a probable result of the climate, as it is well known that external conditions often decide which sex shall predominate when a plant is naturally bi-sexual. He alluded to experiments by Mr. Meehan, Hoffman, and his own, in which seeds of bi-sexual plants gave rise to various proportions of males and females, according as they are sown very thickly or thinly.

Fruit Committee.

August 16.—Present, at Chiswick, were H. Balderson, Esq., in the chair; and Messrs. J. Willard, G. Wythes, J. Hadson, Mr. Fife, A. Dean, W. Farr, J. Cheal, and J. Smith. The committee's attention was first drawn to the Tomatos in pots, of which there is in various houses a very large and well-grown collection; very few, however, are really new, and none seemed to show anything specially meritorious beyond what can be seen on established varieties. The following had previous awards of three marks or of certificates, granted at the Drill Hall, confirmed:—

Golden Princess, fine deep golden fruits, very handsome and prolific; Tennis Ball, fruits freely produced in good clusters, medium-size, round, rich colour, and pretty; Comet, large, handsome, smooth, round red fruits; Sutton's Dessert, smallish fruits, borne in clusters, scarlet; and Sutton's Golden Nugget, a counterpart of the previous one, fruits rich yellow, both abundant fruiters as dessert varieties; Frogmore selected, a large handsome free-fruited variety, scarlet colour; Duke of York, recently certificated at the Drill Hall, also having fine scarlet fruits; Chemin, a well-known scarlet-fruited variety, and the better known Conference. Two sorts not previously noted, were Sutton's Early July, an improved open-air, and the cherry-shaped, a very old sort, fruit small, round, scarlet, and borne in racemes, specially mentioned for its high flavour as a dessert variety. Each had three marks awarded.

Runner Beans next came under notice, those of British stocks being generally excellent; whilst Continental varie-

ties seem to have suffered from the cold rains. Of the Scarlet or rough Runner types, Sutton's Prize-winner, a splendid long green Bean; Sutton's Al, also good; Leviathan a splendid cropper and handsome sample, all scarlets; and Capp's White Runner, a fine and very prolific white-flowered variety, had each three marks awarded. Of smooth runners the only ones regarded as worthy of special notice were Sutton's Tender-and-True, and Veitch's Climbing French Beans, previous awards being confirmed; the committee, however, seeing these two Beans growing here together under precisely similar conditions, came to the important conclusion that they are absolutely identical, they all the same leave to others to determine under which of the above names the variety shall henceforth be recognised.

The adjoining trial of Cabbages was then inspected, there being a first-rate growth on all. Of the dwarf early varieties, the best stocks were Improved Nonpareil, from Messrs. NUTTING & SONS, and Messrs. J. VEITCH & SONS, both of which received three marks. A better dwarf Cabbage could hardly be found anywhere. Of succession varieties, the best were Sutton's Earliest, Barr's Best of All, Vilmorin's Express, and Les Etampes, all of which the committee regarded as of the same stock, and a first-rate one. This is probably the best mid-season Cabbage in cultivation.

Red Cabbages were also noted, the stocks of Benary, Vilmorin, and Sutton's Dwarf being the best, also very dwarf, early, and compact. A final decision as to the merits of these will be given at a later meeting, when the Potatoes will have to be examined. Of these there is a large trial, but, like Potatoes everywhere, the growth is excessively strong. A few early Turnips were also examined, but were regarded as of no special merit.

CHARLWOOD AND DISTRICT
HORTICULTURAL.

August 7.—Charlwood is a village lying near to Crawley, on the verge of the boundary of Surrey and Sussex, and near to the fruit nurseries of Messrs. Cheal & Sons. For several years past a small cottagers' show has been held, this year it took the form of a district show, extending its operations over a wider range, and prizes were offered for the first time for gentlemen's gardeners' competition. So good was the exhibition that it promises well for the future, and with Mr. Joseph Cheal as general director, there is a useful future opening before the Society. A large number of country people came to see it, despite the threatening weather.

Tables of plants, occupying a space of 12 feet superficial—afaireure obviously copied from the Brighton shows—were an excellent feature. Mr. Thos. Sparks, gr. to A. A. DOROTHY, Esq., taking the 1st prize; the 2nd going to Mr. Dancy, gr. to C. GORDON SLOANE, Esq. This is a very useful class, as it is a means of education for young gardeners. Some useful table plants were shown. Mr. Davis, gr. to J. COVELL, Esq., taking the 1st prize, though all shown were rather too large; he also had the leading prize for six quarter-specimen Ferns, well-grown, and very healthy. One often sees in country districts something of exceptional quality, and it was the case in the class for six Coleus in which special prizes were offered by the Hon. H. CUBITT, M.P., as Mr. Dancy had six plants, admirably grown and coloured bushes of distinct varieties, that were a great deal better than anything we saw at Leicester on the previous day; some rather larger plants, also well grown, took the 2nd prize, but the exhibitor's name did not transpire.

Mr. N. Tanner, gr. to Mrs. BROUGHTON STIRLING, Lovell Heath Lodge, had six very good double flowered Begonias, which took the 1st prize. Plants were also shown by amateurs. Cut flowers formed a strong point. With twelve varieties, Mr. E. Brown, gr. to M. W. MORRIS, Esq., a young gardener who promises well as an exhibitor, had African Marigolds, Chrysanthemums, Coreopsis coronata, Plectranthus, Begonias, &c., all in good character; Mr. DAVIS was placed 2nd.

The special prizes offered by C. G. SLOANE, Esq., for twelve bunches of Cactus and decorative Dahlias brought a good competition, and Mr. E. BROWN, who has already made his mark at the Crystal Palace Dahlia show, was placed 1st with excellent blooms of Delicata, Gloriosa, Mrs. Peart, Lady Penzance, R. Cannell, Matchless, Bertha Mawley, Juarezii, &c.; Mr. G. DANCY came 2nd, having rather more of the decorative varieties. With six bunches Mr. BROWN was again 1st, having in good character Mrs. Douglas, Matchless, R. Cannell, Lady Penzance, Delicata, and Beauty of Wilts; Mr. DANCY was 2nd, his best bunches being R. Cannell, Bertha Mawley, Mrs. Peart, and Keyerith.

Asters were somewhat sparingly represented, the weather having told upon the blooms.

FRUIT was invited by special prizes from Mrs. BROUGHTON-STIRLING; for six dishes, Mr. DAVIS taking the 1st prizes with Black Grapes, Peaches, Plums, Melons, &c. Mr. DAVIS had the best two bunches of Black Grapes; Mr. SPARKS was 2nd. Mr. DANCY had a very fine lot of twelve Tomatos, Mr. DAVIS was placed 2nd.

That vegetables are well grown hereabouts was conclusively shown in the high quality of not a few which were staged. Mr. BROWN took the 1st in Messrs. CHEAL & SON'S special prizes for six dishes of vegetables of their own stocks, and he had very fine Cauliflowers, Carrots, Potatoes, Peas, Onions, and Scarlet Runners; Mr. SPARKS was 2nd.

G. O. M. HERRON, Esq., also offered special prizes for dishes, shown by amateurs. Mr. PETERS was 1st, and Mr. GREENFIELD 2nd.

In the amateurs' division, Mr. W. GREENFIELD was 1st with a plate of Potatoes, and also with six varieties of fruit.

In the way of miscellaneous exhibits, Messrs. J. CHEAL & SOX put up a large collection of hardy cut flowers, pretty Violas in bunches, Cactus, Pompa and single Dahlias, Gladioli, &c., with Begonias in pots, Palms and Ferns at the back, a very fine feature. Mr. F. FRANK HUDSON, Gunnersbury House, set up three charming Epergues, arranged with fine good taste, some of the new hardy water Lilies from America being specially attractive; and Mr. SPINKS, florist, Horley, had a collection of cut blooms of various types of cut Dahlias, all of which were highly commended.

STOKE POGES FLOWER SHOW.

AUGUST 7.—This show was held in the grounds of H. HOWARD-VYSE, Esq., Stoke Place, near Slough, on the above date. The horticultural society of this place was started in quite a small way, but it has now attained considerable importance. On this occasion the groups of plants arranged for effect were very good, and with a few other exhibits, filled a large tent.

The groups were of semi-circular form, to cover 10 feet square, and the 1st prize was well won by Mr. PAGE, gr. to H. HOWARD-VYSE, Esq.; he had a centre Palm, a Kentia, with beautifully-coloured Crotons and Enlalias, Francoa ramosa, Oncidium flexuosum, and Lilies, with a groundwork of Adiantum and Caladium argyrites. Mr. E. JOHNSON, gr. to A. GILLIAT, Esq., was a good 2nd; and he had some very fine white Campanulas in his group, good Gloxinias and Lilies, and Francoa ramosa, with a groundwork of Maidenhair, edged with Panicum variegatum. 3rd, Mr. CAPP, gr. to Sir C. PIGGOTT, Wexham Park, whose plants were good, but the arrangement rather heavy.

For six kinds of fruit, Mr. JOHNSON was 1st; and in the vegetable classes this exhibitor held the same position both for eight and six kinds, with splendid produce.

Mr. KEMP, gr. to W. BRYANT, Esq., Stoke Park, arranged a fine group of plants, not for competition, his *Panacratium* being especially fine; and Mr. TURNER, Slough, had a good display of cut Roses and herbaceous flowers.

SEVENOAKS HORTICULTURAL.

AUGUST 7.—The twenty-eighth show of this society was held in favourable weather on the above date in Knole Park, and was of the usual character, nothing apparently being of especial merit or out of the ordinary run.

There were plant-groups in which Mr. GIBSON, gardener at Halstead Place, was the winner of the 1st prize; a specimen-plant class with Mr. SUTTON, gardener at Chevening Park, as the best man; Mr. HATTON took the lead in a miscellaneous collection of plants, and one of Ferns.

Roses, Asters, cut flowers of the stove, greenhouse, and open border were shown. Mr. SNOW was the lucky exhibitor of the best six dishes of fruit in as many kinds; and Mr. TAYLER, of Forest Hill, S.E., had the finest Black Grapes; and Mr. OSMAN, Chertsey, the best white ones.

Vegetables, table decorations, &c., and special prizes, including Messrs. H. CANNELL & SONS' "Star of Honour" for the best twelve distinct dishes of Vegetables, and a box of cut flowers, was won by Mr. R. EDWARDS; and a Cottagers' side complete the more important exhibits.

WILTS HORTICULTURAL.

AUGUST 14.—With fine weather, and in the place for holding the show, the Wilts Horticultural Society's annual exhibition was especially favoured this year. The site of the show was located in the grounds of the Bishop's Palace at Salisbury; and the Committee and the Hon. Secretary, Mr. C. G. Wyatt, are to be congratulated upon the well-merited success attending the show.

As usual, Mr. CYPHER secured the higher awards, including that for twelve stove and greenhouse plants. His very fine plants consisted of *Stephanotis floribunda*, *Ixora Williamsii*, *Erica Austriana*, *Clerodendron Thomsonianum* var. *Balfourii*, *Statisia profusa*, *Phenacoma prolifera* Barnesii, two grandly-flowered plants; *Codiaeums* *Sunset* and *angustifolium*, beautifully coloured; *Kentias* *Fosteriana* and *australis*, *Cycas circinalis*, and *Latania borbonica*. Mr. THOMAS WILKINS, gr. to Lady THEODORA GUEST, Inwood House, Henstridge, and Mr. WILLS, Shirley, securing 2nd and 3rd prizes respectively.

The 1st and 2nd prizes for nine stove and greenhouse plants, five to be foliage and four in bloom, went to Mr. W. PEEL, gr. to Miss TODD, Shirley, and Mr. WILLS; *Codium* *Queen Victoria* and *C. Johannis*, *Kentia Fosteriana*, and *Ixora Williamsii* being the more noteworthy exhibits.

The competition between Mr. WILKINS and Mr. HALL, gr. to LOUISA LADY ASHBURTON, Melchet Court, Romsey, in the class for six distinct exotic Ferns, was severe, the prizes, after a considerable amount of time had been spent considering the plants and the awards to be made, were at last given in the order in which we place the names. *Davallia fijiensis plumosa*, *D. Mooreana*, and *Adiantum cuneatum* were the best in Mr. WILKINS' lot.

Six *Tuberous-rooted Begonias*, shown by Mr. A. ROBEY, gr. to Captain H. GREENWOOD, Harnham Cliff, Salisbury, were a long way in advance of those staged in that class, this being the sixth year in succession that Mr. Robey's *Begonias* have

taken 1st prize at the Wilts Horticultural Society's Show. These plants consisted of well-grown and finely-flowered double and single-flowered varieties, the foliage being ample, and the flowers large and fine in every respect. Mr. BEDFORD, Harnham Nurseries, Salisbury, came into the 2nd place with fairly good plants. The last-mentioned exhibitor was far in advance of other competitors in the class for six *Fuchsias*, staging sized pyramidally-trained plants, fresh-looking, in regard to the foliage, and well-flowered.

Groups of miscellaneous plants, arranged for effect, form an important feature in most shows of any standing. The groups arranged this year at Salisbury fairly eclipsed all previous endeavours in this direction; they were light, and quite devoid of formality in most cases. Of the groups arranged in the open and gentlemen's gardeners' classes, central plants consisted of Palms, backed up with smaller ones—*Codiaeums*, *Dracaenas*, *Tuberoseae*, *Bridal Wreath*, *Francoa ramosa*, *Caladium argyrites*, *Cattleyas*, *Oncidium incurvum*, &c., being advantageously employed in most of the winning groups, on a groundwork of Maidenhair Fern, the whole being, as a rule, edged with *Panicum variegatum*, and small plants of Maidenhair Ferns; plants of irregular heights and diversified habit and colour of foliage and flower being arranged with telling effect by Mr. WILLS; Mr. Carr, gr. to W. A. GILLET, Esq., Bishopstoke; and Mr. A. ROBEY, in the open class, and by Mr. CARR, Mr. PEEL, and Mr. ROBEY, in the gentlemen's gardeners' class, and who took the prizes

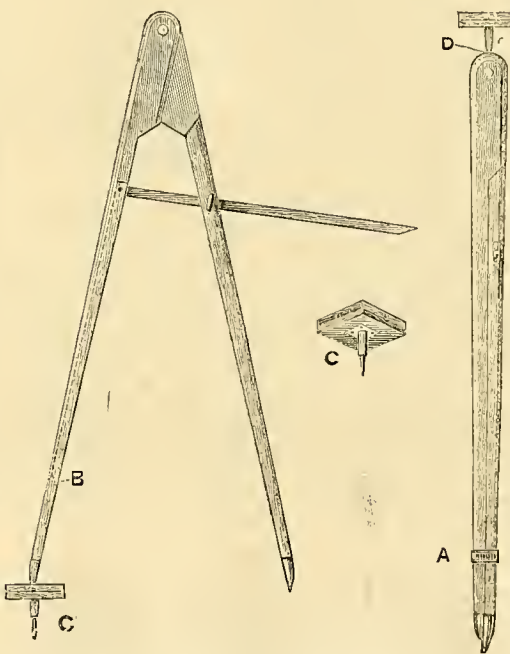


FIG. 45.—LOW'S GROUND COMPASSES. (SEE P. 218.)

in the order in which their names appear in both of the classes. Mr. BEDFORD had also creditable groups, which in both classes covered a semicircle of 12 feet radius. A nice flowering plant of *Dendrobium formosum* giganteum showed off to advantage in Mr. Robey's group.

In the principal class confined to amateurs, Mr. PEARCE, High Street, Salisbury, won the Five-guinea Cup given by the Mayor of Salisbury, in a fairly good competition; the plants arranged in a semicircle of 10 feet radius, had been carefully selected and judiciously arranged. Mr. SCAMMELL, gr. to G. R. KENDAL, Esq., Wilton, took 1st place in a smaller group class.

FRUIT.

On the whole, fruit made a good show. Mr. H. W. WARD, Longford Castle, Salisbury, secured the 1st place for a collection of eight kinds, with good full bunches of Madresfield Court and Muscat of Alexandria Grapes, good in berry, and of excellent colour; Hero of Lockinge Melon, Prince of Wales Peach, fine in size and colour; Brunswick Figs, Apricots, Clapp's Favourite Pear, and medium-sized Pitmaston Orange Nectarine. Mr. Inglefield, gr. to Sir JOHN KELK, Bart., Tedworth, Marlborough, 2nd, had very fine Late Admirable Peaches, Pine-apple Nectarines, and medium-sized bunches of Black Hamburg Grapes, fine in berry and colour, in his collection. Pine apples were not extensively shown, Messrs. WARD and HALL taking 1st and 2nd prizes in the order of their names, the former showing a good-sized fruit of Smooth-leaved Cayenne, and the latter a medium-sized fruit of the Queen.

Grapes, especially Black Hamburgs, were well represented. Three large solid bunches of Muscat of Alexandria from Longford, fine in berry and colour, easily secured the 1st place. Black Hamburg Grapes that were good in bunch, berry, and finish, gained 1st position for Mr. J. Chalk, gr. to G.

READ, Esq., Westwood, Salisbury, and he was closely followed by Mr. Mitchell, Chilwell Manor, Romsey, who had bunches slightly smaller, but more compact, otherwise fine in all respects.

Madresfield Court Grapes were excellently shown by Mr. SMITH, gr., The Palace, Salisbury; by Mr. WARD, and Mr. WARDEN, gr. to Sir F. H. BATHURST, Bart., Clarendon Park, Salisbury. Three bunches of Mrs. Pearson, of fine size and handsome outline, but requiring a month or six weeks to make perfect, secured the 1st place for Mr. Gardener, gr. to Col. H. S. BATES, Twyford, Winchester, in the class for any other white Grape than Buckland Sweetwater and Foster's Seedling.

Plums made a good class. A dozen fine fruits of Guthrie's Late Gage, perfectly ripe, shown by Mr. WARD, took 1st prize, while grand fruits of Late Admirable Peach gained a like distinction for Mr. INGLEFIELD; and a dish of Elruge Nectarines, staged by Mr. SELMAN, Pyt House, Lisbury, gained a similar award.

Apples were well represented. W. Falford, gr. to Earl NELSON, Trafalgar Park, Salisbury, who was 1st for three dishes of dessert varieties, staging grandly coloured fruits of Beauty of Bath, Early Harvest, and Red Astrachan; while fine fruits of The Queea, Toddington Seedling, and Lord Suffield gained chief honours for Mr. SMITH.

Collections of Vegetables, consisting of twelve kinds, made a good show. Mr. WILKINS was 1st for an admirable collection. Mr. R. WEST, Northlands, Salisbury, was the most successful exhibitor in the cut flower classes, which for the most part were well filled with generally first-rate exhibits.

Non-competitive Exhibits were contributed by Messrs. KEYNES & Co., who arranged a grand lot of Dahlias, &c.; Mr. LADHAMS, Shirley, had a collection of herbaceous flowers; Mr. BEDFORD had miscellaneous plants.

BISHOP'S STORTFORD HORTICULTURAL.

AUGUST 14.—The annual exhibition of this Society was held in the grounds of the Grange, Bishop's Stortford, by permission of J. Barker, Esq. The schedule is a very comprehensive one, the classes were well filled, and the groups of plants here, as elsewhere, formed an interesting feature. Altogether it was an excellent show.

There were five groups, and the best was from the gardens of Sir JAS. BLYTH, Bart., Wood House, Stansted (gr., Mr. W. J. Richardson); conspicuous as a background to the group were tall Campanulas, Lilies, Caladiums, &c., upon a carpet of Adiantums. Groups of single and double-flowered Begonias are always a nice feature at this show, and one tent was set apart for them.

C. GOLD, Esq. Jun. (gr., Mr. D. Patmore), was 1st; and W. SMITH, Esq. (gr., Mr. R. W. Kent), 2nd. Other classes were set apart for Begonias in bloom, Mr. D. PATMORE winning most of the prizes. Of the four groups of six foliage plants, the best one came from Sir JAMES BLYTH's garden. The best group of six Ferns were from the gardens of Colonel G. B. ARCHER HOUBLON, J.P. (gr., Mr. B. Calvert). The best Gloxinia, fine in size of bloom, were from W. HOLLAND, Esq., Plantation House (gr., Mr. W. A. Dunnage).

The best single and double zonal Pelargoniums were from U. TAYLOR, Esq., and were handsome, well-grown specimens.

Mr. D. PATMORE exhibited well-grown *Fuchsias*. The groups of autumn-flowering *Chrysanthemum* deserved a special notice. The winning collection consisted of five dwarf plants, with large and handsome flowers. Mr. B. CALVERT was 2nd, with a very commendable lot. In the Rev. J. MENET's collection (gr., Mr. T. Lodge), the varieties were *Madame Desgranges* and its yellow and primrose sport.

Table decorations were of the usual standard of excellence. No fewer than twenty-six tables were set out in competition for one set of prizes. Miss JESSIE CANNING won the 1st prize with an arrangement of Poppies, a few spikes of *Gladiolus The Bride*, with small flowers of a single variety of *Helianthus*; 2nd, Miss BAILEY, with an arrangement consisting entirely of monthly Roses; 3rd, Mrs. ROUTLEDGE, with a table of Sweet Peas.

FRUIT, ETC.

The best Black Grapes were from the garden of Colonel ARCHER HOUBLON; and the best white from those of Sir JAMES BLYTH, Bart. Colonel ARCHER HOUBLON's gr. had also the best collection of fruit; and Sir JAMES BLYTH's gr. the best Peaches. The best Nectarines were from Sir JAMES BLYTH's garden. Apples, Pears, Plums, Cherries, and small fruits were generally fine fruits in every point, though some were not ripe.

Quantities of cut flowers were exhibited, especially fine being *Phlox Drummondii*, from E. H. WATTS, Esq.'s garden; single and double Zonal Pelargonium trusses were very creditable, the best were from C. GOLD, Esq., who also had splendid French Marigolds, but even these were surpassed by wonderful African Marigolds. *Phloxes*, *Asters*, *Hollyhocks*, *Violas*, *Roses*, and other flowers were very attractive.

Collections of vegetables.—Salads, Tomatoes, &c., were very fine, showing that the gardens at Bishop's Stortford are not one whit behind their brethren in the county of Kent.

The cottagers' produce filled a good-sized tent, and was well worth close inspection. Potatoes, Carrots, Peas, Beans, &c., were abundantly and well exhibited.

Messrs. VEITCH of Chelsea exhibited a group of choice plants, in which *Dendrobium Deseai*, and the distinct-coloured *D. glomeratum* were conspicuous; Mr. RUMSEY of Waltham Cross had fine Roses; and Messrs. PAUL & SON of the Old Nurseries, choice herbaceous plants.

WESTON-SUPER-MARE.

AUGUST 15.—The Weston-super-Mare and East Somerset Horticultural Society held its eighteenth annual show of plants, fruits, flowers, and vegetables, in the Grove Park and Glebe Field, on the above-mentioned date. The exhibition was, on the whole, a good representative one, and redounded to the credit of the Honorary Secretaries, Messrs. Thomas & Webb, and the inhabitants of this pretty sea-side resort.

PLANTS.

In this section Mr. J. CYPHER'S plants formed the chief attraction, and secured for the veteran cultivator six 1st prizes in the respective classes for twelve stove and greenhouse plants, in as many varieties, six flowering plants, and six foliage plants, distinct varieties to be shown in each case. Specimen foliage (stove), and specimen flowering (greenhouse), and for the best specimen of new and rare plants in the show, represented in a well-grown and finely-coloured plant of *Codiaeum Reidii*. The more or less prominent plants in Mr. CYPHER'S exhibits were *Kentias Fosteriana* and *Belmoreana*; *Latania borbonica*, *Codiaeum Queen Victoria* and *Sunset*; *Stephanotis floribunda*, *Bougainvillea Sanderi*, and *Ixora Pilgrimii* (included in the twelve stove and greenhouse exhibits), *Erica nblata purpurea*, *E. Marnockiana*, *Rondeletia apocyna*, and *Clerodendron Thompsonianum* var. *Balfouri*, being the most conspicuous among his six flowering plants; while the most prominent in the half-dozen foliage plants were represented by good specimens of *Codiaeum Johannis*, of fine size and good colour; *C. Baron Rothschild*, *Cycas revoluta*, and *Latania borbonica*. Next to Mr. CYPHER came Mr. W. RYLAND, gr. to W. BROCK, Esq., Parker's Well House, Exeter, a successful exhibitor in the plant classes, who beat Mr. CYPHER in the class for a specimen (stove) flowering plant, with *Stephanotis floribunda*.

FRUIT formed an important feature in the show, the twenty classes devoted to it being pretty well contested, and the exhibits generally were of great merit. Mr. H. W. WARD, gr. to the Earl of RADNOR, Longford Castle, Salisbury, being the most successful exhibitor, he taking six 1sts (for collection of eight kinds, viz., a Pineapple, Madresfield Court Grapes, Peaches, Figs, and Pears, Clapp's Favourite), and two 2nds, with excellent all-round produce. Mr. LLOYD, Langport, and Mr. CROSSMAN, Yeovil, were also successful competitors, and both showed well. The awards were not quite so satisfactory in the classes for Black Hamburg and Muscat of Alexandria Grapes as they were in other eighteen classes.

The cut flowers and vegetables were fairly well represented, but the individual exhibits call for no special notice here, further than to say, that Mr. GARAWAY, Bath, took two 1sts, including one for a collection of eight kinds, and Mr. CROSSMAN, four 1sts for vegetables. The Onions of the latter were the finest in the show, but they were, unfortunately, overloaded by the judges.

MAIDENHEAD.

AUGUST 15.—The annual exhibition, held on the above date, was in every sense an unqualified success. Although in a manner it is a local show, a much larger area is embraced than obtains in most instances. The competition throughout was very keen, no fewer than twelve competitors entering for the Messrs. SUTTON'S prizes for collections of vegetables, and nine or ten for the large collection of fruit, other classes being particularly well filled under these heads; whilst for groups, there were ten entries in the two classes, and five for Tuberosa Begonias. This speaks well for the enthusiasm displayed in horticulture around Maidenhead, the Society being evidently a popular one with exhibitors. The executive deserve every support for the admirable manner in which the varied details are carried out.

PLANTS, &c.

In the large group class the competition was exceedingly keen between Mr. AITKEN, gr. to Col. MEEKING, and Mr. PHILLIPS, gr. to H. GOLD, Esq., resulting in an equal 1st being awarded to each; two closer or more similar exhibits are rarely ever seen, this being largely accounted for by the fact that the last-named gardener was for some time foreman to the former. *Oncidium flexuosum*, *Fraucea ramosa*, *Lilium lancifolium* var., and *Campanula pyramidalis* alba were to be seen in each, whilst in the first-named there were *Paucratiums* in addition, and in the latter *Celsia cretica*, both being employed to good effect; well-coloured *Crotons* were very telling in each case. Mr. WOOD, gr. to Lord BOSTON, Hedsor, followed in this class with a bright group.

In the smaller group-class the competition was also keen, Mr. GRESWELL, gr. to A. GOLD, Esq., being placed 1st with a light and well-balanced exhibit; Mr. RICHARDSON, gr. to G. HERRING, Esq., who followed, had also a good group, very near to the first, the colours being well blended.

For twelve fine foliage plants in 8-inch pots (a most sensible and useful class) the competition was again keen, Mr. AITKEN winning with well-grown bushy plants in good colour and variety, *Acalypha Macraea* told well, as did *Codiaeum Johannis*, *Ficus elastica variegata*, and *Dieffenbachia Bausei*. Mr. GILLIES, gr. to Sir R. G. HARVEY, was a near 2nd, his best being *Codiaeum Prince of Wales*, very bright, *Dracaena Baptisti*, and *Cocos Weddelliana*.

For six stove and greenhouse plants.—Mr. AITKEN was

easy 1st, his best being *Allamanda Hendersoni*, *Clerodendron Balfourianum*, and *Codiaeum Queen Victoria*. The last-named was also 1st for a specimen-plant in flower, with a beautiful example of *Eucharis amazonica*, and also for a foliage specimen with *Codiaeum Queen Victoria*, an immense bush. Mr. J. SMITH, Clewer Nurseries, being a good 2nd in the former instance with *Stephanotis floribunda*, very fresh; and Mr. GILLIES in the latter, with an enormous example of *Alocasia gigantea*.

Mr. Goodman, gr. to Miss HAMMERSLEY, was 1st with large, healthy, and well-flowered tuberous Begonias; and Mr. RICHARDSON 2nd, with plants nearly as good. Another good exhibit in this class of the choicest kinds, with large blooms, but the plants much smaller, came from Mr. Fulford, gr. to F. D. LAMBERT, Esq.

Mr. Hopkins, gr. to Major RICARDO, had an excellent exhibit of six Fuchsias, and was awarded the 1st prize, Mrs. Rundle and Charming being two of the best.

From Mr. PHILLIPS came a grand half-dozen zonal *Felargoniums*, the plants quite a counterpart of each other in size and profusion of bloom, with the individual trusses of unusual size. The varieties were White Perfection, double; Mrs. Gordon, deep scarlet with white eye; Neila, deep pink; Hermia, deep cerise; Lady Chesterfield, bright salmon; and Olivia, dark cerise. The plants measured fully $4\frac{1}{2}$ feet through.

The best set of table plants were from Mr. AITKEN, dwarf, and in good character; Mr. J. W. RICHARDSON following.

Cockscombs, from Mr. HOPKINS, were very fresh and lively developed. The *Gloxinias* shown by Mr. J. FULFORD were well-flowered and fresh, the plants of medium size. A class was provided for *Streptocarpus*, the first occasion on which we have noted this introduction; one collection only, and these of medium merit, was sent by Mr. C. YOUNG.

The class for another favourite one, and some exceedingly bright and well-grown plants were staged, these being chiefly tall pyramids, the best came from Mr. T. GRESWELL, who had capital varieties.

Cut Flowers.—This section is divided into two distinct divisions, one for the trade only, and the other for private growers. In the former of these the best box of Roses, bright and fresh, was sent by Mr. F. J. FLETCHER, Lowbrouk, Bray; Mr. J. WALKER, Thame, following a good 2nd.

With Dahlias, Mr. WALKER was 1st, showing blooms quite up to exhibition standard, fresh and bright; in this instance Mr. J. R. TRANTER was 2nd, he, too, showing well.

Zinnias are always shown well at this exhibition. Mr. WALKER again winning, with Mr. TRANTER 2nd; the positions being reversed for Asters, which were extra good.

In the latter or amateur's division, the best box of Roses came from Miss B. DENTON, Windfield; two other good stands being presented from Mr. PAXTON and Mr. FULFORD. Dahlias were scarcely enough advanced. Mr. MUNT, of Slough, had the best twelve show kinds, and Mr. H. DIDDAMS, gr. to J. C. WOOTTON, Esq., the best dozen Cactus varieties. The Asters on the other hand in this division were remarkably good, several stands being put up. Mr. C. YOUNG was 1st and Mr. J. HANCH, gr. to J. B. WEATHER, Esq., 2nd. Zinnias were specially fine here, better than in the trade class, the two best stands being very close in point of merit, Mr. C. MILLS, Windsor, was 1st; and Mr. C. YOUNG, 2nd.

FRUIT.

There was an abundant competition in this division, and the standard of excellence ruled very high. Mr. AITKEN was 1st for six dishes, showing first rate Muscat Grapes, fine Royal George Peaches, Countess Melon, and Lord Napier Nectarines. Mr. GOODMAN came a close 2nd, but was weaker in Grapes, having, however, very fine *Souvenir du Congrès* Pears, Brown Turkey Figs, and Dagmar Peaches. Mr. Mowbray, gr. to Hon. H. C. LEGGE, also staged well for the 3rd prize.

For four dishes, there was also an abundant competition, Mr. D. PAXTON being 1st, Peaches, Nectarines, and a good Melon being the best dishes. Mr. F. COLE, gr. to Sir G. RUSSELL, was well up for 2nd place.

With four dishes grown in the open air, Mr. D. PAXTON again won, showing fruit well ripened and of high colour, Brown Turkey Figs, Jefferson Plums, Strawberry Pippin Apple, and Moor Park Apricot being his choice. Mr. GOODMAN, who followed closely again, had very fine Old Windsor Pears, and Red Astrachan Apples.

Black Hamburg Grapes were a strong class, Mr. F. COLE winning with large, well-coloured bunches, carrying a dense bloom; Mr. G. HOPKINS was 2nd, with smaller, but well-finished bunches.

Mr. F. COLE won again with any other black, Alicante being his choice, the bunches again of extra size, with a dense bloom (Madresfield Court at this season is a decidedly better Grape in such a class); Mr. OSMO, gr. to S. J. BAKER, Esq., was 2nd, he also showing a late Grape.

With Muscat of Alexandria, Mr. MOWBRAY won handsomely with very fine large tapering bunches, well ripened; Mr. F. COLE in this instance having to be content with 2nd place.

For any other white, Mr. MOWBRAY was again to the front with Foster's Seedling; the same kind from Mr. GOODMAN being 2nd. An exhibit of Mr. PEARSON in this class was staged too late, otherwise it would have been a formidable one.

With six Peaches, Mr. Johnston, gr. to A. GILLIAT, Esq., was 1st, the variety being Bellegarde, highly coloured; Mr. AITKEN taking 2nd with Royal George.

The best Nectarines were Hamboldt, shown by Mr. R. CAWTE, gr. to Oakley Court, handsome fruit; and the 2nd best, Lord Napier, from Mr. AITKEN.

A strong competition in the class for one Melon, resulted in Mr. GOODMAN being placed 1st with Pine-apple; Mr. JAS. WOOD was 2nd, having Beauty of Sion.

The finest Plums were a dish of Jefferson, from Mr. GOOD-

MAN; whilst one of Kirke's, by Mr. HOPKINS, was 2nd; both of these exhibits combined good appearance with quality.

Dessert Apples were shown best by Mr. GOODMAN, who had Red Astrachan, fully ripened; Mr. JOHNSON was 2nd, with that popular and rising variety, Beauty of Kent.

Culinary Apples were well advanced, the best being Peasgood's Nonsuch, from Mr. Davis, gr. to H. ADAMS, Esq.; Lord Suffield, very good, was placed next in point of merit, from Mr. E. JOHNSTONE.

Charries (Morellos) were well shown, the 1st prize going to Mr. OSMAN; and the 2nd to Mr. CAWTE.

VEGETABLES.

Amongst several exhibits of Cucumbers, the best brace was found in Royal Windsor from Mr. J. WOOD; and the best Onions in Ailsa Craig, from Mr. GOODMAN, whilst Perfection, as an exhibition variety, was invincible, Mr. W. H. AUSTIN having the finest dish.

It was, however, in the special class for a collection of vegetables where the greatest feature in this division was to be seen, the prizes being offered by Messrs. SUTTON & SONS. Mr. G. GOODMAN won the 1st place in an highly creditable manner with good produce, staged effectively, his choice being Autumn Mammoth Cauliflowers, large, but firm; Perfection Tomatos, good; new large Intermediate Carrots, very clean; Satisfaction Potatos, excellent samples; Lemon Rocca Onions, large; and Autocrat Peas, a fine sample. Mr. G. LANE, gr. to Miss RIDGE, was very close for 2nd place, with a similarly good choice; and Mr. G. WORSFOLD, an excellent 3rd.

For the special prizes for six distinct kinds offered by Messrs. WEBB & SONS in the next class, Mr. G. STONELL, Bourne End, was 1st, Duke of Albany Peas and Ailsa Craig Onions being his two best dishes; the bad staging of this exhibit detracted in a measure from its good appearance. Mr. D. PAXTON was 2nd in this class with good dishes.

Messrs. J. CARTER & SONS also offered special prizes for six dishes; here Mr. C. YOUNG, gr. to Rev. J. CONEX, was 1st in another close competition (a few marks only separating the 1st and 2nd exhibits); his best dishes were Perfection Tomatos, Ailsa Craig Onions, extra fine; Autumn Mammoth Cauliflower, Autocrat Peas, and Satisfaction Potatos; Mr. R. CAWTE, who came 2nd, had a very even exhibit.

In other special vegetable classes, wherein the prizes were offered respectively by Mr. BROUGHTON and Mr. W. H. TITT, the two best lots were shown by Mr. R. HERBERT and Mr. J. KNIGHT.

In a special class for tuberous Begonias, wherein the award was a Medal offered by Mr. R. OWEN, the best exhibit came from Mr. J. W. RICHARDSON, the plants dwarf and stocky.

Table Decorations, &c.—The best set of decorations was put up by Mrs. HERRIN, Dropmore Gardens, very light and artistic; the 2nd best by Mrs. BECKETT, in which hardly enough material had been employed.

Mrs. BROUGHTON was 1st with a bouquet, the arrangement excellent. The best single epergne was that arranged by Mrs. THOMPSON.

Miscellaneous exhibits came from Messrs. J. LAING & SONS, Begonias and plants; Mr. FLETCHER, fruit and flowers; Mr. SUCH, cut flowers; Mr. PHIPPEN, wreaths, &c., very tasteful arrangements; Mr. BROUGHTON, plants and flowers; and Mr. CHAS. TURNER, Dahlias and Roses, a First-class Certificate being awarded to Cactus Dahlia Beatrice, of very distinct colour, a deep pink. J. H.

TROWBRIDGE HORTICULTURAL AND FLORAL.

AUGUST 21.—This was the forty-sixth annual exhibition of what is probably the oldest horticultural society in the west of England—one which for nearly half a century has held an annual exhibition at Trowbridge. It was, as usual, held in the town's field adjoining the railway station. Owing to the season, the show displayed a little falling-off in a few respects; the Fuchsias were neither so numerous nor fine as possible, but any deficit in this respect was compensated for in the classes for stove and greenhouse plants, which were very fine; the Begonias also, the collections of Ferns, and the fruit and vegetables were very good indeed.

PLANTS, &c.

In the open-to-all division, the best nine stove and greenhouse plants in flower came from Mr. H. MATTHEWS, gr. to Sir W. R. BROWN, Bart., Trowbridge, who had very fine examples of *Ixora coccinea* and *Pilgrimii*, *Allamanda Hendersoni* and *nobilis*, *Ericas Austriana*, *Eweriana*, *elegans*, and *retorta* major; *Dipladenia amabilis*, and *Rondeletia speciosa* major. 2nd, Mr. G. TUCKER, gr. to Major W. P. CLARK, Trowbridge, whose best plants were *Allamanda Hendersoni*, *A. nobilis*, *Bougainvillea glabra*, *Lapageria alba*, *Stephanotis floribunda*, and *Erica Turbuli*.

In the amateurs' class for six specimens, Mr. H. MATTHEWS was again 1st, having very good examples of *Dipladenia Brearleyana* and *amoeba*, *Stephanotis floribunda*, *Allamanda nobilis*, *Ixora amabilis*, and *Erica Turbuli*; 2nd, Mr. G. TUCKER, his leading plants being *Bougainvillea glabra*, *Allamanda nobilis*, and *Statisce profusa*.

With three plants, Mr. TUCKER came 1st, having *Lapageria rosea*, a fine piece of *Eucharis amazonica*, and *Rondeletia speciosa* major; Mr. POCCOCK, gr. to J. P. HADEN, Esq., Trowbridge, was 2nd.

We have said there was a falling off in Fuchsias, still some very good plants were staged. Mr. G. TUCKER had the

best six specimens; they were dark varieties, Doge's Favorite, very fine—a grand old variety, Final, and Charming; light, Arabella, Marginata, and Harriet Lye. Mr. H. POCOCK was 2nd.

With four plants, Mr. TUCKER was again 1st, having Final, Beautiful, and Charming, dark; and Arabella, light. Mr. H. POCOCK was again 2nd.

The best specimen plant was a finely-grown and bloomed Allamanda Hendersoni, from Mr. S. Bishop, gr. to F. APPLE-GATE, Esq., Bradford-on-Avon; Mr. H. MATTHEWS coming 2nd, with a piece of *Yaada cœrules*, having eight or so fine flowers.

The best six Achimenes, nicely grown and bloomed, came from Mr. G. PYMM, gr. to Mrs. GOULDSMITH, Trowbridge; Mr. TUCKER was 2nd. With six Gloxinias, Mr. TUCKER was 1st; and Mr. C. RICHMAN, gr. to G. L. PALMER, Esq., Trowbridge, 2nd. Begonias made a fine feature, with six plants of single, Mr. G. TUCKER was 1st; and Mr. G. PYMM, 2nd. With six double-flowered varieties, Mr. C. RICHMAN was placed 1st, having really superb specimens, finely grown and bloomed.

The best group of plants to fill a space of 50 superficial feet, came from Mr. G. PYMM, arranged with remarkably good taste; Crotons, Lilies, Orchids, and other flowering plants made up a charming arrangement, with a mixture of foliaged subjects; Mr. A. Strugnell, gr. to W. H. LONG, Esq., M.P., Rood Ashton, was 2nd.

Some excellent specimens of zonal Pelargoniums were staged by Mr. G. TUCKER, and others; they and Fuchsias were also remarkably well shown by cottagers.

Mr. G. PYMM had the best four Orchids; the genus *Phalaenopsis* was well represented.

The best new plant was *Cypripedium Chamberlainianum*, from Mr. H. MATTHEWS; Mr. C. RICHMAN being 2nd with *C. Charlesworthii*; a nice plant of *Browallia speciosa major* was also shown.

Of foliaged plants, the best nine came from Mr. H. MATTHEWS, who had very good specimens of *Crotons Weismanni*, *Reidii*, and Baron James de Rothschild, *Pandanus Veitchii*, *Asparagus plumosus*, *Dracaena Cowperi*, and others; Mr. G. PYMM came 2nd, his leading plants being *Croton mirabilis*, *Acalypha tricolor*, and *Cissus discolor*.

The best fifteen specimens of Ferns and mosses came from Mr. GEO. TUCKER, who had excellent examples of *Gymnogramma sulphurea* and *G. peruviana argyrophylla*, *Adiantum concinnum*, *peruvianum* and *gracillimum*, *Dicksonia antarctica*, *Gleichenia rupestris*, *Davallia Mooreana*, and *Selaginella Wildenovii*, 2nd, Mr. H. POCOCK, whose best specimens were *Aleophylla excelsa*, *Gymnogramma chrysophylla*, *Adiantum Farleyense*, *conestum*, *grandiceps*, and *gracillimum*.

Coleus are always well grown at Trowbridge, the best six came from Mr. H. MATTHEWS, who had in very fine character, Mrs. C. Hart, *Lady Dacre*, *Beckwith's Gem*, and Mrs. Sheriff, 2nd, Mr. Jas. Hiscox, gr. to E. B. RODWAY, Esq., Trowbridge.

Cut Flowers were, as usual, a strong point, Roses taking the lead. With twelve trophies Mr. J. MATTOCK, nurseryman, Oxford, was 1st, having excellent blooms of Ernest Metz, *Souvenir d'Elise Vardon*, Mrs. J. Laing, Hon. Edith Gifford, *Catherine Mermet*, *The Bride*, and *Charles Lefebvre*, with others. 2nd, Messrs. GEO. COOLING & SONS, nurserymen, Bath, also with good blooms.

With twenty-four varieties, Messrs. J. TOWNSEND & SONS, nurserymen, Worcester, were 1st, having capital examples of *Ulrich Brunner*, *Fisher Holmes*, *Devoniensis*, Mrs. J. Laing, *Madame de Watteville*, *Francis Kruger*, *Lady Sheffield*, and *Duke of Edinburgh*; Dr. BUDD, Bath, was 2nd.

With twelve trophies in the Amateur division Dr. BUDD was 1st; and Mr. A. H. GRAY, Bath, 2nd. With twelve blooms the positions were reversed, Mr. GRAY was 1st, and Dr. BUDD 2nd. Mr. H. MATTHEWS had the best twenty-four bunches of cut flowers, chief among them were *Valotta purpurea*, *Allamanda Hendersoni*, *Bougainvillea glabra*, *Poinciana pulcherrima*, *Aristolochia elegans*, &c.; 2nd, Mr. G. Shelton, gr. to W. K. WAIT, Esq., Clifton.

Messrs. KEYNES, WILLIAMS & CO., Salisbury, had the best twenty-four Dahlias, and Mr. GEO. HUMPHRIES, Chippenham, was 2nd, both having very good blooms indeed; and the same exhibitors were severally 1st and 2nd with twelve fanatics.

With twelve blooms, Mr. GEO. COOPER, Chippenham, was 1st, and Messrs. J. CRAY & CO., nurserymen, Frome, 2nd. The only exhibitor of twelve bunches of single Dahlias was Mr. T. Smith, gr. to THOS. CARR, Esq., Tiverton, who was placed 1st with excellent varieties well-staged. With twelve Pompons in bunches there was a capital competition; Messrs. J. CRAY & CO. were 1st, and Messrs. KEYNES & CO., 2nd.

With twelve bunches of Cactus varieties, Messrs. CRAY & CO. were again 1st; they had *Mrs. Peart*, *Delicata*, and *Lady Penance*, very good; Mr. T. CARR was 2nd also with a good selection.

Quilled and flat-petalled Asters were very good, the fine Comet varieties taking a prominent position. *Gladiolus* spikes were shown in twelves; Mr. F. HOPKINS, Bath, was 1st, and Mr. J. J. YOUNG, Wilton, 2nd. *Pansies*, *Carnations*, and *Picotees* were very creditable for the season; *Hollyhocks* better than we have been accustomed to see them.

Bunches of hardy annuals made a fine feature, *Salpiglossis*, white Sweet Pea, purple *Jacobus*, *Malope grandiflora*, and a few others being very fine. Mr. GEO. GARRAWAY took the 1st prize. *Epergnes*, *Bouquets*, those of wild flowers, especially wreaths, &c., were a very pleasing feature.

FRUIT.

The best twelve dishes came from Mr. G. PYMM, who had Black Hamburg and Muscat of Alexandria Grapes; Royal George and Exquisite Peaches; Lord Napier and Humboldt Nectarines; Apricots, Bon Christian; Pears and Melons, all very good; Mr. STRUGNELL was 2nd also with

Black and White Grapes, Diamond and Bellegarde Peaches, Humboldt and Downton Nectarines, Figs, &c.

With six dishes, Mr. H. W. WARD, The Gardens, Longford Castle, Salisbury, was 1st, having Black Hamburg and Foster's Seedling Grapes, Sea Eagle Peach, Moor Park Apricot, Figs, and Melons; 2nd, Mr. T. Evry, gr. to Captain SPEN, Chippenham.

The best two bunches of Black Grapes were Hamburgs, from Mr. J. Gibson, gr. to Earl COWLEY, Chippenham; Mr. J. Wright, gr. to H. O. WILLS, Esq., Bath, was 2nd.

The best two bunches of white Grapes other than Muscats were Buckland Sweetwater, from Mr. ATWELL; and Mr. WARD was 2nd with the same. The best two bunches of black Muscats were well-finished Madresfield Court, from Mr. GIBSON; Mr. ATWELL was 2nd with the same.

Mr. W. Carpenter, gr. to A. R. BAILEY, Esq., Frome, had the best two bunches of white Muscate; Mr. T. Hodges, gr. to J. FORTH, Esq., Bath, was 2nd. There were plenty of Melons. Apricots were represented by fine Moor Park. Plums, green and red, were very good. The best two dishes of dessert Apples were Beauty of Bath and one unnamed, from Mr. G. GARRAWAY; Mr. R. O. HALL was 2nd, with Beauty of Bath and Kerry Pippin.

The best two dishes of culinary Apples were Peasgood's Nonsuch and Warner's King, from Mr. STRUGNELL; Mr. A. H. NEWMAN was 2nd, with Peasgood's Nonsuch, and Lord Suffield. There was a very large competition with Apples, bearing testimony to the fact that there are some very fine fruit in this district.

Messrs. GEO. BUNYARD & CO., Maidstone, had a large collection of culinary and dessert Apples, chief among them Pott's Seedling, Frogmore Prolific, New Hawthornden, Warner's King, The Queen, Northern Dumpling, Yorkshire Beauty, Transparent, Shilling Castle, Domino, Lady Sudeley, Red Quarrenden, Cardinal, Irish Peach, Williams' Favourite, Duchess of Gloucester, Worcester Pearmain, Beauty of Bath, Early Julien, Kerry Pippin; a special Certificate being given in recognition of their high quality.

Mr. W. NEWMAN, Bath, had the best centre-piece of flowers and fruit; Mr. J. Atwell, gr. to J. B. BRAIN, Esq., Clifton, was 2nd.

SHROPSHIRE HORTICULTURAL.

AUGUST 21.—This Society held its annual great show in the Quarry, on the above date, in semi-tropical weather, and once more it is our pleasing duty to congratulate the committee and the able Hon. Secs., Messrs. Adnitt and Naunton, upon the result of their combined efforts to make the twenty-first annual show superior to all shows of the kind hitherto held by the Society. The show was one of such magnitude and the individual exhibits so uniformly good, that with the space at our command we cannot do more than mention the more important exhibits, with the result that many deserving exhibits cannot herein be referred to.

PLANTS.

We may here remark that the twenty-eight scented-leaved Pelargoniums exhibited by our clever correspondent, Mr. James Hudson, gr. to Mr. LEOPOLD DE ROTHSCHILD, Gunnersbury House, Acton, London, excited a good deal of attention from visitors, all the more so owing to the fact that the plants were staged with admirable effect in the open, having one of the largest tents for a back-ground. Bearing in mind the attention the exhibits commanded, it may be of interest to the readers of the *Gardeners' Chronicle* to give the names—*Radula major*, flat-trained, and about 9 feet in width; *filicifolium odoratum*, a fine plant; *Quercifolium* Mrs. Douglas, Q. minor, Lady Plymouth, *Fumariolia*, a variety not often met with; *Pheasant's-foot*, a fine plant; Mrs. Kingsbury, *Rollison's Unique*, extra-fine; *crispum*, Fair Ellen, Aurora, *Pretty Polly*, extra good; *Lothario*, Prince of Orange, *Attar of Roses*, a rare variety; *Countess of Devon*, *denticulatum minor*, a variety that deserves to be more extensively grown; *denticulatum*, a fine plant; *Blandfordensis*, *Lady Mary*, Little Gem, a good plant; *Fragrance*, of fine size; *Scarlet Unique*, extra large; *Major Clarke*, *Shottesham Pet*, and *tomentosum*, a really fine lot, which richly merited the Gold Medal which was awarded to the collection.

Prizes amounting to £25 and £20 were offered for twenty stove and greenhouse plants in bloom or foliage. Mr. CYPHER, Cheltenham, was 1st for a good all-round lot of large, well-grown plants, the most prominent being *Statiche profusa*, *Ixora Williamsii*, *Rondeletia speciosa major*, *Erica obtusa purpurea*, *Bougainvillea Sanderi*, *Crotons Sunset* and *Queen Victoria*, &c.; Mr. Finch, gr. to JAS. MARRIOTT, Esq., Coventry, was a creditable 2nd.

Mr. CYPHER was also 1st for four Crotons, showing fine plants of *Thompsoni*, *Sunset*, *Queen Victoria*, and *Chelsoni*; Mr. FINCH being 2nd. The last-mentioned exhibitor was 1st for six flowering plants, showing good plants of *Erios Marnechiana*, *E. ioniana turgida*, and *Ixora Williamsii*, good; Mr. CYPHER was 2nd.

Messrs. JAMES VEITCH & SONS, Chelsea, showed a grand lot of *Caladiums* and *Pitcher-plants*, and a Gold Medal was awarded to them.

GROUPS.

As usual, these formed a feature in this show, several good arrangements being put up for the liberal prizes offered, £20, £10, and £12. Mr. CYPHER was a decided 1st, his exhibit consisted of a series of novelties having central plants of *Palms*, *Humes elegant*, *Bamboos*, *Dracaenas*, backed up with

brightly-coloured *Crotons*, *Caladiums*, and *Orchids*, including several nice pieces of *Dendrobiums*, *Phalaenopsis Schroderiana*, and *Cattleyas*; the central middle arrangement partaking of an effectively-constructed arch. Mr. EDWARDS, *Seestwood Lodge*, Notts, was 2nd; and Mr. FINCH was a creditable 3rd.

Mr. JOHN COWEN, Liverpool, had a fine group of dwarf *Roses* in pots, mostly *Teas*, which attracted a good deal of attention, and well deserved the Silver Medal which was awarded to it. Messrs. FRITCHARD & SONS had an extensive collection of miscellaneous plants, well-grown stuff, to which a Gold Medal was properly enough awarded.

Mr. EDWIN MURRELL, Portland Nursery, Shrewsbury, was awarded a Silver Medal for *Begonia*; as also was Mr. DAVIS, of Yeovil, who as usual had a fine array of cut blooms of the newer double and single-flowered tuberous-rooted *Begonias*.

Mr. BIRKENHEAD was awarded a Gold Medal for an extensive collection of Ferns of decorative size and height; Messrs. SMITH, Worcester, obtained a Silver Medal in recognition of their exhibit, as also did Messrs. MYERS, Shrewsbury; Messrs. BIDDLE & Co. receiving a similar award; as also did Messrs. HEWITT, Solihull, Edgbaston. Mr. ECKFORD, Wem, gained a like distinction for a grand collection of Sweet Pear, of varied and beautiful shades of colours.

Messrs. CUTBUSH & SONS, Highgate, had a grand and varied lot of plants arranged for effect. And Messrs. CLIBRAN & SONS, of Altrincham, had a good assortment of herbaceous flowers, and an extensive display of Cactuses, including good *Gasteria Croucheri* and *Echinocactus Leeanii*; the Messrs. DICKSONS also contributed good collections of decorative plants and cut blooms, and herbaceous flowers. Mr. JAMES CYPHER secured premier position for six Orchids in flower, distinct, well-flowered species.

CUT FLOWERS.

These made a grand display in themselves. Mr. EDWIN MURRELL, Portland Nursery, Shrewsbury, had a grand exhibition of *Roses* arranged in various ways—standards, arches, &c., to which a 2nd prize was awarded; Mr. RALF CROSSING taking 1st for a good arrangement in this class.

Dahlias were staged in large quantities, the quality being also of a high order. Messrs. KEYNES, WILLIAMS & CO., Salisbury, were easily 1st for a grand lot of blooms, including all the leading varieties.

Ball bouquets and bridal bouquets, Messrs. JONES & SONS, Shrewsbury, were 1st for grand exhibits, composed mostly of *Orchids*, and well arranged; Messrs. PERKINS, Coventry, taking 2nd in a good class. The last-mentioned firm secured premier position in the class for a display of floral arrangement on a space 12 feet by 5 feet. This exhibit contained a variety of good designs, and choice *Orchids* were employed in the several arrangements. Messrs. JONES & SON and Mr. J. E. CHARD taking 2nd and 3rd.

FRUIT.

The Society having attained its majority this year, special prizes were offered in the schedule for a collection of twenty-four varieties, to be staged in a space of 10 feet by 4 feet; *Lycopodiums*, and other trailing plants; Ferns and foliage being permitted to be used for effect: 1st prize, £20; 2nd, £15; 3rd, £10; 4th, £5. Four good lots were staged, each exhibitor taking a prize. Mr. GOODACRE, gr. to the Earl of HARRINGTON, *Elvaston Castle*, Derby, was a good 1st, staging good full bunches of *Gros Maroc*, *Muscat of Alexandria*, solid, well-coloured bunches; *Barbarossa*, good in size, and beautifully coloured; and *Ester's Seedling Grapes*, *Royal George*, *Princess of Wales*, and *Barrington Peaches*, large, even, well-coloured fruits of each variety being shown; *Moorpark* and *Hemskirk Apricots*, *Victoria Pine-apple* and *Elrue Nectarines*, of grand size and colour; *Washington* and *Kirk's Plums*, *Jargonelle Pears*, *Lady Sudeley Apples*, two fine fruits of *Hero of Lockinge* and *Countess Melons*, medium-sized *Queen* and *Cayenne Pines*, and *Bon Christian Pears*, all being arranged to the best advantage in a groundwork of moss, backed up with small *Palms*, Ferns, variegated grasses, and fringed with variegated *Eucalyptus* and *Sunilax*. Mr. MCINDOE was a creditable 2nd, his collection including fine dishes of *Clapp's Favourite*, and *Souvenir du Congrès Pears*, *Magnum Bonum Plums*, *Brunswick* and *Negro Largo Figs*, *Stirling Castle* (highly coloured), and *Violette Hatve Peaches*, and grandly coloured *Spenser Nectarines*. W. Edwards, gr. to the Duke of ST. ALBANS, *Eastwood Lodge*, was a good 3rd; and Mr. H. PITT, *Abergavenny*, was a fair 4th. It is to be hoped that the society may see its way to offer these liberal prizes annually, and to insist upon fewer plants being employed in the arrangement, so as not to detract from the appearance of good fruit.

In the class for eight dishes, Mr. MCINDOE secured premier position with a good all-round lot of fruit. His lot included good *Gros Maroc* and *Muscat of Alexandria Grapes*, and a grand fruit of *Melon*, *Mammoth Elrue Nectarines*, and *Stirling Castle Peach*, grand *Negro Largo Figs*, and *Souvenir du Congrès Pears*; and Mr. GOODACRE was a good 2nd—seven lots were staged.

In the class confined to *Salop*, five good lots were staged, nine dishes. Sir C. H. ROUX, Boughton, Ludlow, taking 1st, his collection containing good *Black Hamburg* and *Buckland Sweetwater Grapes*, and *Pine-apple Nectarines*.

Grapes.—Three hundred and nineteen bunches of high quality were staged in the various classes. In the class for six bunches of black Grapes, in three varieties, seven good lots were put up. Mr. Craven, gr. to J. GRANT MORRIS, Esq., Liverpool, was placed 1st for *Madresfield Court*, *Black Hamburg*, and *Black Alicante*; Mr. J. W. RAINES, *Rock Ferry*, was 2nd, his half-dozen bunches including fine specimens of *Mrs. Pince*, large in bunch and berry, and fine in colour for the variety; Mr. Lambert, gr. to Lord HARELEC, was placed 3rd for really fine exhibits.

FARRINGTON: August 22.—Quotations: White Hebrons, 75s. to 85s.; Red Hebrons, 75s. to 85s.; Puritans, 70s. to 80s.; Brucea, 60s. to 70s.; Magnams, 55s. to 65s. per ton.

LONDON AVERAGES: August 21.—Snowdrops, 70s. to 80s.; Hebrons, 65s. to 75s.; Early Regents, 55s. to 65s.; Puritans, 70s. to 80s.; Kidneys, 55s. to 65s.; Early Rose, 55s. to 65s. per ton.

HAY.

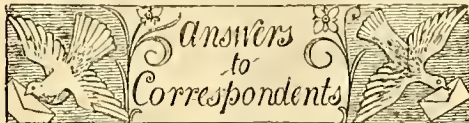
Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 90s. to 115s.; do., inferior, 50s. to 80s.; hay, best, 80s. to 95s.; do., inferior, 36s. to 60s.; mixture, 70s. to 92s. 6d.; and straw, 20s. to 38s. per load.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending August 17, and for the corresponding week last year:—1895: Wheat, 24s. 6d.; Barley, 19s. 3d.; Oats, 16s. 1d. 1894: Wheat, 24s. 5d.; Barley, 16s. 5d.; Oats, 18s. 9d.

England, E. and S., and Ireland, N., and being somewhat below it in the other districts.

"The bright sunshine was deficient over the Kingdom as a whole, but exceeded the mean in England, S. and S.W., and in the Channel Islands." The percentage of the possible duration ranged from 69 in the 'Channel Islands,' and 58 in England, S.W., to between 18 and 24 in 'Ireland,' and to between 16 and 25 in 'Scotland.'"



* * * Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.

* * * PLANTS, FRUITS, ETC., TO BE NAMED.—Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florist's varieties cannot, as a rule, be named.

A MONTH'S WARNING: G. S. DOMESTIC AND MENIAL SERVANTS, with regard to these, there is a well-known rule, founded on custom, that their contract of service may be determined at any time by giving a month's warning, or paying a month's wages, and this, although they be hired at so much a year. A head gardener at £100 a year wages, who resided in a detached house belonging to his master, has been held to be a menial servant, and entitled to a month's warning only. Nolan v. Ablett, 1835. This case was argued before four judges in Banco, and is reported as a leading case. They decided that as the gardener resided in a detached house intra mania he was a menial or domestic.

A NEW VINE-BORDER: Gardener. The chief constituent is good turfy loam freshly cut, and any of the ingredients you name in moderate proportions may be mixed with it. The bones should be broken finely—say, half-inch, and may be employed at the rate of one-ninth of the whole of the loam, that is, 3 cubic feet out of the 27 cubic feet constituting a cubic yard (one-horse cartload). Charcoal and lime-rubbish should be used in smaller proportions. The border should be afforded ample drainage, and the outlet drains given a rapid fall, so as to clear themselves rapidly. The border should not be more than 2½ feet deep, and at the first not more than 6 feet wide.

BULBS LEFT IN THE GROUND: D. T. H. They ought to have been lifted when ripe, say June and July. They have now made growth, and would be injured, but not killed, by removal.

CARNATIONS: J. Cobban & Son. The colours are as good and clear as any that we have noticed this year, but in size the blooms have often been exceeded by others sent for our inspection.

CORK FOR CATTLEYS, LELIAS, AND DENDROBIUMS: Amateur. Not so suitable as pots or pans for the first or second; but they would grow fairly well if you can secure some lamps of a proper kind of Orchid peat and Sphagnum-moss about them, so that their roots do not suffer from rapid fluctuations of moisture and aridity. The Dendrobium if properly secured with Sphagnum-moss should grow satisfactorily.

CORRECTION.—Northampton Horticultural Show Report, August 10. Instead of par. beginning "Some well-grown Ferns," p. 164, read "The best six Ferns were staged by Mr. W. Pearce, gr. to Sydney Loder, Esq., Floore House, Weedon, who was awarded 1; Mr. Copson, gr. to Mrs. Phippis, Collingtree Grange, 2; Mr. J. B. Palmer, gr. to R. Turner, Esq., Cliftonville, Northampton, 3."—Re "Fruit at Glewston," p. 180, fifth and sixth lines from bottom, it should read "The trees are 9 to 10 feet high, and being the same in diameter, they occupy the whole of the ground."

CYPRIPEDIUM UNHEALTHY: A Subscriber. It is difficult to say what causes the brown and unhealthy appearance seen on the leaf of Cypridium sent. It appears to be of stunted growth, and it may probably have been kept in a too dry and sunny situation. To better its condition you must arrange for a freer growth in future. Plants in such condition may often be brought round by being turned out of their pots, washed top and root, the

latter free from all the old potting material. Then re-pot in small pots, using equal parts of loam-fibre, peat, and sphagnum. Place in a healthy growing house, and water reasonably with rain-water.

DENDROBIUM LEAF TURNING BROWN: Amateur. The effect of too much heat and moisture and a close airless house. Under these conditions most Orchids grow weak and delicate, and fall a prey to both animal and vegetable parasites. Afford more air, less shade, and let the house get dry at least once a day for a few hours.

GAS LIME: Constant Reader. Use about as much as will cover the land from sight. You may use more of it if the land is going to remain uncropped till the spring.

HARDY ANNUALS: D. T. H. Sow now seeds of all those you mention excepting the Canary Creeper, the hardiness of which, even in your county, is doubtful, and Sweet William, which is best sown in early summer to flower the next year. Sweet Williams raised from seed sown at this date would flower in the height of summer, and would last but a short time.

HORTICULTURAL EXAMINATION SYLLABUS: J. W. W. Apply to the Secretary of the Royal Horticultural Society, 117, Victoria Street, Westminster.

INSECTS ON ROSE-BUSH: T. A. The caterpillar is that of Amphidacys betularia, commonly known as the "Pepper-moth." It feeds on a variety of trees and shrubs, but is seldom so abundant as to be considered an "injurious insect."—Jones. The mass consists of the cocoons of a minute Hymenopteron insect, the larva of which to the number of several hundreds, had fed in the interior of the body of a caterpillar of some kind, which it is impossible now to recognise. R. McL.

IVY CUTTINGS: Constant Reader. The cuttings, half ripened shoots, may now and later, be put into moist, sandy, manured soil, in partial shade. The variegated varieties strike best under hand-glasses.

"KEW BULLETIN": J. M. T. Any bookseller, or from Eyre & Spottiswoode, East Harding Street, Fleet Street, at 4d. a part. The post-office nearest the main entrance is that on Kew Green; but there are others!

LILIES: L. C. L. Humboldtii, L. Parryi, and in warm situations, L. longiflorum, are hardy with slight protection. L. Harrisii is a greenhouse plant reverting to L. longiflorum, L. Kramerii is rarely kept long under any system. H. J. E.

LOBELIA ERINUS CUTTINGS: D. T. H. They will strike at this season in a close frame, either planted in pots or on a bed of loamy soil covered with a layer of sand. If a slight bottom-heat can be afforded, the striking would be quick. The length of a cutting 2 to 3 inches.

MIGNONETTE: D. T. H. Gather any of the capsules when the seed is seen to be either dark brown or black. Do not pluck the entire ripe of seed-vessels, as there are sure to be many unripe seeds therein. Look over the plants every third day for ripe seeds. Dry in the shade.

NAMES OF FRUITS: W. J. Holmes. Pear: Ronselet de Stuttgart.—F. Hughes, 1 and 5, Duchesse of Oldenburgh; 3 and 6, Red Astrachan; 2 and 4, not recognised.—R. McDougall. Specimens sent not yet developed, so cannot determine with safety. Nos. 1 and 2 may be Cellini; others not recognised.—G. Albert James, 20, not sufficiently developed; 21, Cox's Orange Pippin; 22, Lord Grosvenor.—Carlton, 1 and 3, not recognised; 2, Waltham Abbey Seedling; 4 and 5, Duchess of Oldenburgh; 6, Rosemary Russet.—Biddles, Small Pear, not recognised; worthless.

NAMES OF PLANTS: Correspondents not answered in this issue are requested to consult the next number.—C. Pyrus floribunda, Nicholson (Malus floribunda, Sieb.), Japan.—G. H. S. 1, Alstrœmeria picturata; 2, Lythrum salicaria; 3, Lysimachia vulgaris; 4, Asclepias sp.; 5, Linaria purpurea; 6, Hyocyamus niger; 7, Calceolaria.—R. T. H. 1, Sturtia pentagyna; 2, Laurus Sassafras; 3, Acer creticum.—Alpha, 1, Catalpa syringifolia; 2, Oncidium Gardneri, Lindl., Gardeners' Chronicle, xvi, p. 86; 3, Eupatorium (Conoclinium) ianthinum.—R. M. 1, Zebrina pendula, greenhouse; 2, 3, Zebrina pendula var. tricolor, stove; 4, Panicum variegatum; 5, leaf only; 7, Centaurea moschata, hardy annual; 8, Scabiosa atropurpurea, hardy. Why send wretched acrapa, badly packed and num-



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Table with columns: DISTRICTS, TEMPERATURE (ACCUMULATED), RAINFALL, BRIGHT SUN. Includes sub-columns for Day-deg. and 10ths Inch.

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

0, Scotland, N. Principal Wheat-producing Districts—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending August 17, is furnished from the Meteorological Office:—

"The weather continued unsettled and rainy in all parts of the Kingdom during the earlier half of the period, with occasional thunderstorms over England. Towards the middle of the period, however, a gradual improvement set in, and at its close the weather was fine and bright in nearly all places.

"The temperature was slightly above the mean in most districts, but only just equalled it in England, E., S., and S.W., as well as in the Channel Islands." During the greater part of the week the daily maxima were considerably below the normal for the time of year, but on the 17th the thermometer rose to between 77° and 79° over England, 73° and 78° in Scotland, and 71° and 74° in Ireland. The lowest of the minima were recorded about the middle of the week, and ranged from 36° in Scotland, E., and 38° in the Midland Counties, to 50° in England, N.W., and 53° in the Channel Islands.

"The rainfall varied a good deal in different parts of the Kingdom, the amounts exceeding the mean in Scotland

bered?—*H. May*. We should refer both to *Inula Hookeri*.—*H. M. E. Mentha aquatica*. The Secretary to the Gardeners' Orphan Fund is Mr. Archibald F. Barron, Royal Horticultural Society's Garden, Chiswick, W.—*J. C. Linaria reticulata* var. *aureo-purpurea*.—*G. S. Rochea falcata*.—*A. Brothers*. *Stactis latifolia*.—*A. L. Amorphophallus bulbifer*.—*W. K. L. 1, Rudbeckia laciniata*. L; 2, *Rudbeckia californica*, A. Gray.—*F. P. Dendrobium chrysanthum*.—*Constant Reader*. 1 and 2, Not found; 3, *Dendrobium chrysanthum*; 4, *Dendrobium formosum*, very good; 5, *Dendrobium Findlayianum*; 6, *Pholidota imbricata*; 7, *Polypodium vulgare* var. *cambricum*; 8, *Polystichum angulare proliferum*. *L. B. G. Stanhopea tricornis*, *Maxillaria Mackayi* var.

ORCHIDS: *S. H.* 1. The cause of black spots on the leaves of *Epidendrum vitellinum* is probably owing to its being grown in a too airy and sunny house. Although not wanting a high temperature, it likes a genial warmth, tolerable shade, and plenty of water when growing. Afterwards, any greenhouse will do until the next growths begin. 2. The *Peristeria aspera* (fresh imported) may bloom at any time. We saw it in flower about five weeks ago. 3. The appearance you mention in *Dendrobium thyrsiformum* seems to indicate weak growth, not grown rapidly enough at the proper time, and then reated. Hence the new growth pushes forth before the previous one is fully made.

PEAT: *Amateur*. It is not the right kind for Orchid culture, but would suit Heaths. Get Peat for your Orchids that has a silky pleasant feel, and little or no sand in it, but which has plenty of decaying roots of Ferns, &c. It should be in a partially decayed state when used.

RATING: *Montana*. Glasshouses in which fruit, flowers, and vegetables are grown for sale, are to be rated at only one-fourth value. See Purser v. The Worthing Local Board, in *Gardeners' Chronicle*, vol. i., 1887, p. 422.

RHUBARB: *H. L.* Certainly Rhubarb is not a cultivated form of the common Dock.

TO DRIVE AWAY ANTS: *G. T. C.* and *G. A.* Find their nests, and pour carbolic acid diluted with twelve times its bulk of water into them. Petroleum, sulphur, guano, gas-tar, lime-water, are all effectual in driving them out of their haunts. More than one application may be necessary.

TROPEOLUM SEED: *D. T. H.* The fleshy covering is always fresh and green when the seed falls, but it soon dries up, and may then be rubbed off and the seed stored in paper-bags in a cool, dry place.

TOMATO DISEASED: *W. W.* The spores of the fungus were floating in the air, and conditions of warmth and moisture being favourable, they attached themselves to your plants. These sorts of enemies of plant-life abound everywhere, and the gardener cannot do better than apply preventive remedies before an attack occurs. See our issue for August 10, and many others this year.

WINE BEERY: *W. T. T.* *Ribes phoenicolasium*.

COMMUNICATIONS RECEIVED.—Admitt & Nanton.—A. J. N.—T. Lewes, Jun.—J. O'B.—J. J. W.—W. Badger.—W. Broomhall.—L. B. G. (next week).—A. A. (next week).—H. F. (next week).—A. L. (next week).—J. S. & Son.—C. E. P.—E. W. C.—H. H. D'O.—J. M.T.—G. H.—R. M., Boston, U.S.A.—W. J. T., Hong Kong.—U. D., Berlin.—A. L., Capponquo, next week.—Jas. Johnson, Grimsby.—F. R., Berlin.—G. T., British Guiana.—J. M., Daulington.—F. B.—C. H. J. (next week).—M. (next week).—W. B.—H. W. W.—G. H. S.—R. H. P.—M.—A. H.—Acers.—T. H.—H. Fleet.—J. C. B.—P. Fay.—R. Edwards.—R. D.—J. Mackinnon.—J. B. S.—W. D.—J. T.—J. J. W.—T. W.—W. Guthrie.—J. R., Menabilly (We will endeavour to accede to your request).—C. W. D. (We will examine and report).—W. M.—Ubique, and others (next week).

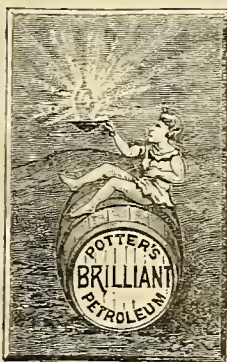
PHOTOGRAPHS, SPECIMENS, &c. RECEIVED WITH THANKS.—A. L., *Amorphophallus bulbifer*.—F. B.

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,

Increased to the extent of more than 80 per cent., and that it continues to increase weekly.

Advertisers are reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN, AND ALL CLASSES OF GARDENERS AND GARDEN-LOVERS at Home, that it has a specially large FOREIGN AND COLONIAL CIRCULATION, and that it is preserved for reference in all the principal Libraries.



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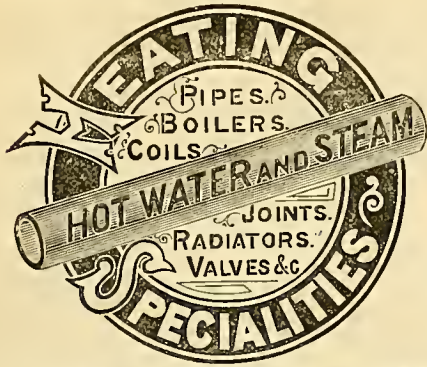
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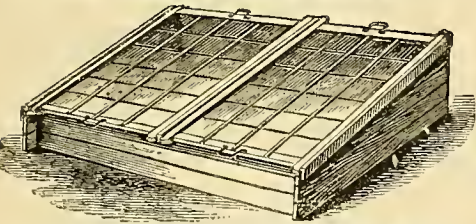


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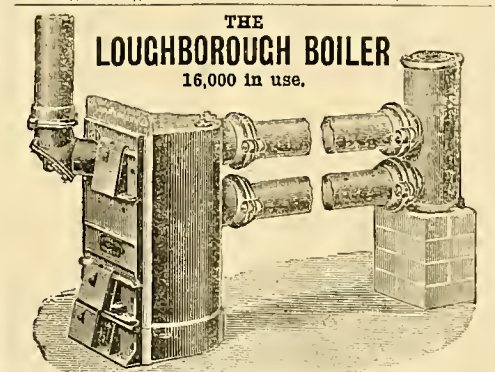
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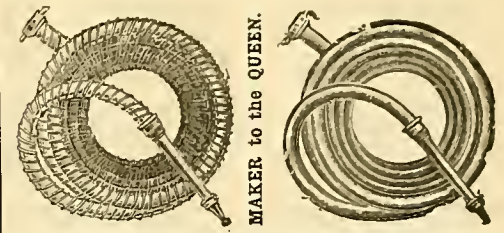
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JOURNEYMAN, Inside and Out.—Age 22; eight years' good character; used to the general routine of Garden work.—H. CLARKE, Hilbro Gardens, Stokesby, Great Yarmouth.

JOURNEYMAN.—Mr. GIRLE (Gardener, Ampfield House), wishes to recommend a young man (age 19), as above. Four years' good experience.—W. BURN, The Gardens, Ampfield, Romsey.

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TO NURSERYMEN.—Young Man, age 25, well up in Cucumbers, Tomatos, Mushrooms, Peaches, Grapes, &c., Pot Stuff, and the general routine of a Market Nursery.—F. SMITH, 29, Bonchurch Road, Hassocks, Sussex.

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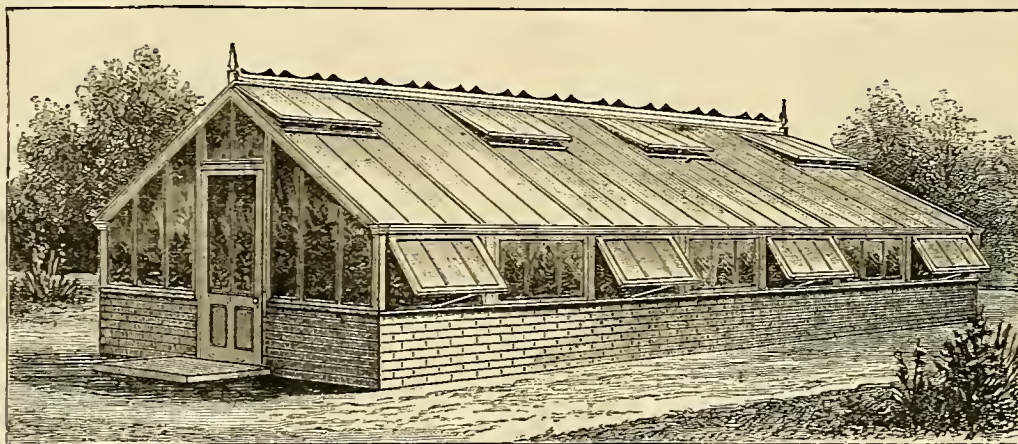
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The GARDENERS' CHRONICLE

ESTABLISHED 1841.

No. 2853.

No. 453.—VOL. XVIII. {THIRD SERIES.}

SATURDAY, AUGUST 31, 1895.

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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

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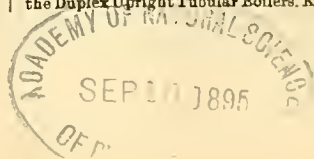
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SALE OF ORCHIDS and BULBS, on FRIDAY NEXT, September 6.

By order of Messrs F. Sander & Co., St. Albans. MESSRS. PROTHEROE and MORRIS have received instructions from Messrs. F. SANDER & Co. to SELL by AUCTION, at their Central Auction Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, September 6, at half-past 12 o'Clock, A VARIETY of IMPORTED ORCHIDS and BULBS. A fine Consignment of CYPRIPEDIUM INSIGNE MONTANUM, from the same locality which yielded C. f. Sanderi, &c., will be offered. The plants are in fine order; many fine masses are included. Also DENDROBIUM NOBILE, LANG TANG TYPE, from the Lang Tang Mountains, which have yielded all the most beautiful varieties. The plants are in fine condition, and new varieties may be looked for. DENDROBIUM DALHOUSIEANUM. LÆLIA FLAVA, a beautiful, compact-growing Orchid. CATTLEYA CITRINA. LÆLIA LUCASIANA, a dwarf, bright-flowered Lælia. DENDROBIUM CUCULLATUM. DENDROBIUM STATTERIANUM, a gem among Dendrobies, easily grown, and very beautiful. ONCIDIUM PELICANUM. CYPRIPEDIUM BELLATULUM, a fine consignment, many fine clumps are included. A Chysis species. LÆLIA AUTUMNALIS ATRO-RUBENS (true), the finest and darkest form. DENDROBIUM MOOREANA, boxes of Miscellaneous ORCHIDS, &c. Also EURYCYLES CUNNINGHAMII (the Brisbane Lily), white flowers, easily grown. BESSERA ELEGANS, scarlet, or scarlet and white flowers, very effective. HEMANTHUS KALBREYERII, AMARYLLIS SPLENDENS, together with many ORCHIDS in Flower or Bud. On view morning of Sale, and Catalogues had.

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MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on MONDAY, WEDNESDAY, and THURSDAY NEXT, September 2, 4, and 5, at half-past 12 precisely. GRAND IMPORTATIONS of BULBS from HOLLAND FOR WINTER and SPRING FLOWERING, IN THE FINEST POSSIBLE CONDITION for present planting, comprising:— A splendid selection of HYACINTHS, including many of the newest and best sorts, a great variety of TULIPS, new and rare NARCISSUS, SCILLAS, CROCUSES, SNOWDROPS, COLCHICUMS, &c. Also Forcing Bulbs from France, LILIMUM CANDIDUM and L. HARRISI, IRIS, &c., and all specially lotted to suit both the Trade and Private Buyers. On view morning of sale, and Catalogues had.

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SECOND INTERNATIONAL HORTICULTURAL EXHIBITION, DRESDEN. From May 2 to 10, 1896.

Under the high protection of His Majesty the King of Saxony. For particulars, Schedules, &c., write to the Secretariat der Zweiten Internationalen Gartenbau-Ausstellung zu Dresden. O. LAMMERHIRT, 7, Glacisstrasse, Dresden, N. Die Commission: G. KRAUSE, I. Vors.; T. J. SEIDEL, II. Vors.

Royal Horticultural Society, 117, Victoria Street. GREAT SHOW OF VEGETABLES AT CHISWICK GARDENS.

TUESDAY, September 10, 1895. Schedules of Prizes may be obtained from the Secretary, R.H.S., 117, Victoria Street, S.W. There will be a VEGETARIAN LUNCHEON at 1.30 P.M. Tickets (not including wine, &c.), 2s. 6d., to be obtained from the Secretary of the Society. A Lecture on "Garden Manures," by W. G. Watson, Esq., will be given at 3 o'Clock.

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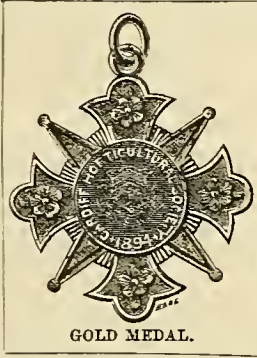
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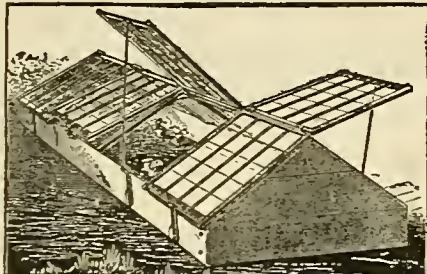
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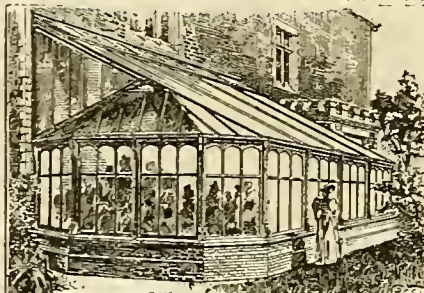
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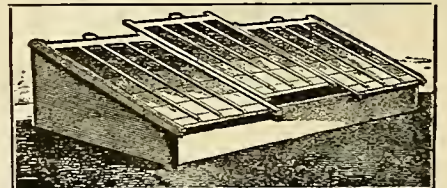
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Has just reached me in Fine Condition, amongst which are the following fine Orchids—

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This species and A. Sanderianum rank as the two most lovely of the family, the long drooping racemes are noted for their brightness of colour, the size of flowers and delicious odour. Received First-class Certificate, September 9, 1884.

AERIDES SANDERIANUM.

"T. L." in the *Gardeners' Chronicle* (August 24, 1895), says:—"I send you a raceme of the lovely *Aerides Sanderianum* to prove, were it needed, that this genus is well worth taking pains with."

The plants offered are in grand condition.

VANDA SANDERIANA.

A very limited importation of this NOBLE ORCHID, which is admitted to be one of the finest in cultivation. Nearly all the plants were established before being shipped; consequently, there will be a minimum of uncertain plants. Many of the plants are in pots, and root-action is evident in many cases. All the plants are well furnished with foliage.

A GIGANTIC SPECIMEN, THE LARGEST IN EUROPE,

is among the importation of this Vanda. It is in fine health, and WILL BE ON SHOW at the Nursery during the coming week.

VANDA LOWII.

A few plants of this lovely Vanda.

PHALÆNOPSIS SCHILLERIANA.

Some fine sound plants, practically established, and sure to make good specimens in a short time.

CYPRIPEDIUM STONEII.

Collected by an experienced man, who saw many fine forms in flower.

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In fine masses. This handsome Orchid should be extensively grown. It received a First-class Certificate in May, 1891.

DENDROBIUM DEAREII.

A fine importation of this beautiful white winter-flowering Dendrobe.

DENDROBIUM BICIBBUM.

Many of these plants were seen in flower by the Collector, who writes that there are exceptionally good varieties.

AERIDES QUINQUEVOLNERUM.

In good plants.

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With tremendous pseudobulbs.

A FINE NEW PALM,

CYRTOSTACHYS LAGGA.

A Plant of graceful habit, with stems and leaf petioles of bright red colour; it is known by the natives as

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Six of these Plants have arrived, and are, of course, well established healthy Plants. This is entirely NEW TO COMMERCE, and is RARE.

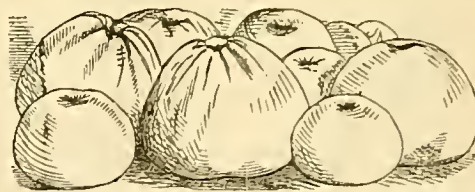
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THE

Gardeners' Chronicle.

SATURDAY, AUGUST 31, 1895.

CHISWICK.

A VISIT to the Garden after the recent storms enabled us to judge of its condition—and what did we find? Cleanliness in every part, walks firm and well rolled, although the marks of the storm of Thursday evening, Aug. 22, showed themselves in a saturated soil, and a little silt accumulated at the margin of the turf; the lawns vividly green, showing plainly that if the mown grass was taken away, something was added in winter or spring to maintain the fertility of the soil. That was quite as it should be. In the glasshouses also were found capital crops of Grapes, and Fig-trees which had borne good crops, but were now going out of fruit for the season.

But perhaps it will be better to take the glasshouses *seriatim*, beginning with the more modern one near the entrance to what may be called the reserve-garden. Last year, and for several previous years, we believe, this house, originally planted with Vines, chiefly Muscat of Alexandria, has accommodated during the summer months trials of Tomatos, and enormous crops have been gathered each year, and sold to defray in part the expense of up-keep. Now, the Vines demand the whole of the space, and no more Tomatos are grown therein. This is the first year in which the Vines have carried a full crop. The number of the bunches is about 600, and the weight 900 lb.; and those who know the market prices for fine Muscats, can calculate their value when fully ripe, say in about a fortnight from the present time. The Vines, from reasons of economy, were trained on wires under the central part of the vinery, and a cane is being carried from each Vine down the two slopes of the roof, so that every part of the roof will be utilised. Nothing could be better devised in culture than the Vines in this house. The older corridor vinery held equally well-cropped Vines, but owing to the Vines being trained against the back wall, and upright glass front, one could not take in the whole crop at a glance. The colour and finish of the Grapes in this case will be capital.

In what some consider the white elephant of the Society—the big vinery—there is a well-distributed crop on the forty-four-year-old Vines, not in any point differing in appearance from former years. To account for the good condition of these Vines, the border must have been made with great judgment and a careful selection of materials, or else the roots must have wandered into the adjacent well-manured ground. Some of the gardeners, it being a showery day with dull skies, were employed in searching for decaying berries, and easing the berries where crowded. It was all right here, but it is a matter for regret that the resources of an experimental garden should be devoted to the cultivation of Grapes to be sold as in a commercial undertaking; but having the vinery, perhaps no

better use can be found for it than to produce Grapes. At any rate, it is money-producing, and that may be a sufficient excuse, although experimentally it has now little value.

Having inspected the state of the Vineries, always considered the crucial point in a gardener's management, and a test of his abilities, we found everything looking as well if not better than in some former years; other houses were visited, viz., the Peach-house in the inner quadrangle. Here the trees had furnished an early crop of fruit, and we saw nothing but healthy vigorous plants which were being gradually matured by sun and air. Standing outside was a lot of young Peaches, Nectarines, Plums, &c., which having done their work for the season, were being ripened off, the house they had stood in being furnished with Tomato plants with fruit approaching ripeness. Most accommodating plant this—if you do not know what to do to fill the house, put some Tomato plants in it; and if you cannot consume the fruits, you can always find purchasers for them. There is no waste of garden appliances and conveniences at Chiswick, but every house is put to some kind of useful purpose.

In one house only American varieties of the Tomato are growing, and but few differences were noted between these and those usually grown in English gardens. The house in which these varieties are placed is a Messrs. Skinner, Board & Co.'s patent, with a curvilinear roof of small span, galvanised iron ribs fixed at very wide distances apart, the glass panes resting on strained wires, and secured by metal clips. It seemed to need fuller ventilation when the doors were closed; but it suits the Tomato, which is a heat and sun-loving plant.

The houses set apart for flowering plants were the Canna-house—well furnished with these beautiful, combined flower-foliage subjects. They were quite small stuff when received in the spring, and have had to spend their energies in making leaves and roots, and, as a consequence, there is not quite so much flower on them as older roots would have thrown. The selection is a choice one, and well worth an inspection. The side benches are furnished with varieties of *Pelargonium peltatum* (Ivy-leaf), now past their best, but which have been particularly beautiful this season.

In another house was found a collection of profusely-bloomed *Fuchsias*, including good new varieties and old favourites. Another house contains *Balaams*, *Celosias*, *Cockscombs*, and *Bouvardias*; some pits are filled with zonal *Pelargoniums* for flowering in the winter, besides a quantity of miscellaneous plants of small value, for distribution amongst the fellows—much of it dear as a gift. Its propagation and culture seems to take up a good deal of time and labour which might be more usefully employed. It is the fly in the amber.

Let us now turn to the fruit trees on the walls. To us, these have always seemed to be the weak point at Chiswick, and especially was this the case during the years of misery, when the resources of the Society were expended in that children's playground at Kensington Gore. The trees were then starved of the needful manure and loam, although the superintendent was too good a gardener to neglect the customary winter and summer pruning. Since better times have set in, in the Society's affairs, the trees have improved, and excellent crops of Plums, Peaches, and Nectarines; a fair one in the majority of cases of Pears, and some very heavy crops on certain varieties that usually can be depended upon to crop well, viz., Williams' Bon Chrétien, Souvenir du Congrès, Louise Bonne, Madame Treve, and Belle-sime d'Hiver.

The Apple crop generally is a heavy one, especially on the lesser pruned standard and half-standard trees, and on the restricted bushes on Doucin and Paradise stocks. It is needless to specify varieties where nearly all have cropped well—still, mention

must be made of a row of trees of Blenheim Orange Pippin, planted twenty years ago, and worked on every known kind of stock, which have a full crop for the first time. There is a fact worth knowing in regard to this variety, viz., that no kind of stock will hasten its coming into bearing. The other grand crop is that of Cox's Orange Pippin, which was never finer than this year. The aged pyramidal Pears are, in numerous instances, bearing very well; and of Plums, capital crops of Pond's Seedling were remarked on standard trees. In fact, it is a record year for hardy fruit at Chiswick.

There are extensive trials of Cabbages, Lettuces, Turnips, Runner and dwarf Kidney Beans, Potatoes, Endives, Spinaches, Sweet Peas, Asters, Phloxes, bedding *Begonias*, including the small-flowered effective *elegans* type; of Dahlias of the so-called "Cactus" forms supplied by the larger growers.

To give the reader an idea of the extensive character of these trials, it may be mentioned that about 500 varieties of Phlox were planted from English, French, and German growers, the height, colours, time of beginning to bloom, being duly noted. Of Turnips there are 37 varieties; Spinach, 20; Cabbage, 76; Lettuces, 39; Beans, 74; Peas, new and old, 59; Potatoes, 70. The amount of clerical labour entailed in recording all the more essential points in connection with these trials is very great, especially as every report has to be written out three times. One rubs one's eyes on hearing this, and asks whether copying-presses have been invented. The writing of labels for seed-beds and plantings takes up a great amount of time. These trials, so far as they go, benefit the purchaser, or at least they are instituted with that intent; but instead of being published in a form easily accessible to the owners or cultivators of gardens, they are published long after date in the Society's *Journal*, which appears at uncertain intervals; hence they lose the merit of opportuneness, and become, as a consequence, of relatively small value.

The out-of-doors floral decorations are well worthy of notice at the present time. They consist chiefly of a series of beds, circles, and parallelograms, of various dimensions, arranged on each side of the long walk which leads to the great vinery. There were beds planted with old stock-plants of *Fuchsias*, flowering abundantly; beds of *Fuchsia fulgens*, an old inhabitant of our greenhouse, but seldom employed out of doors, although in the warmer parts of the country it grows well and flowers charmingly.

Begonias, both tuberous and other, are planted in numbers, sometimes one variety being used in a bed, and in other cases several of them are grown together for the sake of readily estimating their effects as bedders, testing the comparative height of the plants, and various other points which it may be desirable to ascertain. There are beds of the glowing reds, crimsons, &c., of the large-flowered tuberous-rooted section obtained from the best sources. Beds of *Begonia semperflorens* in red, pink, and white, and very clearly these varieties showed their value as bedders; the varieties, *Duchess of Edinburgh*, pink, and *Reading Snowflake*, white, were admirable. In the case of these *semperflorens* varieties, the blossoms are small, very numerous, and obtained from all parts of the plant, and being of a uniform colour there is no dull side of the petals to be seen in dull weather, as is the case with the large-flowered *Begonias*. Old plants of *Bouvardia* in variety are turned to good account, being planted out in mixtures of other plants. They were masses of flower. *Cassia corymbosa* planted in circular beds has a pretty effect, the amount of bloom on them being considerable. The same may be said of *Plumbago capensis*, the plants of which are covered with their light blue flowers, so different in tint from the other occupants of flower-beds.

It was remarked what a pretty edging plant is *Sedum Ewersii*, when covered with its numerous dull pink-coloured flowers. *Canna indica*, in the newer varieties, was noted in flower; but, like those in pots, the plants are not of sufficient age to flower

well this season. A bed or two of *Zinnia elegans pumila*, consisting of a few distinct-coloured varieties about 1½ foot in height were noted. This strain is decidedly better than the usual lanky one seen in gardens, yet not so dwarf as *Zinnia Haageana*. Other beds consisted of *Asters* in variety, single-flowered *Petunias*, and yellow *Marguerites*.

The beds of Tea and Noisette Roses were affording a quantity of bloom, although these were but very small plants when put out at a late part of the spring. It was easy to see what the plants were like before the storm of Thursday had dashed their flowers, for a time at least.

It is said, we believe, that the cost of keeping up Chiswick is out of proportion to the results obtained, but that is a point very difficult to gauge, seeing the multitude of plants dealt with, and the far-reaching nature of the results of the trials and methods of culture, when at length these have been dribbled out to the horticultural public.

No comparison instituted with a private garden is possible, except perhaps in such elementary matters as digging, mowing, tree-nailing, and pruning, and the like matters, which are the same in all gardens. At Chiswick, the cost, time and labour involved in the distribution of plants to the Fellows is very considerable, all manure must be purchased, coals and coke bought at town prices, water specially paid for, rates and taxes are heavy, and labour more highly paid than in country places.

In making comparison between the cost of conducting Chiswick and a country establishment, these are points which ought to receive due consideration. Who but the Superintendent himself and his coadjutors have any notion of the labour of recording the trials above-mentioned? moreover, there is the loss of labour from the garden which every meeting at the Drill Hall entails; the gathering and packing up of fruit, flowers, and plants, for which there is nothing to show. The Superintendent has also to act as cicerone to visitors, foreign and native, and everyone is courteously received, as should be the case, and shown round. Every time an individual is taken away from gardening operations proper, there is a distinct loss to the garden in money and time, and this cannot but add to the expenses at the present juncture.

NEW OR NOTEWORTHY PLANTS.

CHLOROCODON WHITEI.*

To M. Naudin of Antibes we are indebted for specimens of this greenhouse climber (see fig. 48, p. 243). It is an *Asclepiad* with slender, twining, cylindrical branches. Leaves petiolate, opposite at distant intervals. Petioles about 3 cent. (1 inch) long, slightly puberulous, channelled on the upper surface. Stipules forming a band connecting the base of the two petioles, and dividing into several unequal linear blunt lobes. Leaf-blades about 15 to 18 cent., by 10 to 12 cent. (say 6 + 7 + 3 = 4 inches), nearly glabrous, rounded at the base, oblong entire, shortly and abruptly acuminate, venation arcuate reticulate, areolæ broadish, irregular, squarish, or oblong. Upper surface of the mid-rib provided near the base with a few linear, lanceolate, membranous, deciduous scales. Inflorescence axillary, shorter than the leaves, cymosely branched, many-flowered, pedicels spreading dichotomously, branched with minute bracteoles, ultimate pedicels 15 mill. long, rather shorter than the expanded flower. Calyx of five spreading, ovate acute, shortly acuminate green segments about 5 mill. long. Corolla 20 to 25 mill. diameter of five ovate oblong, fleshy imbricate segments free nearly to the base, greenish, externally rich violet within, becoming black. Corona of five fleshy scales alternating with the petals, each three-lobed, lateral lobes short oblong obtuse, median lobe prolonged, nearly as long as the

* *Chlorocodon Whitei*, J. D. Hook., *Botanical Magazine*, t. 5598.

petals, deltoid acuminate. Filaments broad, white, membranous, infolded over the ovary, and adhering to the pentagonal disc-like stigma. Pollen-masses linear, club-shaped, glandular at the end. Pollen granular. Ovary two-lobed, with a short style and large disc-shaped stigma.

We append a translation of Mr. Naudin's letter:—"It is now some years ago that you sent me some seeds of *Chlorocodon Whitei*. I duly raised them, one plant, growing on a wall, has become very tall, is many feet in height, and at the present time is covered with flowers and will probably produce seed. The heat just now is torrid, and the sunshine of Antibes rivals that of Natal or the Cape of Good Hope. I thought that you would be interested in seeing a specimen of my plant, and send you a piece of it, which I hope will arrive in a fresh condition. In the *Botanical Magazine*, t. 5898, *Chlorocodon* is figured. The flowers there are rather different in coloration to those on our plant, which is atropurpureous, but without the yellow at the tip of the petals. *Chlorocodon Whitei* is a fine decorative plant, is worth cultivating as a climber in any Orange-growing district such as France and North Africa. Thus, it grows perfectly at Oran, whither I some time ago sent some seeds to a plant-lover fond of acclimatizing plants. *Ch. Naudin.*"

POLYPODIUM (PHEGOPTERIS) TRINIDADENSIS, *Jenm., n. sp.*

Stipites, 6 to 9 inches long, void of vesture, slightly channelled, brownish-green; rachis similar; fronds pinnate, chartaceous, pale green, naked, 1 to 2 feet long, 1 foot or over wide, not reduced at the base and very slightly at the apex, terminating in a simple linear-ligulate unlobed pinna, conform to the lateral ones; pinnae spreading horizontally, almost sessile linear-ligulate, 5 to 6 lines, width 9 inches long, finely serrato-acuminate, the base truncate, not widened, slightly contracted in the lower ones, the margins uniformly throughout sharply dentate (or bi-tridentate); veins copious, simple, close, grouped, running to the margin, terminating in the serrations; sori copious, medial on the veins, forming two or three rows, no involucre observable.—Trinidad; communicated by Mr. Hart.

At first sight this might be mistaken for *Polypodium flavo-punctatum*, Kaulf. (*Aspidium rotundatum*, Willd.), a plant very common in Trinidad, but which on comparison is seen to be very distinct. The pinnae are narrower in this, they are uniformly free at the base, slightly narrowed there, with a terminal one to the frond, simple, only serrated, just like the lateral ones, and the translucent spots are quite absent; whereas *P. flavo-punctatum* has pinnae twice or thrice as broad, with copious translucent spots, the upper pinnae roundly lobed along the margins, freely translucently spotted, the upper two-thirds broadly adnate and decurrent on the rachis, passing gradually into the lobed apex of the frond, there being no distinct terminal pinnae. Plumier's figure, Fil. t. 38, is a very good figure of *P. flavo-punctatum*, and shows clearly how distinct these two species are. *G. S. Jenman, Demerara, July 30.*

FOOD REQUIREMENTS OF THE TOMATO CROP.

THE Tomatos of present cultivation are all referred to two species—*Lycopersicum esculentum*, embracing the great mass of varieties; and *L. pimpinellifolium*, the Currant Tomato. The former has two main types, var. *cerasiformis*, the Cherry Tomato, and var. *vulgare*, embracing the ordinary market Tomato.

A moderate estimate of the yield of ripe market Tomatos per acre when grown out-of-doors in the United States is 10 tons; with proper management, 15 tons per acre are often secured. If planted 4 feet apart each way, there will be about 2700 vines to the acre, weighing, after the last picking, somewhere about 8700 lb.

The roots, according to a single observation, will weigh about 1350 lb. Taking 10 tons as an average

yield, and calculating on the basis of the figures just given, a Tomato crop takes from the soil, in pounds per acre:—

	In Fruit.	In Vines.	In Roots.	Total.
Nitrogen ...	28	28	3	59
Phosphoric acid	11	6	1	18
Potash	53	44	4	101

Dr. E. H. Jenkins, of the Connecticut Experimental Station in the *American Agriculturist* of May last, reckons that one-half of what is taken up by the plants from the soil is returned to it again in the vines and roots. That is, taking it for granted that these are returned to the land as manure. These facts furnish a general guide to the proper fertilisation of Tomatos. On the one hand, the soil must be expected to supply a part of the crop's requirements from its inherent fertility; on the other hand, by no means all of the soluble fertilisers applied will be available to the crop for which it is directly used. It is quite doubtful if more than a half or two-thirds of the applied fertiliser is taken up by the crop for which it is immediately employed. Lawes and Gilbert in their experiments at Rothamsted, reckon only about 40 per cent. of the manure applied as being recovered in the increase of crop the first year of its application.

Owing to the immense demand during recent years for the Tomato as a market vegetable, the chemical composition of the plant has been thoroughly investigated. It appears that the Tomato is not an exhausting crop as compared with several other garden products, always provided the baulm or its equivalent in manure is returned to the soil.

The percentage composition of ripe Tomatos, and of the vines after picking, calculated from all American analyses, according to Dr. E. H. Jenkins, is given below:—

	Ripe Tomatos.	Tomato Vines.
	Per cent.	Per cent.
Water... ..	94.75	83.61
Organic matter	4.80	13.40
Mineral matter	0.45	3.00
Nitrogen	0.159	0.321
Phosphoric acid	0.057	0.066
Potash	0.263	0.499

A safe rule is in the first place to make sure of an excess of available potash in the soil by applying a potash manure liberally, and this for two reasons. First, because the crop requires almost twice as much potash as any other ingredient; and, secondly, because nitrogen, the most expensive element of plant-food, can only have its full effect when available potash and phosphates are present in excess in the soil. Moreover, any excess of potash over the crop requirement will not waste from the soil by drainage, but will be retained in combination by the soil for use in future crops. The Rothamsted experiments show that when potash is deficient in the soil, the growing plant, of whatever description it may be, becomes much more sensitive to adverse conditions of soil or season, and is more readily attacked by disease, especially mildew and other fungoid growths.

Wood-ashes contain a large percentage of potash, and where obtainable will be found an excellent manure for Tomatos, because not only do they correct any acidity in the soil, but they favour nitrification, and they supply carbonate of lime, of which a Tomato crop requires at least 50 lb. per acre. A small amount of available phosphate will in most cases be sufficient for a successful Tomato crop.

Having made sure of an excess of lime, phosphate, and potash salts in the soil, nitrogen should be used freely, but economically; a small quantity given frequently is much better than a large dose applied all at once. Whether Tomatos are grown for retail market or otherwise, it is very desirable to get as

early maturity as possible. Applications of soluble forms of nitrogen, and particularly of nitrates, seem to increase the yield of fruit without retarding maturation, and even hasten it provided there is sufficient heat at command. In various trials it has been found that the use of some quickly acting form of organic nitrogen with the more soluble ammonia or nitrate is safest.

The New Jersey Horticultural Station, as the result of five years' exact experiments, proposes the following general method of manuring for the Tomato. 1. Where land has been heavily fertilised or manured for the previous crop, apply evenly over the soil from 200 to 300 lb. of nitrate of soda per acre, one-half at time of setting the plants, and the remainder from three to four weeks later. 2. Where the land is light and sandy, and has not been heavily manured, apply broadcast, and harrow into the soil before setting the plants 500 lb. per acre of a mixture made up of two parts of superphosphate, and one part of muriate of potash, and 150 lb. of nitrate of soda.

It must be remembered that the foregoing suggestions are for Tomato crops grown out-of-doors, in a much warmer and more sunny clime than our own; they are given, therefore, not by any means as rules for English gardeners to follow, but as a possible help to the grower who ought to know better than any one else what his soil needs, and in what it is relatively deficient. *J. J. Willis, Harpenden.*

THE HERBACEOUS BORDER.

PENTSTEMON BARBATUS.

IN point of beauty this plant and its varieties are some of the best hardy perennials. The tall spikes of flowers of a rich shade of scarlet are very effective when the plants are grouped together in a bed or border, and they continue flowering profusely for a long time. Indeed, it not infrequently blooms in early summer and in the autumn, and is therefore a good subject for the flower garden. This remark applies to the best forms of the plant, and not to the variously dingy-coloured varieties sometimes seen in gardens. One of the handsomest forms is *P. barbatus Torreyi*, a North American plant, with spikes of scarlet flowers, 4 feet high. Another fine form is *P. b. antwerpensis*, somewhat taller than the former, also possessing scarlet-coloured blossoms. A charming bed can be made of these plants and the white-flowered *Tigridia grandiflora*, with a band of golden *Viola* for an edging, planting the latter amongst the *Pentstemons* in February or March. These *Pentstemons* are readily increased by division early in the year, or by cuttings in the autumn; the former will generally be sufficient for all ordinary uses, and the divisions soon make strong plants. Where a large number of plants is needed, the young shoots at the base may be partly covered with soil, into which roots will quickly push. By doing this in the early autumn the plants will be well rooted for division the ensuing February; these would flower in the summer following.

SPIRÆA FILIPENDULA, FL.-PL.

IN this plant we have a perennial of easy culture, dwarf habit, combined with freedom in flowering, and neatness of growth. From a compact cushion of Fern-like foliage issue a number of pure white flowers, arranged in corymbs, and they continue to push up for several weeks in succession. The plant is well suited for growing in masses where an early summer display is the aim. Though not usually employed as a pot-plant, it is nevertheless a very suitable subject, and it may be partly forced into bloom if necessary. Plants required for the latter purpose should, however, be potted-up in August or September of the preceding year. In common with other species of *Spiræa*, it should be planted in a moisture-holding soil, and though succeeding fairly well in light soils in sunny spots, it is never quite satisfactory in them. The plant is increased by division performed in the autumn or spring

Plant it firmly in not over-large pieces, and unless in a moist spot, divide every two years, to maintain the stock of plants in full vigour.

SPIRÆA VENUSTA.

This is a beautiful plant for a moist soil, in which it alone will grow satisfactorily. If the soil of the garden is not naturally moist, this *Spiræa* should be planted in rather heavy soil in a shady spot. In a boggy situation it grows from 4 to 5 feet high, and produces very large cymes of bright-coloured flowers, but is of slower growth than most *Spiræas*. Propagation is by division and seed, but for the former a large specimen is required, and by the latter method some of the seedlings may be of little value, still some bright forms may perchance be obtained. These seedlings should be planted, if possible, at the side of a stream or lake, where they would make quick progress, and at the same time economise labour. In such a position even the inferior varieties would be desirable plants. *J.*

THE ROSARY.

TWO MODES OF MULCHING ROSES.

THERE are those who would object to apply the term "mulch" to any wet substance, such as sewage, manure-water, pond-mud, &c.; the word usually carrying the meaning of a coat of some loose, light, porous material placed on the surface to arrest loss of moisture by evaporation, and heat by radiation as well. But in a larger sense we may mulch with manure-water as well as litter. Even the residuum of the liquid manures or sewage may form in themselves, or be made to acquire, most of the physical properties of mulches through allowing them to accumulate on the surface, or much better still, loosening them up and mixing them with the earth beneath through frequent hoeing. In its modest meaning, anything applied or done to the surface with a view of adding to or holding more fast the moisture and food in, and keeping the heat or drought out, is a mulch, the more porous the more potent the mulch. And the efficacy of the liquid mulches is doubled by stirring the surface with the hoe or scarifier, as soon as the surface is sufficiently dry to allow treading upon it. I have been so fortunate as to have seen both these methods of mulching in active operation in this centre of the Rose industry in the course of the past few weeks. If asked to say which was best, I should prefer to answer, both. Few have used manure-water of all sorts—house and yard slops sewage—more for Roses, than I have done, for many years in different counties with various soils, and such prompt-acting surface-mulches have been my chief stimulant for Roses. There has been, I trust, not a little sound science, assuredly much useful sentiment, as well as success in thus converting and transferring such dangerous substances into lovely Roses. Hence, on looking in at Messrs. Prior & Sons' a few weeks ago, and finding them at the sewage again, I felt something like an old hunter on which I was mounted by the stud-groom in my younger days by mistake, and which compelled me to follow the hounds for my first and last ride almost at the head of the hounds, I sniffed the sewage from afar, and have seen and felt—smelt—its results in the quality—odour, and prizes received for these sewage Roses since I saw them get their last feast of savouries for the season a few weeks since.

The cheapest and perhaps the best of all dry mulches is also in full vogue at Colchester, gangs of men are employed to maintain it in full efficiency. Rosarians have no faith in the robber mulches of weeds, so popular among distressed cultivators of various sorts. Such mulches live for themselves alone, making poor sorts poorer, dry soils drier, reducing the diet which should go to feed useful crops into smaller and yet smaller returns. Whereas by keeping the hoe and the scarifier in active motion robber-weeds disappear. The strength, moisture and food in the soil are husbanded, the surface protected

from cracking and rending, and fresh supplies of food and moisture brought up from lower depths through sustaining the potent force of capillary attraction. At Colchester and other places the practical result of keeping a loose surface may be seen in tens of thousands of Roses that have withstood the drought without any other help from the cultivator, which look so vigorous and beautiful, as if they had all that the most ambitious Rose could desire.

Strawberries in many districts where the produce is a record one this year teach the same lesson. Not a few of the very finest crops have had no water. But as a penny saved is a penny got—or more, so is every drop saved, conserved through surface mulches, a drop or more saved. Fortunately for the Strawberry crops and plants it is not at all hard to mulch to keep the fruit clean, and such mulches, whether of litter, fibre, moss, straw, chaff, tell later, and keep the roots cool and moist as well as the fruits clean—thus paying the cultivator compound interest on the labour and money expended on mulches. *D. T. Fish.*

ALEXANDRA PARK, MANCHESTER.

This park is situated on the south side of Manchester, and is much freer from smoke and the noxious vapours which the smoke causes, than any of the other parks surrounded by the city. It is much more extensive, too, covering an area of 60 acres, which opens up scope for landscape gardening design. In this respect it seems to vie with most others in having spacious promenades and drives, cricket, football, and lawn-tennis compartments, surrounded on the margins with plantations of trees and shrubs, which, when clothed with foliage, completely shut out the rather handsome villa tenements to be seen on two sides of the square. There are, in addition, avenues of trees, with alternate green Hollies between, to brighten up a little the winter aspect; and then the crowds of flowering shrubs, commingled with, and confronting the deciduous trees, together with the patches of annuals that give forth their flowers in summer and autumn, make altogether a very pretty picture.

A spacious entrance gate, with suitable lodges, has been erected, and to the right you face an avenue of Limes, something about 700 yards long, verging upon a spacious artificial lake, and right in front of you is a raised terrace in which there is ample scope to practice in no end of designs of summer and carpet bedding. The promenade between this is a spacious one, asphalted, dressed and surfaced to please the eye, and is of considerable breadth, so that treading on the grass is seldom, if ever, resorted to. What struck me particularly was the capital order maintained, showing no stint of want of keeping, and the eye lines, whether straight or on the terrace promenade, or of sweeping curvature, as alongside the walks and drives, were unexceptionally pleasing.

The principal trees doing best here were the Limes, a tree which you will hardly see in a decent state of health in any of the other parks; the Ash, of which there is a fine avenue here, but being planted too near the Limes, they are sadly encroaching one on the other, and thus spoiling both. The Sycamore is doing fairly well, but is subject to rust in its early stages of growth. Other trees, such as the Thorns of sorts, particularly the plain-leaved Thorn, is as good as can be. The Rowans make capital companion low-growing trees, and are now covered with multitudes of their scarlet berries—a great temptation to youngsters, as well as blackbirds and thrushes; meantime they are loaded, and give a brilliancy most desirable indeed to the mixed border.

Another capital fellow-tree to the two previously-named families is the Service-tree, only in summer its leaves get blackened with smoke; in spring, there is no better wind tree, in respect of showing its hoary underneath surface. Young's Weeping Silver Lime is in quantity, and a most beautiful tree it is for individualising in a park; its great leaves, twice the dimensions of those of the type, are also white underneath, and look nicely in the distance

under the influence of a breeze. Weeping Ash also do splendidly—indeed, all these pinnated-leaved trees and shrubs help to cast a dash in a sombre landscape.

Foremost among trees of a suffruticose character, not often seen about towns, is the Sumach (*Rhus Coriaria*). Its grand pinnated leaves, like great Fern fronds, stand out in relief, and how splendidly it does here planted out among ash-gray rocks! It shoots out in all directions, coming up from the running roots as they meander among the stones. It is much used, commercially-speaking, in the dyeing industry; its leaves are collected when growing, then dried and ground. The Sicilian Sumach is the best for dyeing, containing about 20 percent. of tanner's matter. It shoots far freer even than *Berberis aquifolium*, and a most beautiful patch it makes allowed to take its natural course from the main stem. The Superintendent deposits lots of plants, and sets them down throughout the mixed tree borders. *Robinia pseudo-acacia* is also doing well in standards. *Rhamnus Frangula*, although it requires support, makes a good subject, because of the yellowish-green of its leaves contrasting well with other deciduous trees. The Catalpa is doing in sheltered positions, and so is the *Salisburia adiantifolia*, with its deeply-cut, irregular-outlined leaves. Those purple-leaved trees, such as the Beech and the Plum, do not stand out ornamental throughout the year, and have in early autumn a sombre, dying aspect.

The shrubs that do best are the *Rhododendron*, first and foremost among them for border work is Cunningham's White. It is as hardy as Couch, and is bristling with buds. All the *Ponticums*, and many of the earlier pushing hybrids have suffered from the sharp frosts of mid June. The leaves are as if bronzed in the middle, green round the margin—it is just possible many of them may die off as the season ripens growth up. Wherever they have been planted in exposed positions, the wind and the frost together have played sad havoc, always barring Cunningham's White. *Andromeda floribunda* is an indispensable town plant, and so is *Skimmia oblata*. Really these two plants seem to defy smoke and frost down towards zero—the lowest reading here was 2° and 3° of frost; of course, those *Azaleas* which brighten borders with their flowers in spring and their leaves in autumn, are largely grown, and well they do. *Berberis japonica* is worth making a special note of, it is good looking to begin with, and is much harder than the common *Aquifolium*.

These mixed borders are composed largely with such ornamental plants as Snapdragons, Centaureas, Sweet Sultan, the Summer-flowering *Chrysanthemum*, the Shirley and Iceland Poppies. The latter are by far the most useful, as they are not so fugacious as the Shirley, and they keep longer when cut. The *Helianthus* in several varieties are useful, stalwart plants, the newer forms of them bursting out, and flowering freely, although their flowers are not so large. The largest one is a capital fellow for the Japanese Auratum Lily. Tobacco-plants, too, make splendid furnishing for mixed borders, because of their elegant habit, and large light-green leaves. One of the most striking beds in a detached position on the grassy parterre was one of seedling *Antirrhinums*. Nothing was more captivating in the park, because of the great variety of colours, challenging the rainbow in fact, and the dwarfness and compactness of the strain. *Pentstemons*, too, dealt in this way were effective. Carnations, singular to say, were nearly all killed off last winter; fresh relays have been planted. *Clematis Jackmanni*, too, is very prolific of flowers, and makes fine contrasting plants to others; it is always beautiful near the green grass, and it is green and lovely in this park, too, so cloely is it clipped with the mowing-machine. The Rosary has been a success this season; the plants do well in the preserved enclosure.

The summer bedding is one blaze. One might condemn it as too formal, but when you see all the variety which we have described above, there is room for this class of ornamental gardening. It will not do to abandon it altogether; the people about towns delight in a mass of gaudy colours, and the least

informed of them look upon gardeners who do not make a show of this kind in the parks for which they are practically paying the up-keep, as unfit for their work. The great breadth of beautiful greenery as a groundwork here shows up the designs to great advantage. It might be as well to give the names of a few plants and varieties that were doing superbly:—Crystal Palace Gem Pelargonium was particularly effective and free in habit; Veenvius still ranks high among bedding scarlets; Mrs. Fenn is of a fine

is telling among other subjects. Lobelias in wet sunless seasons, are apt to run to growth without producing flowers. The selected one here, named Royal Blue, is a gem for its indigo tints and for its profusion of flowers, this mixed with and surrounded by Centaurea ragulina, kept the eye on it—the softness of the grey and the brilliancy of the blue being quite eye-pleasing. A most effective combination here is the usual Calceolaria and Pelargonium, then a great broad band in front of Gageana splendens variegata

planted out. This shows what a labour proper flower-gardening requires.

But carpet bedding, to do it well, requires ten times more work, although the material may not generally require the same winter "coddling." There are some pretty bits, chiefly ranged along the promenade, of this sort of work, and the weaving of it together involves skill to begin with, and time to finish. It does not do to make it too squat. The prettiest bit of bedding was where the thistle-looking *Chamaeopence diacantha* was dotted down on a groundwork of golden *Lysimachia*, and varied *Sedums*, with dot plants of *Echeveria Peacockii*. The *Gnaphalium lanatum*, the deep olive-green *Herniaria glabra*, various *Mesembryanthemums*, *Stachys lanata*, and the Golden Thyme, were all in use in more or less designs, and these things arrest the attention of the visitors. If anything, the beds were too squat; some relief would have been desirable, particularly in the centre of the various designs, with *Agaris*, *Aralias*, *Centaureas*, or such-like individuals. As it was, it was one sheet of colour from end to end of a parterre quite 500 yards long, but fortunately the beds were broken in their outline, relieving geometrical-outline formality.

The bowling-green is largely taken advantage of, and is nicely adorned with sloping banks, their tips filled with miscellaneous flowering plants, and there are suitable band-stands and shelters, and gymnastic-grounds for boys and girls apart, the whole under the superintendence of Mr. Henry Cross, and in first-rate order of keep. *Viator*.

PANDANUS VANDERMEERSCHII.

THE accompanying illustration (fig. 46) represents a plant of the Screw Pine, *Pandanus Vandermeerschii*, in fruit, growing in the Palm stove here. It is 13 feet high, with two side-branches, each extending to about 8 feet from the main stem. The fruits are borne on the side-branches, and are of a trigono-globose shape, 9 inches long and 8 inches in diameter at the base. The fruit first made its appearance in July, 1894, and as yet shows no signs of ripening. As I am led to believe that the fruiting of the *Pandanus* in this country is very rare, perhaps this note may prove of interest to your readers. *Thos. Wilson, Glamis Castle Gardens.*

WISTARIAS.

THE genus *Wistaria* is one of a great number showing the close relationship that exists between the flora of North America and that of Northern Asia. Of the species known, one comes from the United States, and the rest from China and Japan. The generic name (sometimes erroneously spelt *Wisteria*) was given in honour of Caspar Wistar, an American scientist, who flourished about one hundred years ago. The species vary in habit, from shrubs of comparatively dwarf stature, to strong-growing climbers large enough to envelop big trees. No climber ever introduced has served its purpose better than the common *Wistaria*, the flowers being unsurpassed either in beauty or abundance, and the plant itself being of exceptionally vigorous growth, and quite hardy. It is undoubtedly the finest of all the *Wistarias*; but the other species flower at a different season, and they have sufficient merit to make it worth while to pass the genus in review, especially as they are but little known in gardens. Botanists differ in their estimates of the number of species in the genus, but there are at least three—*chinensis*, *multijuga*, and *frutescens*—whose identity is well established, although Mr. Hemsley places *multijuga* under *chinensis*. Two others—*brachybotrys* and *japonica*—are figured by Siebold in his *Flora of Japan*, but they are scarcely known in gardens, and the latter is now looked upon as a *Milletia*.

W. chinensis.—This fine species was introduced from China about the year 1816. There is no hardy climber in English gardens that attains to so large a size as this, specimens being not uncommon whose

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FIG. 46.—PANDANUS VANDERMEERSCHII.

roseate hue; and Henri Jacoby is a large brilliant truss; Master Christine, a telling pink; Violet Hill, also, is a fine nosegay Geranium. Among Golden Bronze there was nothing more—if, indeed, so effective as Mrs. Quilter; the habit is dense, and the leaf is the perfection of form, whilst the colouring beats most of the older ones. Marshal MacMahon is an effective bronze. There were many others, but these were the cream of the group.

Among *Violas*, the best standing of the violet colour is undoubtedly Blue Perfection. Most *Violas* in dry weather curl up their flowers; this one is least affected in that way, and its colour

mixed with the prolific-flowered blue *Lobelia* and edged with *Echeveria*. The orange flowers in day time resting in the green and white leaves of the plant, and the blue and the other primary colours told exceedingly well without being out of colour and in bad taste. Yellow is an everpleasing colour, and should be sparingly used in all flower garden combinations, the designer here had evidently his eye upon that point in planning his arrangements. A few beds of Harrison's Musk set among purple leafage was highly effective—it would have been more so but the *Iresine* was not up in colour, neither were the *Alternantheras*, which are less even than when

branches have a spread of 200 feet to 300 feet. Its vigour is equalled by its floriferousness, and a fine specimen in flower is one of the most beautiful floral pictures an English garden can show in early summer. The leaves are of a pale green colour, and consist of nine or more leaflets, which have a few flattened hairs scattered over the upper surface, but confined on the lower side to the veins. The flowers are borne in racemes, sometimes considerably over 1 foot long; they are large, papilionaceous, and of a pale bluish-purple, fading off to almost white in parts of the flower. Grown in tubs as a standard, this *Wistaria* may be used for spring-forcing in the greenhouse, pruning back each year after flowering. Out-of-doors it may be used in a variety of ways. It is admirably adapted for covering walls, pergolas, arbours, &c., and may also be planted so as to climb over trees that can be spared for the purpose. There are now several varieties of this plant in cultivation. Var. *flore-pleno* has double flowers; alba is white, and is also represented by a double-flowered form; var. *macrobotrys* has flowers of a paler shade than the typical form, but its chief distinction is in the long racemes. There is also a form with variegated leaves; but, with the exception of the double-flowered variety, which remains longer in bloom, the typical old plant is the best. The white-flowered varieties are beautiful, but do not flower so freely.

W. multijuga.—In the *Index Kewensis*, this plant is referred to as *W. sinensis*, but from the point of view of horticulture, there can be no doubt as to the desirability of keeping up the present name—indeed, this is done in the recently-published *List of Hardy Trees and Shrubs at Kew*. It is not of the same value as *W. sinensis*, but it does not come into competition with that species, as it flowers two or three weeks later. It was introduced from Japan about twenty years ago, and being frequently met with there in a cultivated state, was for long considered indigenous to that country. It is now thought to be most probably a native of China or Corea. The character which, besides its later flowering, distinguishes it from *W. sinensis*, is the extreme length of its racemes. Ordinarily, these are at least 2 feet long, and the Hon. W. F. D. Smith, at the Temple Show of 1894, showed racemes a yard in length, grown in his garden at Henley-on-Thames. The flowers differ also in being more sparsely arranged, in having shorter pedicels, and in being smaller. In colour they are most frequently a blend of blue and white, the proportions of each colour varying in different plants; there is one variety, known as alba, with flowers wholly white. The leaves are more numerously divided than in *W. chinensis*, and the leaflets, which are smaller, are bright green, and glabrous on both surfaces. In this country, at any rate, it does not flower so freely as the better-known species, and where space can only be afforded for one of them, it should not have the preference.

W. brachybotrys.—It is doubtful whether this plant can be admitted as a distinct species. I have not seen it under cultivation, but judging from the various figures that have been published, it is, most probably, a form of *W. chinensis*, which is now known to be a native of Japan as well as China. Siebold discovered it in Nagasaki, and figured it in the *Flora of Japan*, t. 45. It was introduced by him to the continent about 1830, and flowering subsequently in the Botanic Garden of the University of Ghent, was figured in the *Flore des Serres*, t. 830. Although met with occasionally under cultivation in Japan, Siebold observes that he saw it once only in a wild state, and then in a spot where it covered the whole side of a hill. The flowers are produced in April in racemes that are much shorter than those of *W. chinensis*; they are of a deep purplish-blue, and mingled with the tender green of the foliage, are very effective. The foliage is like that of *W. chinensis*, but the plant is dwarfer.

W. japonica, syn. *Milletia*.—This species is scarcely known in this country outside botanic gardens. It was found by the Kew collector, Richard Oldham, in Nagasaki, Japan, in 1862, but had previously been

known to Siebold, who figured it in the *Flora of Japan*, t. 43. In the accompanying text, he says "the clusters of white flowers hanging from the tops of the bushes and trees form a magnificent sight, giving to the vegetation an aspect of wild beauty." In spite of this, however, it can only be described as one of the least ornamental of *Wistarias*. The racemes are small, as are also the individual flowers compared with those of *W. chinensis*. It flowers in July and August.

W. frutescens.—This, as before stated, is the one species found out of Asia, being a native of Florida and other southern United States. It is a climber like *W. chinensis*, but is not so strong a grower. The leaves are of a rich bright green, with the leaflets not so numerous as in *W. multijuga*. The under-surface and the midrib of the leaf, as well as the young branches, are covered with down. The racemes vary in size from 3 inches to 6 or 8 inches in length, the flowers being a pale bluish-purple. There is, however, a white-flowered variety, and also one named *magnifica*. The latter has racemes sometimes more than 1 foot long, and as described by American horticulturists, is a much superior plant to the typical form. It flowers later, and is, on the whole, well worth cultivation as an ornamental climber. In the racemes of *W. frutescens* the flowers are much more closely packed than in the Asiatic species.

Little need be said in regard to cultivation. *Wistarias* are amongst the most amenable of hardy plants, thriving in any soil that is of fairly good substance, and moist. In the early stages they may be helped by top-dressings of manure applied in spring. When planted near trees over which they are intended to climb, a large pocket of good loam should be provided, and they should be planted in such positions that light and rain can reach them. Some fine effects are produced in Mr. Anthony Waterer's nursery at Knap Hill, where *Wistaria chinensis* has been allowed to clamber over Pine-trees and Laburnums. In the latter case especially, the simultaneous flowering of the two things, and the intermingling of the yellow and purple racemes, makes a beautiful picture. All the species may most readily be propagated by layering—seeds being only produced in years of exceptional brightness. In 1893, for instance, *W. chinensis* ripened a fair quantity of seed. *W. J. B.*

BOOK NOTICE.

MANURES AND THEIR APPLICATION.

In no department is the average gardener more deficient than in the knowledge of manures and their proper application; we, therefore, welcome a useful and cheap little treatise upon this important subject by Mr. W. Dyke,* which is, in fact, the substance of a lecture delivered to the Chesham, Wormley, and District Horticultural Society, May 9, 1895, but revised and given in fuller detail.

The author does not claim that there is anything new in his little work, his idea being to give to those whose duty or pleasure it is to cultivate the soil some idea of the different kinds of manure in use, their action when applied to the soil, and the quantity likely to produce the best results generally.

It is wonderful and instructive to see to what nice shadings of adaptation this preparation of food for plants has during recent years been carried. Here is a soil, rich in organic matter, on which we wish to raise a crop of flowers or fruit, but because of the very abundance of organic matter, there will be an overgrowth of wood and foliage—a splendid show of greenery, but little blossom or fruit. We ask, through the agricultural chemist, what the trouble is? He shows us that potash enters largely into the fabric of the wood, and phosphoric acid largely into the formation of the fruit, and it is maturation we are after. So we give the plant a food containing 10 or 12 per cent. of soluble phosphate, with a

* Published by William Cate, Bouverie Street, E.C., price 6d. post free.

liberal amount of potash, and the tree or flowering plant gratefully responds to our thoughtful kindness in asking it what food it needed or preferred.

The pamphlet before us will assist the practical gardener in his study of manures, as to what they are and what they do. It is divided into two sections, under the heading of "General Manures," those which contain all the ingredients required by plants for their nutrition; and "Special Manures," those containing one or more (but not all) of the necessary constituents of plant-food.

A few corrections in the work are necessary, to which we should like to call attention. The poisonous element in sulphate ammonia is sulphocyanate.

The quantity of nitrate of soda recommended to be applied is from 1½ to 3 cwt. per acre. This we consider is too much for most garden products. From ½ to ¾ cwt. per acre is as much as the majority of garden plants can take; otherwise quality is sacrificed for quantity. The keeping quality of Onions is greatly deteriorated by large dressings of nitrate soda. Soot is a very variable manure; it contains but little nitrogen, and from 1 to 4 per cent. of ammonia.

Blood, after being dried, is a valuable manure; it contains from 78 to 79 per cent. of organic matter; 7 to 9 per cent. of ash ingredients; about 12 per cent. of nitrogen; from 1 to 1½ per cent. of phosphoric acid; and about ¾ or 1 per cent. each of potash and lime. From some carefully-conducted experiments in Belgium by Professor Petermann, it was found that the fertilising power of nitrate of soda was greater than that of dried blood, and especially so on light land. According to Petermann's results, by far the best results with dried blood were obtained on clayey soils, whether the manure was used alone or in combination with phosphates and potash.

The quantity of nitrate of soda recommended for lawns, 25 per cent. of the mixture, is certainly an excess; if more than 5 to 10 per cent. of nitrate soda is used in a lawn mixture, the coarser quality of herbage will be found to come too prominently forward; and as the lawn will require under stimulating dressings of manure more frequent cutting, deterioration and exhaustion will the more quickly follow.

OUR POULTRY.

BY HARRISON WEIR.

(Copyright.)

(Continued from p. 48.)

In my last I note an omission. Speaking of the Langshan, three words have in some way been omitted. The sentence should read "they are excellent layers, the eggs being of fair size," &c. As stated, the black variety is the most common, though there is no reason whatever why other colours should not be produced, though the Langshan Club has, I think, very unwisely given its opinion that any other colour is not desirable, nor can such be of the true breed. I remember years ago seeing among a flock of Rocks two pure white birds; would the committee of the Langshan Club have the hardihood to say that these were not true bred Rocks or white Blackbirds, which are not very uncommon, were not true bred ones. In breeding animals or birds, especially those entirely domestic, white or blue is by no means an unnatural substitute for black, and therefore to my thinking, it betrays a very narrow-minded conception of the breed or variety of fowls called the "Langshan," when it is asserted that only the black variety are the true, while the white or blue are decided by the club to be cross-bred. In this matter, I entirely differ with the committee of the Langshan Club, of which I am an honorary member.

Again, I most seriously differ with them when they state in their "points of excellence," that the plumage should be "tight." I have paid great attention to the peculiar style of these birds ever since they were first imported by Major Croad in 1872, and by others afterwards, and I am bound to say that I have never

seen an imported bird "tight-feathered." Some have been what is termed close-feathered, which is a very different thing. The Langshan Club also insist on long legs; this is also contrary to my experience of the imported birds, as is also that of being long in the back. In fact, the Club has materially altered the shape of the Langshan for the worse, both in appearance and utility, the long-legged birds being much later in coming to maturity than the short, square, compact, or even medium-legged breed, of which I have kept many, bred direct from imported birds; therefore, if any of my readers feel any inclination to keep Langshans, I would most strongly advise them not by any means to purchase any of the stork-built sort; select the short,

They are most excellent foragers when they have the opportunity, and range far and wide, "keeping about" until long after sundown. The principal fault is, I think, their being feather-legged, which is rather prejudicial when the grass is long and wet, though they are less injured in this way than some of our English breeds. I am most decidedly of opinion that this breed would have taken a very much higher position and hold on the public estimation if it had not been for the course taken by the Langshan Club insisting on the long leg, the long back, and the tight feathering worn, of which points the best imported birds possessed; nor can the majority of poultry-keepers be persuaded that very long-legged birds are either profitable, useful, beau-

that some of the hens would lay two eggs in one day, or rather three eggs in two days. Now after being made a bird of "mostly feathers," the production of eggs is by no means equal to that of many other fowls.

Though so beautiful in colour as the "pupus fawn" now is, the flesh is but of poor quality, and long in fibre, but juicy; the skin coarse, thick, and yellow, the fat of a golden yellow and somewhat oily, which is generally found in abundance in the abdomen, sometimes to the weight of three to four pounds in very large fowls; the heart is long and thin, and by no means fleshy; the wings also are small, while the thigh and legs are of extraordinary size, and full of muscle, but by no means dry or sinewy; with some the Shanghaes are in favour as large-sized table fowls, while with others they are held in little or no esteem. But this has not been always the case, for on their first importation about 1847, columns were written in their favour, not only as egg producers, but as large rich-flavoured juicy table fowls, though the genuine epicure never could discover in them anything meritorious in this respect, but predicted that the crossing of these with our English birds would result in much deterioration, which prophecy has, unfortunately, proved correct.

(To be continued.)

PRESTON MANOR, BRIGHTON.

WITHIN the memory of the present owner, the time was when scarcely a carriage came within sight but which was bound either for the manor or a neighbouring estate; now a frequent bus-service passes the gates. At that time, strangers in the neighbourhood were objects of curiosity—now the thousands of visitors and excursionists who flock to the fine grounds of Preston Park and gardens (once part of Preston Manor), make strangers a part of the surroundings, at times perhaps too evident, but the £50,000 or so which the owners of the Manor House had for the portion forming the beautiful public park should afford, at least, some solace for their invaded privacy.

Approached by a short drive beneath stately old trees, the mansion, standing on rising ground, presents its old-fashioned front, which is not remarkable for architectural beauty. The other face of the building, to which a tower has been added, and which is clad with Ivy, is very quaint and pretty, and standing on the terrace a very charming garden-scene presents itself. The whole of the centre of the view is of verdant green lawn, to the left is a terrace with beds of scarlet Pelargoniums edged with blue Lobelias and of other bright flowers, the background being an Ivy-clad wall above which rears the quaint old tower of Preston Church, which is also covered with Ivy, and flanked by ornamental trees, a bank of Yews and Euonymus forming a base to the tower in harmony with it and the other objects around. At the end of the green-sward runs beds of flowers, and on the right the pretty walled-in gardens, in which are mingled fruits and hardy flowers, after the manner of gardens in the olden time, and which it is the delight of Mrs. Macdonald to maintain. Here are Apple, Pear, and other fruit trees, some of them perhaps a good deal behind the times in quality, but beautiful nevertheless. Beside the grassy or gravel walks which here and there intersect the gardens are numerous clumps of Roses, "ancient and modern"—single and double; masses of perennial Sunflowers, single and double; Phloxes which must date from the very earliest crosses of the species; long stretches of Lily of the Valley, beautiful and fragrant in their season; and of Violets and other fragrant flowers, and among them patches of annuals, which help to make a brilliant display. Among the shrubs, Calycanthus præcox is in bloom, and the Weigela, &c., very pretty and effective.

In one of the sheltered gardens a large quantity of grand plants of *Richardia æthiopica* (Arum Lily), some of which have ten or twelve crowns, is planted out, and a fine lot of neat plants of *Azalea indica* are well set with buds.



FIG 47.—LÆLIC-CATTELEYA FOWLERI: ROSY-LILAC; LIP RICH CRIMSON PURPLE. (SEE P. 192.)

square-built forms, which not only are better table fowls, being finer in the fibre of the breast-meat, but they are also better layers, and the eggs are generally more fertile. I have taken much pains for many years in inspecting the stock of imported and imported-bred birds belonging to Miss Croad, of Poling, near Arundel, and have found these the most desirable, in comparison to those recommended as the proper size and form by the Langshan Club. I have noted also those Langshans imported by Mr. Thompson, and of late have seen the stock of Mr. Lambert, also bred from imported birds.

The Langshan, coming as it does from a somewhat cold country, is naturally very hardy, and is a most excellent winter layer, so that the chicks with proper attention can be easily raised in the early part of the year; or, if necessary, in the latter part, so as to have early or spring chickens of good size and quality.

tiful, or elegant. As I have said before, do not have the long-legged, stork-like "selection."

There is another Asiatic breed, erroneously called the Cochin, instead of Shanghae, which is its proper name, the breed being unknown in Cochin-China. This is a large, coarse bird, and now far too much bred for feathering, without any reference to usefulness; and though such is the case, it must be admired as almost "a work of art," so wondrous is the fluffiness, length and lightness of the plumage, the beautiful buff colour that have been obtained by careful matching, and for their beauty unsurpassed, while the leg feathering is produced in such quantity as to almost hide the shape of the lower parts of the body; but this has not been obtained without sacrificing some of the most valuable qualities it previously possessed, not the least of which is its excellence as a winter layer of highly-coloured eggs in quantity, it having been not infrequently alleged

The glass-houses are in keeping with the rest of the garden, but of them it may be said that more modern structures would be an advantage. As it is, in the hands of Mr. H. Naylor, the gardener at Preston Manor (formerly with Mr. Beckett, at Aldenham, and Mr. Hill, at Lord Rothschild's), the best that it is possible to make of them is assured. In one of the vineries is a good show of tuberous Begonias; in another house a fine display of zonal Pelargoniums, the great bushes of *P. Raspaill* having bloomed from last autumn until now, and are still good.

A little house of Maidenhair Ferns has the walls covered with Ferns, and is a very pretty object; and in other houses and frames are a fine batch of Tuberoes just coming into bloom, and various other things for autumn and winter flowering.

Somehow, there is a charm about these old-fashioned gardens, and an interest in the plants in them, which is lacking in modern, and what are called well-kept gardens.

CLIMBING PLANTS AT THE ABBEY PARK, LEICESTER.

The cultivation of a general collection of plants under glass is not an object at these fine public gardens; but the winter garden, in which are some splendid specimens of *Dracæna australis*, has a good selection of greenhouse climbers on its roof, some or other of which are in bloom all the year round, and are specially useful in assisting in making an effective display when the house is arranged with the 2000 or so specimens of *Chrysanthemums* which Mr. Burn grows for the purpose every year, and which, with the setting of drooping climbers overhead, and the graceful heads of the *Dracænas* among them, present a far more beautiful appearance than do most other arrangements of *Chrysanthemums*.

At the time of the great flower show (August 6), more or less in bloom on the roof and pillars were several kinds of *Passiflora*; *Lonicera sempervirens*, *Clematis indivisa lobata*, *Trachelospermum jasminoides*, *Swainsonia galegifolia*, and *S. g. alba*, *Tecoma jasminoides*, the charming sky-blue *Plumbago capensis*, and the white *P. capensis alba*, with large bouquet-like heads of bloom; *Cotæa scandens variegata*, and the bright-blue *Sollya Drummondii*, a very pretty old plant, but rarely met with now.

ABNEY HOUSE, BOURNE END.

The pretty river-side residence of Miss Hamnerley, on the banks of the River Thames, about midway between Maidenhead and Great Marlow, is well known to frequenters of the district, and the well-kept grounds form a noticeable feature to pleasure-seekers. The house itself, or, at least, the whole of the south front and roof, has been, until quite recently, covered by a fine specimen of *Aristolochia Siphon*, the handsome foliage in the summer making it an object of great beauty. Alas! it is now dead—from what cause seems uncertain; but the floods of November last, which almost reached the plant, and must have saturated the soil about the roots, followed by the severe winter, seems to be the probable cause of the loss of this fine specimen.

The pleasure-grounds are not very extensive, and Conifers generally do not flourish, although there are some healthy *Sequoia gigantea* which seem to like the moist situation, and are fast growing into good specimens. Begonias were the most attractive feature of the bedding, several beds being filled with distinct colours, flowers erect, and one mass of bloom. The strain is Owen's Imperial, and it is one that is well adapted for bedding-out purposes.

The glass-houses are numerous, the most conspicuous being a fine orchard-house, which really prompted the writing of these notes. Having seen the excellent dishes of fruit staged by Mr. Goodman, the gardener, both at the Maidenhead and Reading shows, in past years, I called recently to see it at home, the above-named orchard-house being quite in the locality. It is a span-

roofed structure about 120 feet long and 30 feet wide, running north and south. Inside there are three beds, one on either side and a central one, with a path running round about 6 feet from the sides. The trees on the east border are planted out and trained about 12 feet up that side; the remainder in central and west borders are bush trees of Peaches, Nectarines, Plums, and a few Pears growing in pots plunged in the soil of the borders. From these trees abundant crops of fine fruits are annually taken. The pots are perforated ones, mostly of 14 inches in diameter, and the roots are allowed to work through the holes in the side into the soil. For some years past they have been annually lifted bodily (at pruning time), nearly all the roots cut away that have passed through the sides and bottom, and replunged, adding a small quantity of newly-prepared soil around the sides to encourage fresh root-action. They are not taken out of the pots. Great care is also taken to keep the soil moist at all times, a most efficient water-supply being laid on, and water is easily and quickly applied by means of a hose. Frost is not excluded, and although the house is fitted with two rows of 4-inch hot-water pipes, the water is run off, and fire-heat is not applied until after the trees begin to move in early spring. While the fruits are swelling, the trees are occasionally fed with diluted sewage, used in a perfectly clear state.

Many varieties of the Peach are grown, the earliest to ripen being Alexander and Waterloo, which are followed by Amsden June and Hales' Early. Some very heavily-cropped trees were Dagmar, Condor, Crimson Galande, Dymond, Sea Eagle, Nectarine, Princess of Wales, and Osprey Peaches, and of Nectarines, Lord Napier, Humboldt, and several of Rivers' Seedlings; Hamboldt is an especial favourite, and puts on a beautiful colour. Some splendid samples of Plums were ripe: Oullin's Golden Gage was superb, also Kirke's Belle de Louvain, Jefferson, and Belgian Purple. Some 600 dozens of good dessert Peaches and Nectarines have most years been gathered, besides abundance of Plums, and the whole forms one of the most successful examples of orchard-house culture to be found in the country, of which Mr. Goodman may well feel proud.

In a greenhouse I noted a fine plant of *Bougainvillea glabra* trained under the roof and flowering most profusely. It was planted in a box in a small house adjoining (in which *Eucharis* plants are grown), and the rods taken through the brick wall into the cool greenhouse, where it annually produces an abundance of its bright floral bracts.

The kitchen garden was looking remarkably well, and vegetables generally are well grown. I noticed some wonderful samples of Ailsa Craig Onion, which should find a high place on the exhibition table later on; while Peas, Beans, and Cauliflowers, were well represented, notwithstanding the drought, an unlimited water supply at high pressure being within reach of all parts of the garden from stand-pipes fixed at regular intervals. C. H.

VARIORUM.

THE CULTIVATION OF BANANAS.—The Banana is becoming a regular article of consumption in Europe, and large quantities are now shipped hither, principally from the Antilles, where this fruit is cultivated on a large scale. It has always been in great request in the United States, and, judging from the quantities now to be seen in English fruit shops, it will soon win its way to public favour here in the same way that the Tomato has already done. There is an immense Banana plantation in Cuba, covering an area of 50 square miles, and in it 3,500 persons are employed in cultivating and gathering the bunches of fruit produced by 2½ millions of trees, the transport of which has necessitated the creation of a fleet of twenty-six steamboats. From Jamaica, where the Banana tree has almost entirely taken the place of the sugarcane, Bananas are now exported to the annual value of about £400,000; and at Honduras, Costa Rica, and the Hawaiian Islands, their cultivation is extending more and more. At Costa Rica alone, there are already

about 350 plantations, containing over a million trees. It is a very lucrative industry, and is conducted with a very small outlay in the way of working expenses, a damp soil and plenty of irrigation being the two principal requirements. Nine months after planting the young trees begin to bear, and from that time forward a certain number of bunches may be gathered almost every week, the reproduction of fresh trees going on continually in the meantime by means of numerous shoots and off-sets. The crops are very abundant, and a grove covering, say, an area of 1500 square yards, will yield from 6000 to 8000 bunches in one year, some individual bunches being worth from 2s. to 2s. 6d. a piece. The fruit when gathered is carried on rails to the nearest port of shipment, and taken on board steamers of about 1000 tons capacity, and each one capable of containing some 20,000 bunches. Besides being consumed in its natural state, however, a very excellent flour is also made from the Banana in many places, by desiccating the fruits after depriving them of their sheath, and then reducing them to powder. This delicious little comestible, indeed, is the object of a much more extensive trade than is, perhaps, conceived by occasional consumers of it in this country. *Western Morning News.*

THE WEEK'S WORK.

FRUITS UNDER GLASS.

By RICHARD PARKER, Gardener, Goodwood, Chichester.

PINES.—Suckers that were recently potted will be making roots, and care will be required in order to maintain the soil in a fairly moist condition. More water than is necessary is dangerous, as it may cause the base of the sucker to decay. Syringing overhead must also be done sparingly, to prevent moisture collecting in the centre of the plants. Should bottom-heat decline below 80°, the plunging material should be rammed together firmly, and fresh tan or leaves added to raise the temperature to 85°. Only sufficient shade should be afforded at mid-day to prevent the leaves being scorched, reducing it gradually, so that by the middle of next month, when the plants are well rooted, it may be dispensed with altogether. It is not too late to put in suckers if sufficient were not forthcoming previously; indeed, if more are now put in, it may cause a better succession of ripe fruit.

CUCUMBERS.—Plants that were recently planted out to produce a winter supply must be kept growing freely, stopping the shoots at every other leaf, so as to have the base of the trellis evenly covered with healthy shoots, at the same time removing all the fruit and male blooms as soon as seen, by which means strong plants will be produced before the autumn. Additional rich porous soil should be given at intervals of a week in small quantities, adding with it charcoal, lime rubble, or burnt-earth to keep the whole from becoming sour. The plants should be syringed regularly with tepid rain-water, and plenty of water used about the floors, &c., so as to ensure a growing atmosphere. Ventilate carefully during bright days, and avoid an influx of cold air, or a sudden change of temperature. Weak stimulants may be afforded, but in the case of plants that have to stand the winter, it is not desirable to promote a very gross growth at this season. Keep a night temperature of from 70° to 75°; and during the day of from 8° to 10° higher; and if the temperature of the house is dependent as much as possible upon solar heat, so much the better.

SOILS.—Now is a good time to get under cover a good supply of the different kinds of soils for winter use, and a good heap of compost, which will be required next month for different kinds of fruit-trees in pots, and for the renewal of Vine or Peach borders, should be prepared, and protected from rain.

THE KITCHEN GARDEN.

By JOHN LAMBERT, Gardener, Powis Castle, Welshpool.

GLOBE ARTICHOKE.—Plantations consisting of the oldest stools may now be cleared of the old fruiting stems, carefully detaching all decaying leaves at the same time. Afterwards give a good dressing of rotten manure. Young plantations made in the spring as advised, should now provide plenty of heads of a deep green colour. Always cut them before the colour loses its freshness. Heads may be kept fresh and fit for use for several days, if the

stems are plunged in damp moss or water, in a cool, moist room. For late autumn cutting, the plants should receive occasional soakings of manure-water, and be syringed after hot days with tepid soot-water.

CABBAGE AND CAULIFLOWER.—Make another sowing of each of these for standing through the winter; those of the first sowing will now be ready for pricking out, and this should be attended to at once. A planting of Coleworts may still be made, if necessary.

ENDIVE AND LETTUCE.—Make frequent plantings of each of these, and be prepared to protect the former if a severe winter ensue. Frequent plantings of Lettuce should be made for winter use, and a border facing west, sheltered by a hedge or wall, is one of the best sites for these plants. Good batches of strong plants should also be put out weekly on a piece of good land, well exposed to sun and air, for cutting from until Christmas. Some of the plants should also be put into frames.

MUSHROOM BEDS.—In order to have a winter supply of Mushrooms, materials for making the beds must now be gathered without delay. After trying various ingredients for mixing with the manure in order to make it go further, such as tan, leaves, loam, &c., I find the latter to be the best; but if plenty of good droppings can be procured for the trouble of collecting them, these are all that is required. Leave in all the short litter to mix with the droppings, and let them be spread out in a dry, open shed, turning them every third day or so. In about ten days they may be thrown together in a heap, and turned every third day, so that they may gradually become sweetened. The materials may then be placed in the Mushroom-house, well treading them down, and making them very firm when of the required thickness, which should not be less than 1 foot. When the heat declines to 80°, it may be safely spawned. The bricks of spawn may be laid on the beds to soften one day before it is used, and great care should be taken in spawning the bed to be sure that the pieces inserted do not lie hollow. The covering of the bed should consist of good loam, of about 1½ inch in thickness, and if this is from a meadow known to produce good Mushrooms, so much the better; it should be beaten tolerably firm, and in winter the loam should be warmed before it is used.

THE ORCHID HOUSES.

By W. H. WHITE, Orchid Grower, Burford, Dorking.

DENDROBIUMS.—By this time a few plants of the evergreen section of Dendrobium, including *D. swainsonium*, *D. chrysotoxum*, *D. Farmerii*, *D. thysiflorum*, *D. densiflorum*, &c., will be finishing their growths; but as these species continue to root for some time after this, do not allow a lower temperature than that of the Cattleya-house. To plants that have completed their growth, the supply of water at the root must be gradually lessened, so that the bulbs may become hardened, but they should not be kept too dry whilst the roots are active, or they will probably start a second growth, which generally is weak, and the new growth made in the spring will also be weak and poor. The hot summer has benefited such Dendrobiums as *D. Phalaenopsis*, *D. superbiens*, *D. Goldiana*, *D. bigibum*, *D. Bensoniae*, *D. taurinum*, *D. undulatum*, *D. secundum*, &c. These plants should now be in the hottest house, and if grown as they should be in small pots, and these have become filled with roots, they will take almost unlimited supplies of water. In cases where the plants can be allowed a corner of the house to themselves, they should be allowed all the light and sunheat possible. If it be possible to afford the plants full sunshine, let them have a liberal supply of fresh air during the middle hours of the day, and about 2 P.M. close the house and syringe the plants well amongst the leaves, which will cause the growths to come on freely and make strong vigorous bulbs. Some plants of *D. Phalaenopsis* have already completed their growths, and are sending out bloom spikes. When the flowers are fully open, arrange the plants in that part of the house where the ventilators are more or less always open, or if convenient in the Cattleya-house, the drier atmosphere of which would suit them better.

BARKERIAS.—The species of *Barkeria*, as *B. Lindleyana*, *B. elegans*, *B. Skinneri*, and *B. cyclotella* are worthy of attention, their pretty and large flower-spikes in proportion to the size of the plant, presenting a gay appearance during the dull season.

They succeed well under treatment similar to that given to *Dendrobium Phalaenopsis*.

CALANTHES.—In order to obtain strong flower-spikes, and to secure clear and bright flowers, we fill up the room on the south side of the East Indian-house, recently occupied by the deciduous Dendrobiums, with the most forward plants of the deciduous Calanthes. The plants should be elevated well up to the roof-glass, and so arranged that each obtains its share of sunlight. During the middle hours of the day when the sun is bright, only a very thin shading is needed, but if exposed to the sun in the early morning, and again in the afternoon, the bulbs will finish up strongly. In the extra light the plants will dry quicker, and will require plenty of water at the roots, and an alternate waterings with liquid manure-water will be beneficial. The *Rognierii* section of Calanthes are only about half-way through their growing season, and should therefore be treated the same as the others were when in full growth.

THE FLOWER GARDEN.

By BAILEY WADDS, Gardener, Birdsall Gardens, York.

ROSES.—Attention should be given to the ligatures of budded stocks, loosening these if they are causing any ribbing of the rind. Buds may still be inserted in stocks that were not in a fit state for budding at an earlier date. The recent rains will have rendered the bark easy to raise. The present is a good time to thin out the blind, weak, and flowerless wood of such varieties as give late bloom; and those growing strongly and making a good deal of wood will also be benefited, as it will enable the strong shoots to become well ripened. Some of the best of the shoots that are removed will make cuttings, and such should, whenever possible, be taken off with a heel; and they should be straight, and from 7 to 9 inches long. Insert them in well-drained, sandy loam, in rows at 12 inches apart, and 6 inches between the cuttings, making them firm in the ground, which should be dug over as the cuttings are put in. If there are many cuttings it is an expeditious method to dig a space, trample it firmly, then cut down a trench with a perpendicular face, and lay the cuttings against it with their tops about three buds above the ground-level, and proceed as before, and so on till all of the cuttings are put out. A border facing west is a suitable one for a cutting bed. Cuttings of Teas, Chinas, and Bourbon Roses should be placed in pits or frames where they can be protected from frost. Where frames and a mild bottom-heat can be commanded, the propagation of Roses is rendered more certain. The cuttings for this method of propagation may be 4 or 5 inches long, and they may be dibbled into 6 or 8 inch pots filled with sandy loam. These pots of cuttings should be placed in a cool, shaded house for a time, that is, till the wounded ends are calloused, and then plunged in gentle bottom-heat. When rooted, pot them off in small pots, and keep under glass till the spring. If a new rosetry or new rose-beds have to be made, the work of getting the ground in readiness for them should be soon taken in hand. The best kind of soil is a strongish loam, and if the staple is not of this nature, some heavy loam should be mixed with it. A rose-bed should have a depth of at least 18 inches, be well drained into a dry well, if the land is not naturally or artificially drained. If the subsoil be clayey, it may be burned, or wheeled away; stable-dung, crushed bones, and light loam should be added to loams that are very tenacious, and strong loam and cow-dung to that which is sandy and light. Hybrid perpetual Roses should be planted early in the autumn, not waiting till every leaf has fallen, if the shoots are well matured. When the planting is finished, mulch the plants with half-rotten stable manure. Notes may now be taken of alterations to be made in the rose-beds. Old rose-beds should be replanted during the autumn, the ground having been heavily manured and deeply trenched. If any fresh plants are introduced, they should be kept by themselves. Make secure any long trailing shoots of roses before the usual autumn gales come; and apply sulphur or other mildew antidotes if mildew be present on any of the roses.

THE HARDY FRUIT GARDEN.

By W. POPE, Gardener, Highclere Castle, Newbury.

GATHERING AND STORING OF FRUIT.—Fruit-storing will soon become general all over the southern parts of the country. The fruit-rooms should be thoroughly cleaned and sweetened in

advance, the tables and shelves thoroughly washed with hot soap-suds, and the walls lime-washed, using freshly-slaked lime, to which a handful of flowers-of-sulphur is added, and it is best applied whilst in a hot state. This lime-wash will effect a speedy clearance of insects and their eggs, and free the rooms of fungus-germs. Before the fruit is taken into the room, the latter should be thoroughly dry. Every description of fruit should be handled with care, for however hard an Apple or Pear, for instance, may be, they are readily bruised, and bruises always tend to early decay. A little soft hay should be put into the bottom of the gathering-basket. A mistake often made is to gather fruits when they are supposed to be large enough, without taking fitness into account. As a guide, a fruit may be cut in half—if the pips are brown, the crop may safely be gathered; or those which on being raised, part readily from the spur, may be taken first, others being left for future gathering, it being seldom that all the fruits are ripe at one and the same time. Early varieties of Pears should be placed on different aspects, and some of them on pyramids or standards in parts of the country where these succeed, so as to lengthen the season as much as possible. Gathering a crop from a tree at various times, as advised, has also the same effect.

PEACHES AND NECTARINES.—The Peach and Nectarine trees should be examined daily, and all fruits gathered which part easily from the shoots, laying them on clean soft paper or cotton-wool in a cool room till required for the dessert. Continue to expose all fruits to full sunlight by tying back or taking away overshadowing leaves. As soon as a tree is bare of fruit, afford it a washing with the garden-engine, so as to clear off red-spider and other insects, and at the same time remove copings of glass where these are employed. Choice varieties of dessert Plums may be gathered and placed in a dry airy room till wanted, as these fruits will keep in good condition for some days, and they improve in flavour by being kept a day or two after being gathered. Bees, wasps, and flies are very partial to ripe Plums, and storing them in a room, the windows of which are covered with fine netting, is a better way of preserving the fruit than leaving it on the trees till required for use. Of course the trees can be covered with netting, but everyone does not possess this rather expensive stuff.

PLANTS UNDER GLASS.

By W. H. SMITH, Gardener, West Dean Park, Chichester.

STOVE.—Plants of *Pancreatium fragrans* that need fresh soil may be potted on, or divided as soon as they have finished flowering. Use a compost of turfy-loam, leaf-soil, cow-manure, and sand, and include a good quantity of charcoal, which will help to keep the soil sweet under the abundance of water the plants require during their growing season. Plants which do not require re-potting should receive frequent dressings with some well-tried fertiliser or farmyard manure-water while making their growth. *Ipomoea* should now be placed in their flowering-pots, and they are very bright and pretty-looking during the late autumn if trained on wires where they will obtain plenty of light. Put in a batch of *Tradescantia* cuttings for furnishing purposes during winter, and as they root very freely the old stock may be thrown away. Pot on young plants of *Dracenas*, *Palms*, *Codiaeums*, *Pandanus*, &c., that are pot-bound. Take cuttings of *Strobilanthes Dyerianus* frequently, as this plant has far better colour in a young state. Winter-flowering *Gesneras* should be afforded a small quantity of weak manure-water if the pots are filled with roots, and they should be placed in a rather dry position near the glass where the syringe is not likely to reach them, for should the leaves get damped, disfigurement will soon follow. *Achimenes* which have gone out of flower should be allowed to become a little drier at the roots, and when the growth has died down, placed underneath a greenhouse stage or in the potting-shed, where frost can be excluded.

PLANTS IN FRAMES.—Continue to repot Chinese Primulas, Cinerarias, and herbaceous Calceolarias as they become ready, and if infested with fly, they should be taken into the greenhouse, and there fumigated. It is a dangerous practice to fumigate any tender plants standing in low frames, the leaves being very liable to get scorched or otherwise injured. If the weather should become cool or the air very moist, mild warmth should be afforded such plants as the double-flowered Primulas, *Poinsettia pulcherrima*, *Libonias*, *Epiphyllums*, *Scutellarias*, &c.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

Letters for Publication.—All communications intended for publication, as well as specimens and plants for naming, should be addressed to the Editor, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.

APPOINTMENTS FOR SEPTEMBER.

SHOWS.

TUESDAY,	SEPT. 3	{ National Chrysanthemum Society's Early Show at Aquarium.
THURSDAY,	SEPT. 5	{ Paisley Horticultural Society (two days).
FRIDAY,	SEPT. 6	{ National Dahlia Society, at the Crystal Palace (two days).
TUESDAY,	SEPT. 10	{ Royal Horticultural Society's Exhibition of Vegetables, at Chiswick.
SATURDAY,	SEPT. 14	{ Galashiels Horticultural.
THURSDAY,	SEPT. 26	{ Royal Horticultural Society's Great Show of British grown Fruits, at the Crystal Palace.

SALES.

MONDAY,	SEPT. 2	{ Dutch Bulbs, at Protheroe & Morris' Rooms.
TUESDAY,	SEPT. 3	{ Dutch Bulbs, at Protheroe & Morris' Rooms.
WEDNESDAY,	SEPT. 4	{ Dutch Bulbs, at Protheroe & Morris' Rooms.
THURSDAY,	SEPT. 5	{ Dutch Bulbs, at Protheroe & Morris' Rooms.
FRIDAY,	SEPT. 6	{ Dutch Bulbs, at Protheroe & Morris' Rooms. Orchids, from Messrs. F. Sander & Co., at Protheroe & Morris' Rooms.
SATURDAY,	SEPT. 7	{ Dutch Bulbs, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—59°.5.

The National Co-operative Festival.

THE eighth National Co-operative Festival took place at the Crystal Palace on Friday and Saturday last, the preliminary meetings dealing with the economic and international aspects of the subject having been held in London on the preceding days. One of the chief of many characteristic features of the annual gathering at the Crystal Palace is a gigantic flower show, held under the auspices of the Agricultural and Horticultural Association—a large trading concern conducted upon co-operative principles. That the subject of co-operation is a powerfully attractive force is seen from the fact that some 70,000 persons visited the Crystal Palace on Saturday last.

From a horticultural point of view, the flower show must be considered to have been a distinct success. The time has well nigh passed for contrasting the enormous extent of the display of last week with the two early exhibitions held in the conservatory of the Royal Horticultural Society's gardens at South Kensington; but the growth in a few years has been surprisingly great. The display on this occasion had to be confined to the eastern portion of the nave of the building owing to the other half being occupied, but it overflowed into the aisles and courts on either side. Owing to the restricted space the exhibition appeared smaller than in previous years, but the tables were most inconveniently crowded, classes unavoidably overlapping each other, and creating some confusion. There was a marked increase of entries in all the leading classes, and some idea of the enormous amount of detail connected with such an exhibition is shown by the fact that there were 1823 entries of vegetables; 1209 of cut flowers; upwards of 500 of plants in pots; a con-

siderable number of fruit; in addition to those of table decorations, ladies' and childrens' exhibits, farm-produce—for there are farms conducted upon co-operative principles, &c. What all this means in the way of clerical work and close attention to details, can be grasped only by those who undertake such work, and can thus know something of the burden of labour imposed upon Mr. GEORGE WAUGH, the Director of the Flower-show, and his staff of assistants.

Looking along the tables, here and there could be noticed an apparent diminution in the numbers of exhibits, but these related to subjects influenced more particularly by the long period of drought so generally felt, and which preceded the grateful July rains. In other classes there were marked additions; and let it be recorded, the average quality was decidedly high. If any exhibits fell below it, it may be safely assumed that they were the productions of new exhibitors who had not mastered the knowledge of the qualities in vegetables which gain prizes, or who were led to think that mere bulk without corresponding symmetry would find recognition by the judges.

Plants showed a noticeable advance in size and finish, the largest of course coming from places within a reasonable distance from the Palace. Many of the specimens are becoming too large to be placed upon tables where they are above the line of sight, and should hereafter find places on the ground floor, so as to be seen to advantage. Fuchsias, zonal Pelargoniums, Begonias (flowering), Petunias, Musk, Lilies, Coleus, Ferns, and others, were in many cases satisfactory examples of cultural skill, and annuals in pots were specially attractive, though there appeared a doubt whether some Stocks, and Asters especially, had not been grown in pots and lifted from the open ground for the occasion. There were fine examples of Mignonette, Coreopsis, Godetia, Shirley Poppies, Canarybird-plant, Convolvulus minor, Phlox Drummondii, &c., well-proportioned, and well-bloomed. Bunches of flowers, and especially of annuals, were pleasing features, and it was seen that the small posies of a few years since had given place to bouquets of finely-grown and tastefully-arranged blooms. Sweet Peas were much in evidence, the beautiful new varieties of Eckford's raising especially; African and French Marigolds, the varieties of Malope grandiflora, Linum grandiflorum rubrum, Zinnias, annual Chrysanthemums, blue and yellow Cornflowers, were all most attractive. Some features introduced to the schedule this year for the first time, in the form of bunches of blue, crimson, and yellow annuals, were decidedly instructive, having a certain educational value, as only one variety of flower could be placed in a bunch. Some exhibitors place several varieties of one species in a bunch, imparting to it a confused appearance; whereas, where only one variety is used, as was observed in the case of the Sweet Peas, their attractiveness is enhanced.

Fruit, largely exhibited by the gardeners of members of the Association, was in many cases of excellent quality; Grapes, Melons, Peaches, Nectarines, and Figs—worthy of any exhibition. Culinary Apples were very fine; the dessert varieties in not a few instances brilliantly coloured; Plums in many sorts, and bush fruits were well represented. Object-lessons in staging are always instructive at an exhibition of this kind, and it is creditable to the exhibitors of fruit that they were plentifully supplied, and instruction drawn from them.

Of Vegetables there was no lack, as the number of entries showed. Potatoes showed in

some instances the usual finish seen at a co-operative exhibition; but Beet was here and there coarse. Of other leading vegetables there were excellent illustrations; Runner Beans were very good, and Peas in good character. It is matter for regret that district collections—North, North-western, Midland, &c.—were absent almost entirely, except in the metropolitan district, and thus prevented the institution of comparisons. Some of the exhibitors on Saturday are leading growers of vegetables for show, and so high quality was represented; while the staging of the exhibits was perfect. Herbs were largely shown, and formed an instructive feature, though they were much crowded.

So large has the show become, and so keen the competition, that it is now found necessary that the judging of the exhibits be extended over two days, and so the competitive contributions in certain sections are staged on the first day, and the remainder on the second. This is advantageous in many ways, and particularly so in this—that something fresh and bright is secured to gladden the eyes of the concourse of people who attend on the second day; while it materially relieves the pressure associated with a one-day show. Let it be recorded, to the credit of the co-operators, that, despite the enormous throng, there was an entire absence of confusion, or of anything approaching disorder. Great credit is due to Mr. EDWARD OWEN GREENING, the chairman of the Festival, for the smoothness and regularity observed in every department. An important leader in the co-operative movement, a man of business resource and principle—he has led on this great annual gathering from small to huge proportions; seeing in it a force making for the public weal, and the bettering of the condition of masses of people.

The Exhibition at Shrewsbury.

GREATER success even than formerly attended the exhibition of the Shropshire Horticultural Society on the 21st and 22nd inst. at Shrewsbury. For many years past this large gathering has been recognised as one of the most imposing displays of the year, and its capacity for growth and extension has been apparent from season to season. Whilst many horticultural societies have been subject to temporary, and, in some instances, perpetual financial embarrassment, the one in question has not only been free from such experience, but, on the other hand, it has, after duly discharging its own liabilities, been able to benefit various institutions in the town to the extent of many thousands of pounds.

There can be little doubt but that much of the Society's financial success has resulted from the inclusion by the committee of various attractions in connection with this floral fête, which have nothing whatever to do with horticulture, but which, by appealing to a very different section of the community have increased the attendance and therefore the receipts to a very important extent. But apart from the help that has been gained from variety entertainments (which we, as horticulturists, would be pleased to see the Society strong enough to abandon), there has been no limit to the interest and help extended to the Society by the whole community in whose midst the exhibition is held. The work of the committee also, with the help of two indefatigable secretaries, Messrs. ADNITT and NAUNTON, has been conducted without friction, and on excellent business principles. These facts help to explain the success of the twenty-first exhibition, when a sum of about £800 was offered for competition, and there were as many

as 2300 entries, being, it is said, 400 more than on previous occasions.

If we compare the exhibition for a moment with the important one annually held by the Royal Horticultural Society in the Temple Gardens, there are features in either case that

sentent there, and therefore the two exhibitions have little in common with each other.

One of the most prominent and at the same time one of the most pleasing features at Shrewsbury, is the collection of groups of miscellaneous plants arranged for effect. Indeed,

around the foot, grasses and Ferns and flowering plants were intermingled in a charming manner. The cones towards the front of the group, like small mounds, each furnished in the best possible taste, and other features of the arrangement that we cannot now notice, were beyond



FIG. 48.—CHLOROCODON WHITEI. (SEE P. 234.)

A, Calyx; B, base of flower; C, flower bud; D, Stamens incurved and adhering to stigma; E, Plan of transverse section of flower;

F, Lobe of corona, 2 central, 1 and 3 lateral; G, Stamens inflexed, one reflexed to show the pollen mass; H, Vertical section through centre of flower; ST, stigma.

are wanting in the other. In extent, we think the display at Shrewsbury is larger; the tents are enormous, and they are filled. It would be impossible during August to obtain such an exhibition of Orchids as is seen each season at the Temple, even if Shrewsbury was a convenient place to send them to, which it is not. As a matter of fact, Orchids are barely repre-

sented there, and therefore the two exhibitions have little in common with each other. One of the most prominent and at the same time one of the most pleasing features at Shrewsbury, is the collection of groups of miscellaneous plants arranged for effect. Indeed, we have never seen a more tastefully-arranged and attractive display of this kind than that for which the first prize of £20 was awarded to Mr. J. CYPHER, of Cheltenham. In the place of a central cone, such as appeared in all the other exhibits in this class, Mr. CYPHER had placed a rustic arch, from the top of which sprang a graceful Palm, whilst in suitable pockets and

criticism, and if the back of the group had been more bold, the whole would have been perfect. Mr. EDMONDS, the gardener to the Duke of St. ALBANS, Bestwood, Nottingham, and other exhibitors in this class, were well worthy of praise also.

The collection of twenty stove and greenhouse plants from Mr. CYPHER represented in

almost every instance the highest cultivation possible, and could hardly be over-praised; and other classes for specimen plants were equally well filled. *Coleus* in the form of pyramids were very good, and *Dracænas*, *Caladiums*, *Fuchsias*, *Begonias*, and *Pelargoniums* were all exhibited satisfactorily.

Fruit is usually shown well at Shrewsbury, and it was good on this occasion, but we are likely to see fruit of equal or superior quality at the Royal Horticultural Society's exhibition at the Crystal Palace in September. It may be useful, however, to draw attention to the important class in which prizes amounting to £50 were offered for a collection of twenty kinds of fruit, arranged to produce the best effect, by the addition of Ferns and other plants of an ornamental character. Several of the exhibits, and especially that from the Earl of Harrington's garden, possessed very much more attraction to visitors than the collections would have done had they been staged in the usual manner. Pine-apples were exhibited as growing, Melons were suspended on invisible supports, and interspersed with trailing plants, whilst hard fruits were on moss, and the softer ones on suitable foliage—the whole forming a beautiful picture. Might not this idea be adopted and extended in connection with the Crystal Palace exhibition on a future occasion? It may be objected that fruits so arranged are not so easily compared with other samples, and the judging is rendered difficult. But this obstacle will have to be overcome in the case of fruits and flowers alike if we are to make our exhibitions more attractive and less monotonous than they are. If horticultural shows are to become self-supporting, and independent of extraneous enticement, which is very desirable, they must be arranged so that they will appeal to the persons who enjoy striking effects as well as to specialists who study the exhibits in detail.

Cut flowers, artistic floral arrangements, exhibits from prominent members of the horticultural trade in the North and in the South, and vegetables also, furnished ample occasion for remark; but in regard to these, we must refer our readers to the hastily-prepared report published in our last issue.

Mr. BARRON'S Retirement.

THE retirement of Mr. BARRON from the direction of the gardens at Chiswick continues to excite keen interest. The more that is known of the circumstances, the stronger becomes the feeling that the Council has, we doubt not, quite unwittingly, and without the least desire to act otherwise than considerately and honourably, committed a very serious error in judgment, in the way in which it has carried out what it deemed to be expedient. It is felt that an outside irresponsible committee, appointed by the Council, should never have consented to act as it did, and probably the members would not have done so had they been in the least aware of the consequences of their action.

Granted that Chiswick does not fulfil all the duties of a modern experimental garden such as the requirements of the times demand, and admitting that much that is done there is inconsistent with the more legitimate objects of the Society, the fault surely lies with the Council, and not with their executive officer.

The letters that we have received bear emphatic testimony to the intensity of the feeling aroused, and show that an explanation on the part of the Council is an absolute necessity. Till such an explanation is forthcoming, and till the names of

the committee and the details of their report are made known, we are naturally loath to "apply the torch to the heather," as one of our correspondents puts it. He, like some others, urges that there should be no delay in doing this, and that he is ready to do it! Such a step, however, would be manifestly unjust to the Council, whose explanation is not before us; and injurious to the Society, on which account we would counsel a more prudent course. We believe that a Council meeting is called for Monday next, for the purpose of considering the question, and till then it is well to reserve further expression of opinion.

In the meantime, we may add that a protest has been entered by the Chiswick Board, and that a preliminary meeting of horticulturists, presided over by Dr. MASTERS, has been held for the purpose of devising the most appropriate means of expressing sympathy with Mr. BARRON, and of testifying the admiration felt for his loyalty and faithfulness in the discharge of his duties, respect for his abilities as a horticulturist, and esteem for his qualities as a man. The circumstances attendant upon Mr. BARRON'S retirement were designedly not discussed on this occasion, the business of the meeting being confined to the objects above-mentioned. At this preliminary meeting a Committee was formed, "with power to add," and a further meeting was convened for September 10. Among those present on this occasion were—Messrs. Baker, Barr, Comming, Gilbert Beale (Carter & Co.), Gordon, Herbst, Laing, May, Miles, Masters, Marshall, Pollett, Smees, Spicer, Turner, Weeks, Wynne. Messrs. Sutton & Co., Messrs. James Veitch & Sons, Mr. Burbidge, Mr. Malcolm Dunn, Mr. D. T. Fish, Mr. W. Robinson, and others wrote expressing their sympathy with the objects of the meeting. Mr. MARSHALL and Mr. B. WYNNE consented to act as secretaries, and a sum of about £100 was at once promised by those present, it being understood that the amounts subscribed should not be made public, but only the names of the donors. When the permanent committee is fully formed we shall revert to the subject.

"LES PLANTES ALPINES ET DES ROCAILLES" (Alpine Plants), par M. H. CORBEYON, Directeur du Jardin Alpin de Genève. (Paris: OCTAVE DOIN, 8, Place de l'Odéon.) This is a small book, the purport of which is threefold, viz., to supply descriptions, cultural directions, and hints on the acclimatization of alpine plants. It is but natural that the cultivation of alpine plants in any one situation must, if it is to be successful, be guided by knowledge of the varying localities and circumstances under which the plants grow naturally. By studying the altitude, soil, aspect, and climatic conditions of their original habitats, some alpine plants can be acclimatized, but in no other way. M. CORBEYON appends to his book a list of the most important alpine plants which succeed under cultivation, giving also brief descriptions of each, and hints for cultivating in accordance with the rules above-mentioned, and with his own experience in acclimatizing. Various illustrations supplement the cultural directions.

SHORTIA SCHOOL.—Some of our readers will remember the history of the *Shortia*, how it was discovered by MICHAUX, and not found again till within the last few years, how by some the plant was looked on as mythical, how it furnished one of many proofs of ASA GRAY'S sagacity. All this is told in the *Chronicle*. And now we find from *Meehans' Monthly* that a school called the *Shortia* School has been established in North Carolina out of the proceeds of sales of the plant. Very well—but let the scholars be taught not to exterminate the plant, but rather how to cultivate it.

THE "TROPICAL AGRICULTURIST."—The fourteenth volume of this periodical (published at Colombo, Ceylon, by Messrs. A. M. & J. FERGUSON) is now completed. The periodical furnishes monthly a valuable summary of information essential to planters in all tropical countries. Accuracy and straightforwardness are conspicuous features in its management, so that the fourteen volumes constitute a veritable encyclopædia on the subjects of tropical agriculture.

CHESHUNT, WARMLEY, AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.—The fortnightly meeting of this flourishing society was held on Thursday last. Mr. WM. HARRISON presided, and there was a good attendance of members. After the minutes had been read, Mr. W. L. YATES delivered a lecture on the cultivation of the Peach and Nectarine. At the close, an interesting discussion ensued, relating to diseased branches caused by gumming; on mauling, and on blistered foliage. Mr. H. RASMUSSEN gave details of the culture of Peaches in France, together with the names of varieties. A hearty vote of thanks was accorded Mr. W. L. YATES for his lecture. The next meeting will be held in St. Mary's Hall, Cheshunt, on September 5, when Mr. JAMES DOUGLAS, F.R.H.S., will read a paper on the Carnation. Mr. GEORGE PAUL will preside, and will be supported by the leading gardeners of the district.

DAHLIA SHOW AT THE ROYAL AQUARIUM.—The Annual Dahlia Show is to be opened on Tuesday next, and continued on Wednesday and Thursday, at the Royal Aquarium, Westminster. The entries are very promising, and the show will include Gladiolus and early-flowering varieties of the *Carysanthemum*. All types of the Dahlia will be on view, but special interest is attached to the "Cactus" varieties, of which there will be a special exhibit. The Gladiolus will be more than equal to last year's display, and the National Chrysanthemum Society have arranged for an extensive exhibition of the early varieties.

HAILSTORM AT HARPENDEN.—A terrific hailstorm occurred at Harpenden, Herts, about 4 o'clock on Thursday morning, August 22, doing an immense amount of damage to property; some of the hailstones being 2 inches across. Mr. PHILLIPS, owner of a number of glasshouses, had one side of all of them completely riddled, hardly a sound pane of glass remaining; while Mr. PURROTT, who owns about 104,562 sq. feet of glass, had also a great amount of it broken, and much damage done to Grapes, Cucumbers, and other stock. All the glass broken was 21 oz. Both nurserymen had wisely insured in the Nurserymen's Hailstorm Insurance Corporation, 1 & 2, King Street, Covent Garden, W.C.

THE ROYAL PARKS AT STOCKHOLM.—Mr. MILNER is entrusted by H.M. the KING OF SWEDEN, with the laying out of a park of 1100 acres. The plans have been approved, and work has been commenced, with an English foreman to superintend the workmen.

AGAVE A ERICANA.—Mr. USHER, of Woodstock House, Golder's Green, Hendon, obligingly sends us a photograph of a fine *Agave*, 25 feet high, now coming into full bloom, and placed against a background of trees, is singularly effective.

"THE LADIES' GALETTE."—This little paper is, as its name suggests, chiefly devoted to topics interesting to ladies. Gardening notes are included, and in the issue for Aug. 24, we notice paragraphs upon bulbs for winter flowering, and upon decorated house-fronts. The price of the journal is now only a penny weekly, and Messrs. COLLINGRIDGE are to be congratulated upon the general appearance of it in this smaller size, and upon its success among many competitors.

BOTANIC GARDEN, MANCHESTER.—The bedded-out plants at Manchester Royal Botanic is now brilliant in the extreme. The few fine sunny days have forced the flowers into a mass of floral

beauty. One is pleased to see that the powerful contrasting or, we ought to say, killing colours of yellow and scarlet, yellow particularly, is toned down. Most of the arrangements we came across, and the yellow overpowers all other combinations. How pleasing it is to see here the old soft lemon-coloured *Calceolaria amplexicaulis* in some of the groups! indeed, we have not one among the novelties to compare with it. It is a bit rambling in growth, certainly; but resting in *Centaurea ragusina*, or some other proper thing to act as a frill, it is more than captivating—only we must not have too much of it. The *Antirrhinum* here, too, are most striking, as they are floriferous, and how easy to get! a shilling

under the presidency of Mr. B. LADHAMS, F.R.H.S., the lecturer on this occasion being Mr. J. MILES, gardener to Mr. W. PERKIN, J.P., Portswood House. Practical hints were given by Mr. MILES on the time to gather fruits, and the most convenient methods of doing so. He gave a description of his especially-built fruit-room, in size 40 by 12 feet; and drew attention to the necessity of good ventilation and the maintenance of a temperature of about 40°. He touched lightly on the colouring of Apples. A lively discussion on packing fruit for transit followed the lecture; and at the close a hearty vote of thanks was accorded the lecturer. A good display of fruit and flowers was made by the members.

instinct to make use of the slime from their body either as a means of escape or for the purpose of obtaining food. C. Woolford, *The Priory, I.W.*

DORYPHORA SASSAFRAS.—The interesting note on the above over the signature "M. T. M." in your issue of July 13, invites an additional word or two. The plant will be found in Messrs. Jas. Veitch & Son's *Catalogue of Greenhouse Plants*, indicated as having ornamental foliage. I procured a plant from that source three years since, and from its not being listed in the stove section, placed it in a conservatory. It has made but little growth, and is found to need repotting. I am glad to adopt "M. T. M.'s" advice, and have removed it to the intermediate-house. *Doryphora sassafras* is mentioned in Lindley's *Vegetable Kingdom* (1847) as follows: "The wood of *D. sassafras*, called *Sassafras* in New Holland, is said to smell like Fennel." I must point out an error into which Messrs. Veitch have fallen in giving "*Sassafras officinalis*" as a synonym of *D. sassafras*. The *Sassafras* wood of medicine is derived from *Sassafras officinale*, Nees (*Laurus Sassafras*, Linn.), growing over extensive districts of the United States. Baltimore is the chief mart for its distribution. R. Reynolds, *Leeds*.

KNIPHOFIAS.—I have now some most distinct and beautiful hybrid *Kniphofia* in good bloom. *Lachesis*, clear apricot-yellow; *Sirius*, deep orange; *President Cleveland*, very fine spike, and a free bloomer; *Aurantiaca*, one of the largest heads and freest bloomers of all my plants, producing nineteen heads this year. I hope also to bloom shortly for the first time the *Leichtlinian* hybrid *Triumph*, said to be the handsomest of them all; and also the pretty little species *Nelsoni*, which bloomed with me last year in the second year from seed. I have also noticed a curious fixed difference in the order of opening of the different hybrid *Kniphofia*; those in which the blood of *K. Aloides* predominates, all commence to open at the bottom of the spike, and go on upwards. Those in which the blood of *K. Leichtlini* is strongest reverse this order, and commence to open at the top of the spike as *Leichtlini* always does, while the hybrids of *K. comosa* commence to open in the middle of the spike and go on up and downwards. W. E. G., *Queenstown*.

GIANT LETTUCES.—I saw recently such very fine Paris White Cos Lettuce, of what is known as Milton's Superb White strain, growing in the gardens at Maiden Erlegh, Reading, that I asked Mr. Turton to weigh one. A good example was, therefore, twisted out of the ground and put on to scales, when it was found to be 4½ lb. in weight. The stock was very true and even throughout, and presented unquestionably some of the finest and most solid Lettuces I have seen. The same firm's Favourite Cabbage Lettuce also showed not merely remarkable size, but surprising solidity; the hearts were of the size, roundness, and almost hardness of a good Drumhead Cabbage. Those who want bulk in salading will find these varieties to give them all they may desire. A. D.

CYPRIPEDIUM × LORD DERBY.—Owing to an error of mine, this plant was certificated (F.C.C.) on August 13, 1895, by the Royal Horticultural Society's Orchid Committee as *Cyp. × Massaianum superbum*. To-day (August 27) I was able to correct the error, and the plant was named as above, the name given it by its owner, T. Statter, Esq., being now restored to it. It came about in this way. A cut spike of two grand blooms came before the committee, named "*Cyp. × Lord Derby*" = *C. Rothschildianum* × *C. superbiens*. I consulted my records, and saw the entry of this parentage, only reversed, against *C. × Massaianum*. I informed the committee, and we then had a plant and a cut spike of *C. × Massaianum* brought for comparison from groups in the hall. Mr. Statter's hybrid was infinitely the finest, and "*superbum*" was added to its proper name (according to my entry) of *Massaianum*. Some discussion as to the parentage of *Cyp. × Massaianum* ensued, but not sufficient to prove I had made an error. The plant was booked. On returning home, I consulted more records, and found the error. I had written "*superbiens*" instead of "*superciliare*." This materially altered the case; and now opened another complication. *Cyp. × W. R. Lee* (A.M., August 14, 1894), was the result of *Cyp. superbiens* × *C. Elliottianum* (which is synonymous with *Rothschildianum*). I at once wrote to Mr. Statter, explaining the case, and stating that now the name again must be altered, for reverse crosses were regarded the same one as the other. Mr.



FIG. 49.—POLYCYGNIS LERMANNI.

(From a photograph by Mr. Lawrence. For description, see p. 192; general colour yellowish-white; spotted purple; lip, white fringed.)

packet of seed will furnish a good bed; and now that we have such as is seen here, a dwarfness obtained from proper selection, the colours are quite like the rainbow, and although there is a little formality, it is not nearly so pronounced as in any of the *Pelargonium*, *Calceolaria*, or *Lobelia* groups. There is an easiness of contour that pleases the practised eye. The *Pentstemon*, too, are in evidence here, and what a glorious display they make! True, Mr. FINDLAY does not introduce these into his formal bedding groups; he has them in detached beds in the grass, but acting as foils to the formality of these serpentine designs, which show off to advantage the low-growing hero of bedders. These old-fashioned flowers catch the eye, and even are useful because they can be knifed away for bouquet work without affecting congruity.

SHIRLEY AND SURROUNDING DISTRICTS GARDENERS' AND AMATEURS' MUTUAL IMPROVEMENT ASSOCIATION.—The monthly meeting was held at the Parish Room, Shirley, Southampton,

HOME CORRESPONDENCE.

SLUGS DESCENDING BY A LINE OF SLIME.—It is now some fifteen years since Mr. Warner called attention in the *Gardeners' Chronicle* to the fact that slugs have the power of letting themselves down from a plant or rafter by means of a glutinous matter which they exude from their tails. I remember at the time some were inclined to smile at this assertion. I had seen the same kind of thing myself, and I will remember calling my employer's attention to the fact when at Dawnside, as a slug was descending over a *Masdevallia*; and it is quite clear, in my mind, that while at Highbury, Birmingham, I saw a slug on the flower-spike of an *Odontoglossum*, and in order to prove if tobacco would prevent them crawling up the spikes, I placed a piece of "sbag" tobacco on each side of the slug, and after going to and fro a few times, it let itself off very slowly by the slime from its tail. Your correspondent mentions that no one made any remark upon this question when first it was mentioned; my excuse is, that I accepted it as a well-known fact, and believe that slugs (some kinds, at least) have the power and

Statter's reply was good-natured in the utmost, he being very disappointed that his proffered compliment to Lord Derby had been upset. We decided together to try and correct it at to-day's meeting, at which I explained the whole matter, and for comparison we had the spike of Lord Derby, and Mr. Macfarlane's admirably executed painting of it, and Cyp. x W. R. Lee. This latter plant Mr. Statter told us was dead. Therefore there was not another plant of the same parentage that had bloomed which was alive. The committee appreciated this fact, and it was carried unanimously that "Cyp. x Lord Derby" be Mr. Statter's hybrid's name. This action of the committee enabled me to escape from a position assumed by taking a false entry to be correct, when it was the reverse. (Moral. The whole of the members of the committee ought to keep records and check one another. Perhaps say my readers, "If they were all like Crawshaw, it is a providential thing they do not"—*vide* this case in point.) *De B. Crawshaw, Rosefield, Sevenoaks, Kent, Aug. 27, 1895.*

CHISWICK.—May I ask if it is a fact, as stated by Mr. Peter Barr in a contemporary this week, that what he calls a "starvation allowance" of £1624 15s. 1d. is the amount spent on Chiswick gardens (some 12 acres in extent) annually? I offer no comment on the disposal of this sum, but would like to say that I have known, and know now, the annual expenditure of some of the best kept and most expensive private gardens in the country, and the above figure is from two to three times more than what is usually allowed to pay all expenses, in proportion to extent; while most gardens at the present time cost probably much less even than that, while much is expected, considerable reductions made on such reduced allowance by stuff sold, and no "assistant students" thrown in to help for which nothing is charged. Few of our big gardener's real friends would think of going into hysterical lamentations over a pension of £180 a year under these circumstances. *Head.* [Our correspondent is evidently not aware of the circumstances of the case, and in particular of the large amounts spent in repairs and renovations necessitated by previous neglect. *Ed.*]

WHY ARAUJIA ALBENS DOES NOT CATCH THE CODLIN MOTH.—In the number of the *Gardeners' Chronicle* for August 24 is an article on the moth-catching habits of *A. albens*, which I presume is the same plant as *Physianthus albens*, [yes] often alluded to, and probably more than once figured in these columns. The article concludes as follows:—"It is, however, a singular fact that, in New Zealand, where the plant has often been cultivated for the express purpose of destroying the detested codlin-moth (*Carpocapsa pomonella*), that wily insect declines to enter the trap." The colonists seem to have argued somewhat in this fashion:—Here is a plant, the flowers of which catch moths by grasping them by the tip of the proboscis, and holding them till they die. *C. pomonella* is a moth; therefore, the flowers should catch it. It does not appear to have occurred to them that there are moths and moths. And if they had compared the mechanism in the tube of the flower with the mouth-parts of the insect, they would have seen at once how utterly impossible it is for the *Araujia* to catch the *carpocapsa*, inasmuch as the latter has no proboscis capable of penetrating even the shortest distances down the long tube of the former. Possibly, however, as the story is given at second-hand, it may be intended for a joke. *R. McLachlan.*

WHITE WARRINGTON GOOSEBERRY.—It may interest Mr. Dow to know that his discovery of a white-fruited sport on the Red Warrington is not the first that has been observed and perpetuated. In the horticultural department of the *North British Agriculturist* for 1850, p. 554, is found a very interesting article from the pen of the late Mr. William Gorrie, relating his discovery of a similar sport in a Perthshire garden, as also an editorial note from the late Mr. Charles McIntosh, of Dalkeith, detailing the excellent quality of the fruit. I may also state that an annual supply of cuttings was forwarded to the Messrs. Lawson, Edinburgh, by Mr. Gorrie, and the writer being one who assisted in stocktaking for some years in the fruit department there, in 1856 some hundreds of fine saleable plants then existed; on enquiry some years afterwards, I ascertained that the variety had degenerated in growth as to be incapable of propagation, and for nearly forty years I have not known of it being either in commerce or cultivation. I hope Mr. Dow's sport will have a more permanent existence. *Scotland, East.*

THE RECENT SHREWSBURY SHOW.—The committee which controls the fortunes of this really wonderful horticultural exhibition recently published a list of all the numerous gifts they had locally made from their surplus funds, amounting in value to several thousands of pounds. All honour to them. But looking over this list, I failed to notice any donation being made to either of the great Gardening Charities. I trust there can be no harm in respectfully inviting attention to the needs of these charities, and to point out how valuable and helpful they are to gardeners who so largely help to create those magnificent shows for which Shrewsbury is so famous. Possibly it is but needless to invite the committee's attention to the Gardeners' Benevolent and Gardeners' Orphan Funds to secure as a memento of the brilliant success in every way which attended their recent show, of handsome donations to each fund, and thus identify the Shrewsbury society more closely with horticulture. *D.*

POTATO DIGGING IN IRELAND.—Your artist correspondent on p. 133, of August 3, gives a very hopeless looking sketch of poor Pat digging his Potatoes. I have been through Tipperary as well as a good many places in the south of Ireland, and have come across a few such cases, but your readers must not be misled and think that all Potato patches or the people who till them are all alike. A friend of mine living near Tipperary, told me that the land in that county is some of the best he has ever tilled and pastured in Ireland, and his crops and cattle showed it. Potatoes, as we know, are the chief food of the working classes in England, Scotland, and Ireland; every cottager and peasant who rents or owns some land, grows them. The varieties grown are Flounders and Champions, and no one can persuade them to grow any other varieties. The Potato disease is not known to them by any scientific name, and all they know is that the tubers are bad, and they never try a remedy against the disease, although a few that I know have tried the sprayer, but they said that it broke down the tops too much, and would not try it again. I have found in Ireland that the poorer the land the better the Potato crop. I have the finest crop this year I ever had, the land having had no manure for three years, and I have seen no trace of disease up to the present date, but rotation in cropping has, I think, a great deal to do with this. *T. S.*

BUD-GROWTH.—On some of my Rhododendrons I notice that at the ends of the shoots both flower-buds and leaf-buds have been formed during the summer, the flower-buds being terminal, the leaf-buds lateral. Nothing uncommon in this, one may say; but what is interesting is, that the leaf-buds have lengthened into shoots, whilst the flower-buds remain buds. Why should growth go on in the one and be arrested in the other, the period of formation and the conditions being the same in each case? *X.*

THE WEATHER AND FRUIT TREES.—The past dry summer and recent abundant rains have produced a curious effect on an Apple bush (Stone's Pippin) growing in the orchard at this place. About one-half of the number of branches are loaded with fruit, and in consequence have made little growth, except extension. The branches carrying no fruit made short growths, studded with flower-buds, which matured during the dry weather. Since the rains came these have developed, and the tree now presents a picture of flora and pomona such as I have never seen before, every branch being either loaded with fruit, or wreathed with bloom and tender leaves, being in about equal proportions, the tree has a charming effect. The fruit-buds on other trees in the same orchard show no sign of moving. *M. Webster, Kelsey Park, Beckenham.* [A similar condition of things is to be witnessed at the Royal Horticultural Society's Gardens at Chiswick, where a quarter of Apple bushes, transplanted late in the spring, were, as a consequence, at a standstill during the warmest part of the summer, and they are now full of blossom, and making a little new foliage. *Ed.*]

VEITCH'S CLIMBING FRENCH AND BUTTON'S TENDER-AND-TRUE BEANS.—In the report of the Fruit Committee meeting held at Chiswick on the 16th inst., it is stated in the second paragraph (p. 218), that the committee having seen the above-mentioned "two Beans growing here (Chiswick) together under precisely similar conditions, came to the important conclusion that they are absolutely identical, but that they all the same leave to others to determine under which of the above names the variety shall henceforth be recognised." As the raiser of "Veitch's Climbing French Bean," I should

like to mention that the decision of the Fruit Committee (the correctness of which I do not for a moment question) raises a very delicate, but all the same, a just and important, question; in fact, a series of—shall I say—serious questions, inasmuch as the Bean which the Fruit Committee decided on the 16th inst. to be identical with "Tender-and-True" was, as a matter of fact, sent to Chiswick for trial, together with a full description of its habit, &c., in April, 1885 (six years before "Tender-and-True" was submitted to the Royal Horticultural Society for trial at Chiswick), and for which I received the official receipt, signed by the chairman, and dated, I believe, April 9, 1885. And this being the only communication received by me from the Royal Horticultural Society in reference to my then Climbing Canadian Wonder Bean (now Veitch's Climbing French Bean), and seeing that no mention was made of it in the autumn report of novelties tried at Chiswick in 1885, the question very naturally, and justly, arises as to what became of the "Climbing French Bean" sent to Chiswick for trial in April, 1885, and which, ten years later (1895) is pronounced by the Fruit Committee of the Royal Horticultural Society to be identical with one (Tender-and-True) to which that body had granted a First-Class Certificate at Chiswick on Sept. 3, 1891? And now it seems that the name under which the variety is henceforth to be recognised is left to others than the Fruit Committee of the Royal Horticultural Society to determine—that is to say, the question as to which name the commercial right of priority belongs has to be determined. The answer must be obvious enough to all who take the trouble to read the above facts. A reference to the counterfoil of the Chiswick "Record" of seeds, &c., received for trial in April, 1885, will conclusively settle the question of "commercial right of priority." As registered in the book referred to will be found "Climbing Canadian Wonder Bean." Ten years have I kept the above-mentioned facts from the horticultural press, and had it not been for the turn which events have recently taken, probably I should never have referred to the matter in print. *H. W. Ward, Longford Castle, Salisbury.*

MR. BARRON'S RETIREMENT.—Had Mr. Barron's resignation been voluntary, the mere authoritative announcement that he had resigned, and that his services were to be rewarded by the Council with a liberal pension for life, might have fitly closed what to very many must have proved a painful incident. But if he has virtually been hunted out of the office he has for so long enriched, then the gardeners of the country are entitled to the fullest explanation from the Council. In your first notice (August 3, p. 138), after referring to the innumerable difficulties and precariousness of Mr. Barron's position for many years, you state in true and forcible words, which all loyal horticulturists will heartily endorse, "this state of things has happily passed away. Chiswick has been put into good order, and horticulturists long to see it the exponent of progressive horticulture, and the trial-ground for all that is promising and instructive. They do not care to see it competing with market growers in the sale of Grapes, and they think that the services of the staff might be more profitably employed than in giving for distribution among the Fellows plants which are readily to be purchased for a few pence at the nearest florists." These words are true, and in them some of us read a probable cue to the resignation of Mr. Barron. But a writer in the *Gardeners' Chronicle* such illusions, and makes matters so bad, that the continued silence of the Council would prove a serious blunder. It seems impossible that such a society should have acted in the manner here described, and should any such report so obtained and signed have reached the hands of the Council, one might have expected that they, of all men, would have felt that the proper place for it was the fire. I fear the Fellows, and especially the fraternity of private gardeners, will not now be satisfied until they know who appointed this special committee of espionage—and without the knowledge of the Garden Committee, the names and addresses of this private committee of private gardeners, and whether or not the Garden Committee of the Royal Horticultural Society has also retired in consequence of this indignity heaped upon it? *D. T. Fish, August 19.*

— The dismissal of Mr. Barron, forsooth! The gardeners of the country would as soon have expected to have heard of the dismissal of the Council of the Society! I am always loth to condemn either side before I am fully informed of the whole details on both sides, but the question has now assumed such an aspect that it cannot possibly be set at rest

without the fullest disclosure of the reasons for the procedures taken by the Council, and the names of the persons who prompted that body to act as it has done. A.

— Having read the comments which have recently appeared in the horticultural press on Mr. Barron, the superintendent of the Royal Horticultural Society's garden at Chiswick, to-day I visited and criticised the work which was being carried on in the experimental gardens of the society. I was much struck with the great improvement in the condition of the place and in the cultivation of the plants, the success of which is due to Mr. Barron. A few years ago, when I was on the council with Mr. Veitch, just after the society's fortunate expulsion from South Kensington, and when we all hoped that its pernicious influences had been buried for ever, the council was compelled from lack of funds to starve the garden, the houses were dilapidated, and the place was very much under-manned. To-day I found the houses for the most part in good working order, although two or three would be better if replaced by more modern structures. The collection of Apple and Pear-trees I have never seen in better condition, and it contrasts favourably with my own. I saw no evidence of blight. Of course, in such a large collection there always must be some trees which are out of health, and which require to be renewed. The collection of Figs looked well; I know of no place where such a collection can be found. Those interested in Grape cultivation should make a study of the collection. The hardy annuals and herbaceous stuff looked grand, and so did the plots allotted to the seed trials. I cannot conceive the reason why the council should have called upon Mr. Barron to resign. He is a man who is known to every horticulturist whose opinion is worth having, to be straight and unbuyable, a quality absolutely necessary to give confidence to the trader and amateur. Those who are intimately acquainted with the idiosyncrasies of gardeners, know the value and the rarity of these qualities. If it is true that the Chiswick, the Fruit, and the Vegetable Committees who visit many times in the year the gardens, and who are responsible for its management, have not been consulted by the Council on this matter, and that outsiders have been called in to report, the council have passed such a vote of censure upon the members of these committees that no man with a spark of self-respect could continue to serve upon them, and it is for them to resign *en bloc*. If it, however, means a new departure in the management of the gardens, the fellows should have been consulted and made acquainted with the proposed new scheme. If it is intended to attempt to make the gardens a profitable undertaking, a sort of bastard market-garden, the Mixens and the Pouparts would very soon knock the bottom out of such a competitor. If, however, it is intended to convert the gardens into a third-rate nursery for the sale of cheap plants, the Bunyards and the Pearsons can tell the Fellows that such a scheme must result in failure and bankruptcy. But should the council desire to make the gardens into a public resort for nurse-maids and their followers, such as is to be found in London squares, the sooner the society gives up these gardens the better, for to apply the subscriptions of the fellows to either of these purposes would be little better than obtaining money by false pretences. It is my intention, as an owner of an experimental garden, and one who for over twenty-five years has some slight acquaintance with the work which can be successfully carried on in such a garden, and one who loves horticulture for horticulture's sake, at the first opportunity I have determined to ask for definite information as to the council's remarkable and unintelligible action. Should the answers which I receive be not satisfactory, I shall feel it my duty to submit such resolutions for the consideration of my brother horticulturists as the answers may seem to necessitate. I feel that for the society to lose the services of Mr. Barron, who has still many years of useful work left in him, would be nothing less than a disgraceful job, and would be prejudicial to the best interests for the advancement of horticulture in this country. A. H. Smea, *The Grange, Carshalton*.

APRICOTS FROM STANDARD TREES.—I am sending you some specimens of Apricot grown on a standard tree in the middle of my garden less than six miles from Charing Cross. In the exceptional year, 1893, the tree bore over 600 fruits, and this year it has done very well; and even last year, in unsatisfactory weather, there was a fair crop, for although the fruit did not mature to the extent one

could have wished, it made excellent preserve. Possibly, if the attention of fruit-farmers is called to the subject, the thousands of pounds which are paid annually to the foreigner for this fruit may be kept in the country. My tree, which was brought from France, thrives well in the London clay, and always has been very healthy, and has never had an ounce of manure or a particle of attention. What more could the farmer want? *B. G. Jenkins, West Dulwich, August 26.* [The variety sent by our correspondent was that capital early one, the *Breda*. Ed.]

KÖLREUTERIA PANICULATA.—This Chinese tree is well adapted for pleasure-grounds, owing to its pretty Acacia-like foliage and yellow-coloured inflorescence. I recently saw the tree in perfection in the grounds of Mr. H. J. Selwyn, Eastwood House, near March. The tree stands on the lawn near the residence, and is about 30 feet high, with a head of about the same width, and on every shoot (and there are thousands), there is a beautiful panicle of flowers, 1 foot long. A close examination of the flower reveals a tinge of red in the centre. It is not a tree of rapid growth like the *Ailanthus*, but the stem of this specimen is quite 5 feet in circumference at 3 feet from the ground; and I have lately measured the stem of a *Kölreuteria* growing here, which was planted fifty years ago, and find it to be 3½ feet at 3 feet from the ground; the specimen seen at March will therefore be of considerable greater age. *A. Harding, Orton Gardens, Peterborough.*

ROSE MRS. W. J. GRANT (SYN. BELLE SIEBRECHT).—Herewith we enclose you Messrs. Siebrecht & Wadley's letter, correcting the statement made by them in your issue of June 15, which we will be glad if you will insert in your next issue. On February 24, 1893, this firm wrote to us saying that they wished to change the name of the Rose from Mrs. Grant to Mrs. Cleveland, and that they hoped we would not oppose them. We replied on March 8 as follows:—"With regard to your desire to change the name from Mrs. Grant to Mrs. Cleveland, we cannot offer any serious objection, although we would feel sorry that such should be done." *Alex. Dickson & Sons.*—As per request of Messrs. Alexander Dickson & Sons of Newtownards, Ireland, and in justice to them, we wish to correct our statement in our letter of June 15 as to the re-naming of Rose Mrs. W. J. Grant. We said at the time of purchasing the Rose we had Messrs. Dickson's consent to change the name. In this we regret we were in error. It was in the month of March following (1893) that we received written permission from Messrs. Dickson. *Siebrecht & Wadley.*"

SOCIETIES.

ROYAL HORTICULTURAL.

August 27.—An ordinary meeting of the committees of the Royal Horticultural Society was held on Tuesday last in the Drill Hall, at Westminster. Hardy and half-hardy flowers and annuals were exhibited largely, and included first-rate collections of Asters and Gladioli, and some novelties in Dahlias. Orchids were not very numerous, but an interesting display was present. Before the Fruit Committee were exhibited large collections of Apples, Pears, and Plums, but there were few first-class novelties, the only awards being for a new dessert Apple, and an ornamental Crab.

Floral Committee.

Present: W. Marshall, Esq., chairman; and Messrs. O. Thomas, J. Frazer, C. T. Drury, H. Herbst, J. Laing, R. Owen, G. Stevens, J. H. Barr, Geo. Nicholson, C. E. Pearson, G. Gordon, H. S. Leonard, H. Cannell, J. D. Pawle, J. T. Bennett-Peck, H. Turner, G. Paul, C. Blick, and H. B. May.

Mr. M. PRITCHARD, nurseryman, Christchurch, had a pretty group of hardy flowers, in which were very fine blooms of Gaillardias, large sprays of *Lobelia cardinalis* variety, Robert Parker, of excellent colour; *Kniphofia* (*Tritoma*) *Pfitzeri*, a large bold variety, recommended an Award of Merit. *Lilium tigrinum splendens* and *L. t. plenum* were well shown; the pretty but seldom seen *Astrantia Biebersteini* was noticed; and *Eupatorium purpureum*, varieties of *Helianthus*, and many other good things were included in this exhibit. *Scabiosa caucasica alba* was recommended an award of merit (Silver Banksian Medal).

Messrs. PAUL & SON, the Old Nurseries, Cheshunt, had a collection of herbaceous Phlox in variety, most of them with large flowers, exhibiting considerable variety in colour. A variety named African was rather distinct, by

reason of its suffused rose-and-white flowers. Messrs. PAUL & SON had many other interesting things, including several varieties of *Hibiscus syriacus* or *Althaea frutex*. A panicle of the very dwarf-growing *Crassula rubicunda*, was shown; the flowers are very small and red, and the underside of most of the leaves are of a similar colour. *Crassula Cooperi* also shown, has white flowers, and is extremely dwarf. Varieties of *Crataegus* and *Rosa* in fruit, a good variety of *Keria japonica* in sprays, and other plants were included. Messrs. PAUL & SONS were also recommended an Award of Merit for *Robinia neo Mexicana*, a spray of which was shown with short rather dense spikes of rosy-lilac coloured flowers (Silver Flora Medal).

An excellent collection of *Phrynium variegatum* plants were shown by Mr. J. OUVREARD, Child's Hill, Kilburn. The plants were in 7-inch pots, large, bushy, and capital in colour; also some fine plants of *Maranta major*, with green leaves, and about 2 feet high (Bronze Banksian Medal).

From Messrs. HUGH LOW & CO., Clapton, were exhibited some nice plants of *Erica mammosa*, *E. elata*, a variety that keeps on flowering for three months if the shoots be not stopped, as is usual with *Ericas*; *E. verticillata major*; *E. cerinthoides coronata*, &c., in flower, and were very pretty. The last-named deserves special mention, by reason of its large, highly-coloured blooms, and its distinct and dark-coloured foliage. An improved form of *Allocasia Lowi* was likewise shown, in which the large veins are whiter, the under-side of the leaf deeper purple colour, and the leaf broader than in the ordinary form.

There were a few exhibits of new Dahlias staged, and these included a stand from Mr. CHAS. TURNER, Royal Nurseries, Slough. Varieties in this exhibit to which an Award of Merit was recommended were Douglas, a neat, fair-sized Pompon of very dark crimson; Purty, also a Pompon, white, with a little cream about the centre; Nerissa, a charming little Pompon, of very delicate rose colour; and Fabio, scarlet petals, and yellow at the base. Large show varieties similarly honoured were Mabel Stanton, clear full yellow, good form, a little flat in centre as shown; and Dante, a large and distinct variety, dark crimson with purple reverse, which is very apparent. Among Cactus-flowered varieties which received Awards, were Beatrice, rose-coloured, a comparatively flat bloom; and Leonora, of warmer colour, and the petals recurved towards the centre—a very pretty and attractive flower. Many other good varieties in each section were included in Mr. TURNER'S collection.

Messrs. H. CANNELL & SONS, Swanley, Kent, exhibited a dozen fine blooms in three varieties. These were all large-flowered blooms. Le Colosse, red; Siam, a flaked variety, crimson, purple, and white; and Grand Duc Alexis, handsome white, with slight light purple on the young petals, which in this variety remain tabular.

Another collection was from Mr. G. HARRIS, Scad's Hill House, Orpington, Kent, who had a dozen very nice blooms, in four varieties.

Messrs. J. PEED & SONS, Norwood Road Nurseries, S.E., staged sprays of a Pompon variety, named Tom Peed, a rosette of pale red with buff reverse.

A box with a dozen and a half plants of *Saxifraga sarmen-tosa tricolor superba* was exhibited from the Royal Horticultural Society's Gardens at Chiswick.

Hybrid Fuchsias in sprays of considerable variety were shown by Mr. PHILIP FRY, Addington Green, West Malling, and were of some interest.

There were very large exhibits of Asters from Messrs. VEITCH & SONS Royal Exotic Nursery, King's Road, Chelsea, and from Messrs. DOBBIE & CO. The large and splendid collection from Messrs. VEITCH & SONS had been lifted from the ground, and put into pots. The different sections were fully represented, German Emperor, in white, blue, red, and other colours, various coloured varieties of the Peony-flowered Perfection type, crown or Cocardeau Asters, with white centre; Pompon imbricated, dwarf Chrysanthemum-flowered, rose-flowered, Jewel Asters; Peony flowered globe Asters, &c. A few plants of the Diadem Aster had a number of small blooms, something like large Daisies, white and red florets mixed; and a good batch of a rose bedding Aster was good (Silver Flora Medal).

Messrs. DOBBIE'S collection from the nursery at Orpington, Kent, contained very good blooms in quality, and there were sprays of most of the sections above noticed. A pretty show of Comet Asters was made also, and the colours generally were commendable (Silver Banksian Medal).

Messrs. KELWAY & SON, Langport, Somersetshire, staged one of their remarkable exhibits of Gladiolus sprays in great variety, the spikes excellent, and the flowers large, and finely coloured. From a number of attractive novelties, the following were recommended Awards of Merit: Kate Rose, a bloom of the largest size, open, white with reddish-purple base, the same colour extending along centre of bottom petal; Brantford, an exceeding rich crimson, very glossy; and Dolops, very large, richly-coloured flower, and prettily-marked throat (Silver-gilt Flora Medal).

Mr. J. F. McLeod, gr. to J. P. MORGAN, Esq., Dover House, Roehampton, Surrey, staged a magnificent group of Crotons, remarkable alike from the exceptional cultivation the plants exhibited, and the representative character of the varieties, many of which are recent ones. Broad, medium, and narrow-leaved varieties were arranged with a view to obtaining the best effect, and were liberally interspersed with *Adiantum cuneatum*. Among the most telling broad-leaved varieties were Reidii, Mortii, Andreanus, and albicans. The narrow and medium-leaved varieties were more largely shown, and we noticed very pretty plants of *Aigburthiensis*, *Golden Bieg*, *picturatus*, *Lord Chelmsford*, *Lairgü*, *Nestor*, *angustifolius*, *Mrs. Dorman*, and many others (Silver Flora Medal).

Mr. T. S. WARE, Hale Farm Nurseries, sent a large number of varieties of *Lilium auratum*, including flowers of the old

type, and others with blood red stripes along the petals in greater or less degree. Also a spray of *L. nepalense*, and a few good varieties of Dahlias.

From Messrs. H. CANNELL & SONS, Swanley, Kent, was exhibited a collection of Cockscombs, and a good number of sprays of varieties of Cactus Dahlias. A rare lot of Cannas in pots of some of the best varieties, and some excellent plants of seedling double Begonias were also shown by Messrs. CANNELL (Silver Flora Medal).

A very extensive group of hardy flowers came from Messrs. P. BARR & SONS, King Street, Covent Garden, London. We noticed many excellent varieties of herbaceous Phlox, Gladioli, Marigolds, Pyrethrums, Helianthus, Galliardias, and other reasonable plants (Silver Flora Medal).

An Award of Merit was recommended to the ornamental Crab, *Jno. Downie*, shown by Messrs. GEO. BUNYARD & Co. and Messrs. JAS. VEITCH & SONS. The fruit is conical in shape, and highly coloured.

For Messrs. KELWAY & SON'S prize, offered for the best collection of twelve British-raised Gladioli *gandavensis* vars., there was only one competitor, namely, C. F. THOMPSON, Esq., Llandaff, Cardiff (gr., Mr. Mann), who was awarded the Medal offered.

Orchid Committee.

Present: Dr. M. T. Masters, in the chair; and Messrs. De B. Crawshaw, T. Statter, J. Jacques, E. Hill, H. M. Pollett, W. H. White, J. T. Gabriel, H. J. Chapman, T. W. Bond, W. Cobb, A. H. Smee, and H. Ballantine.

An interesting if not a great number of exhibits occupied the labour of the committee on this occasion, although there were not many of extraordinary merit amongst them.

From Messrs. J. VEITCH & SONS, Royal Exotic Nursery, Chelsea, came the following: *Cattleya Eldorado* alba, an entirely white-flowered variety, excepting the throat, which is yellow on the inside; several pieces of *C. Dowiana*, nicely bloomed; *Miltonia vexillaria superba*, in colour a rosy-lilac, therefore novel as regards its shade of colour; *Laelio-Cattleya Proserpine*, out of *Cattleya velutina* × *Laelia pumila* var. *Dayana*. It has sepals and petals of lurid purple, a rich purple lip, passing to a light tint at the apex, and furnished with white lines at the base. The following *Cypripedium* were shown, *Chas. Canham* = *C. villosum* × *C. superbum*, *C. tonsum superbum*, a flower mainly green in colour, save for a buff suffusion, and the dorsal sepal is tipped with white, and lined with light brown—it is a striking variety; *C. Warnhamiense* = *Phillipense* × *C. Curtisi*, chiefly distinguished by having the sepals of the latter; *C. oenanthem superbum* = *C. insignis Maulei* × *C. Harrisonianum*, a flower of rich shades of brown, as seen in the lips and petals, greenish-purple in colour as regards the dorsal sepal, which has purple lines, and an edge of white; the lower sepal is green, with purple stripes running through it perpendicularly, a distinct and pleasing variety. In this collection, a plant of *Vanda Sanderiana* with extra large-sized flowers, was remarked; the rare *Grammatophyllum Rumphianum*, bearing a drooping spike a yard in length with greenish flowers sparsely arranged on it—the latter are two inches in width, greenish-yellow, with irregular brown blotches. A plant of *Cœlogyne Veitchi*, having white flowers with buff-coloured remains of the envelope remaining attached to the footstalks (An Award of Merit). For the entire exhibit, a Silver Flora Medal was awarded.

Messrs. H. Low & Co., Clapton, showed *Dendrobium speciosum*, described in these pages (March 9 last), a small plant, with two or three flowers; *Cynochos chlorochilon*, in male and female forms, interesting but not beautiful; *Bolbophyllum Dearei*; *Cypripedium Charlesworthi* unicolor, the colour of the lip being the same as that of the sepals and petals, instead of brown; a good form of *Laelia elegans*; a beautiful flowered spray of *Odontoglossum Harryanum*, the best variety of it, with the white lip which turns yellow with age.

Messrs. W. L. LEWIS & Co., Southgate, had small groups of Orchids, amongst which were noticed *Cypripedium Charlesworthi*, *C. Evenor superbum*, a flower with a fawn-coloured ground colour; petals thickly spotted with purple, and the lip near the orifice furnished with brown striation. They showed *Miltonia spectabilis virginialis*, all parts of which flower are white, excepting the base of the lip which is purple. It may improve with age, but at present it is not apparently of much merit. *Cattleya gigas*, *C. Harrisoniae*, *Habenaria Suzanne*, and *Odontoglossum Lindleyanum*, were among the other objects shown by this firm.

EDWARD WOODALL, Esq., Scarborough (gr., Mr. Hughes), showed a grand piece of *Odontoglossum coronarium*, Salt's var., receiving for it a Cultural Commendation. The same exhibitor had a magnificent panful of *Vanda cœrulea* of the best type of the species, the flowers measuring 4 inches across, and there were seven well-furnished flower-spikes. Some *Cypripedium* were likewise shown.

A splendid dark-coloured form of *Laelia elegans* *Oweniae*, with a lip of the richest purple, was shown by THOS. STATTER, Esq., Manchester (gr., Mr. R. Johnson). His other plants consisted of *Cattleya guttata Leopoldi*, *C. Rex*, *Laelia elegans* *prasiata*, *L. e. excellens*, each differing from the type; *Laelio-Cattleya Nya* = *L. crispata* × *C. gigas*; *C. Gaskelliana* *alba*, *C. aurea*, *Dendrobium Phalaenopsis Schroderianum*, flowers of fair size, the colour light, approaching white; *Laelio Cattleya callistoglossa* = *L. purpurea* × *C. gigas*, and *L. elegans* *Chel-seensis*, the last-named receiving an Award of Merit; and the group was awarded a Silver Flora Medal. Another plant of *Laelia elegans* came from F. HARDY, Esq., Tyntesfield, Ashton-on-Mersey (gr., T. Stafford), viz., *L. e. Turneri*. From the same amateur came *Laelio-Cattleya Hardyana*, the reverse cross of *L.-C. callistoglossa*, *C. gigas* *Sanderiana* having been

used instead of *C. gigas*. The flower is of rosy-lilac in the sepals and petals and tube, with a lip of an intensely rich shade of purple and of velvety texture.

Messrs. F. SANDER & Co., St. Albans, showed a group of Orchids. There were *Habenaria canna* var. *nivosa*; F. Herdy's variety of *Cattleya aurea*, paler than the type, for which a First-class Certificate was given; *C. a. Statteriana*, *Miltonia vexillaria* var. *rubella*, *Burlingtonia pubescens*, the white and the rose-coloured varieties of *Dendrobium bractescens*, *D. cruentum*, *D. Phalaenopsis Schroderianum* in variety, and *Laelio-Cattleya Fowleri*. For an illustration of this beautiful cross between *C. Leopoldi* and *C. Hardyana*, see fig. 47, p. 239. A Silver Banksian Medal was awarded the exhibitor.

D. B. CRAWSHAW, Esq., Rosefield, Sevenoaks (gr., Mr. Cooke), received a Cultural Commendation for a plant of *Odontoglossum Uro-Skinneri*, with two fine flower-spikes.

Messrs. B. S. WILLIAMS & SON, Paradise and Victoria Nurseries, London, N., showed a small group, consisting of *Pachystoma Thomsonianum*, white, with a narrow, elongated lip of a purple tint; *Odontoglossum Krameri*, a flower of pale lilac, &c.

From the gardens of Sir TREVOR LAWRENCE, Bart. (grower, Mr. White), came *Dendrobium Hookerianum*, a plant with a pleasing inflorescence of lemon yellow-coloured flowers, having a dark purple blotch at the base of the fringed lip (Award of Merit). Other plants consisted of *Steuroopsis Phillipinense*, a plant with buff-colour blossoms of starchy shape, springing from the leafy nodes of the stem, the lip narrow, and strap-like, and pale lilac in hue; *Oncidium hæmochilum*, *Catasetum Bungei*, with unusually large flowers, for which last a Vote of Thanks was accorded.

A. H. SMEE, Esq., The Grange, Wallington (gr., Mr. Cummins), showed a form of *Catasetum fimbriatum*, *Eranthis grandifolia*—a remarkable bloom of a creamy-white tint, whose petals, sepals, and lip at the extremities turn of a primrose-yellow hue as the flower ages (Botanical Certificate).

CHAS. INGRAM, Esq., Elstead, Godalming (gr., Mr. Bond), showed *Laelio-Cattleya Charles Darwin* = *Laelia Turneri* *Elsteadensis* × *Catt. maxima* (an Award of Merit). The bloom has light purple-tinted sepals and petals, and an intense purple coloured lip, which is spread out fanwise, and is frilled at the edges; at the sides of the throat are bands of a yellow hue. The parent plants were shown, and the child is a decided improvement on them. From the same exhibitor came *Laelio-Cattleya Elstead Gem*, sepals and petals orange-coloured, tube white exteriorly, and lips a rich purple colour (an Award of Merit for this last).

Fruit Committee.

Present: P. Crowley, Esq., in the chair; and Messrs. W. Wilks, T. F. Rivers, G. Bunyard, H. Pearson, G. W. Cummins, T. J. Saltmarsh, J. Veitch, A. Dean, J. Wright, J. T. Miles, J. Willard, W. Farr, C. Herrin, H. Balderson, F. Q. Lane, and G. Norman.

Mr. J. W. Miller, gr. to Lord FOLEY, Ruxley Lodge, Esher, staged a collection of fruit, including several commendable Melons, a nice lot of Brown Turkey Figs, some Yorkshire Beauty Apples, and a large dish of excellent Hemskirk Apricots (Vote of Thanks).

Mr. Owen Thomas, gr. to H.M. the QUEEN, Royal Gardens, Frogmore, exhibited a meritorious collection of Plums in thirty-eight varieties. Of large red fruits, we noticed *Victoria*, *Autumn Compote*, and *Pond's Seedling*; of purple kinds, there were *Archduke*, *Fellenburg*, *Prince Engleheart*, *Kirke's*, *Large Black Imperial*, *Diamond*, and others; also *Jefferson's*, *Belle de Septembre*, *Coe's Golden Drop*, *Magnum Bonum*, *Lawson's Golden Gage*, *Damsons*, *Bullaces*, &c. Mr. Thomas also showed a pair of nice-looking short Cucumbers, named *Frogmore Prolific* (Silver Knightian Medal).

An extensive collection of first-class fruit was exhibited by Messrs. JAS. VEITCH & SONS, Royal Exotic Nursery, King's Road, Chelsea, which included Apples, Pears, Plums, &c., in variety. Among two dozen dishes of culinary Apples, we noticed *Stirling Castle*, *Lord Derby*, *Lord Suffield*, and *Beckinville Seedling* as commendable. Dessert kinds were represented by *Duchess' Favourite*, of very high colour; *Devonshire Quarrenden*, *Lady Sudeley*, *Early Strawberry*, *Early Joe*, *Kerry Pippin*, *Yellow Ingestre*, and *Worcester Pearmain*. There were several dishes of Pears, including *Fondante de Cuerne*, *Beurré d'Amanlis*, *Fondante d'Automne*, *Souvenir du Congrès*, &c. Plums were shown in a large number of varieties, generally of excellent quality. Several dishes of Peaches from trees in pots were good, and included *Barrington*, *Crawford's Early Violet*, and others. An Award of Merit was recommended to an ornamental Crab Transcendent, some very attractive fruits of which were exhibited together with sprays. The fruits are uncommonly highly-coloured, and are much less conical in shape than the variety *John Downie*, also Certificated. Two new Apples were also shown, *Beauty of Moray*, a green culinary variety; and *Temple's No. 1*, a high-coloured dessert variety. Neither of these were certificated. Messrs. VEITCH's excellent collection was awarded a Silver-gilt Knightian Medal.

Messrs. S. SPOONER & SONS, Honnslow, contributed a collection of fruit in fifty dishes, including an excellent lot of Apples and Pears; also a few dishes of Plums, &c. (Silver Banksian Medal).

A golden-coloured Tomato and plant named *Edmonscoote Favourite*, was shown by R. DAVIES, Esq., Edmonscoote House, Castle Hill, Ealing, W. (gr., Mr. Wickenden); and a free-bearing French Bean named *Syon House Prolific*, was shown by Mr. G. Wythes, gr. to Earl PERCY, *Syon House*, Brentford, Mr. A. G. Hookings, gr. to W. H. HARFORD, Esq., Almondsbury, also showed a very free-bearing Bean, with large coloured pods, and some of *Ne plus Ultra* for comparison.

A brace of Cucumbers named *Eames' Hybrid* was shown by Mr. F. K. EAMES, Twickenham. New Melons were exhibited by Earl PERCY (gr., Mr. Wythes), and Earl DERBY, Knowley (gr., Mr. Robt. Doe), but no awards were made.

Messrs. H. CANNELL & SONS, Swanley, Kent, sent two dishes of a good Perfection type Tomato named *Cannell's King*; and Mr. W. Rapley, gr. to H. GRIMLING, Esq., Harrow Weald House, Stammore, showed a dish of *Sutton's Perfection* Tomato grown out-of-doors; the quality was very good. A medium-sized Pea called *Selected* was exhibited by Mr. THOS. McCLEURE, Hartley Grange, Winchfield; and from Mr. W. POTTEN, Camden Nurseries, Cranbrook, were some fruits of *Malus baccata fructu maximo*, a large form of the Siberian Crab.

Messrs. GEO. BUNYARD & Co, Maidstone, were recommended an Award of Merit for a rather large dessert Apple named *Williams' Favourite*. The fruit as shown is conical, very highly coloured, the colour extending almost over the entire surface, flesh tender and sweet.

Fruits of a seedling Peach came from the gardens of Sir T. D. ACLAND, Killerton, Devon. In appearance the fruits resembled *Royal George*, but it was a clingstone.

Lecture on Codæums and Dracænas.

In the afternoon a paper by Mr. C. F. Bause on the "Culturs of Crotons and Dracenas" was read by Mr. Geo. Bunyard.

The writer first dealt with *Crotons*, and recommended a night temperature during winter of 60°, and in spring about 5° or 10° higher. Many of the varieties may be grown without shading, but during the summer most of them would require a slight and removable shade at mid-day. Syringing during the summer months was a very important operation, and should be done in a thorough manner in order to keep red-spider at bay. Drought at all seasons is highly injurious. A good potting compost for the plants would consist of two parts good rich loam, one part leaf-soil, and some sand. The plants should never want in the least for water, and they should always be given a very light position. The usual method of propagation was by cuttings, which should be made with a clean cut by a sharp knife directly under a node. The pots should be plunged in Cocos-nut fibre or other suitable material in the propagating-case, and the material kept damp at a temperature of from 75° to 80°. When potting the cuttings off, a lighter soil should be used than that recommended for established plants. The ringing process also might be used with advantage. Seeds of *Crotons* should be sown as soon as ripe.

Dracenas.—The different types were alluded to briefly, and the particular uses to which they would be advantageously put. Thrips and red-spider were enemies which have to be fought, and it was necessary to syringe the plants very thoroughly once each day. The roots should be kept in a regular state of moisture, and the plants watered whilst moderately moist. For potting, a compost might be used of two parts fibrous loam, one part leaf-soil, and one part peat. The *Dracenas* were propagated by roots, cuttings, stems, and seeds. Varieties of the *Goldiana* type should have the top cut off and grown, and the stem would continue to break, when each growth might be taken off and struck. *Indivisa* and *australis* varieties were usually raised from seed.

SHIRLEY.

AUGUST 21.—The present was the thirtieth summer show held by this society, and was in every way a success. Groups of miscellaneous plants arranged for effect were a feature, so well were they done.

Mr. WILLS, nurseryman, Shirley, gained the premier award; Mr. Peel, gr. to Miss TODD, Shirley, 2nd. Specimen stove and greenhouse plants were numerous and good. For six, Mr. AMY, gr. to Hon. Mrs. ELLIOTT YORKE, Hamble Cliff, Southampton, won easily; Mr. WILLS 2nd. The best Ferns came from Mr. G. Hall, gr. to Lady LOUISA ASHBURTON, Melebot Court, Romsey. Mr. Mitchell, gr. to J. WILLS FLEMING, Esq., Chilworth Manor, won for tuberous Begonias. Mr. Wilcox, gr. to Col. W. SINKINS, Aldermeer House, Shirley, had the finest *Fuchsias*, really good examples.

Cut flowers were bright and varied. For twelve Roses, twelve show, six Cactus, and six Pompon Dahlias, and twenty-four Asters, Mr. West, gr. to J. WIGRAM, Esq., Northlands, Salisbury, won in all the classes referred to. Mr. LADHAMS won for twelve spikes of *Gladiolus*—really good examples they were.

FRUIT was an important feature of the show. For six dishes Mr. MITCHELL won with an even and good collection. Mr. WILCOX had the best Black Grapes, Mr. MITCHELL the finest White, both representative of the kinds staged. Mr. HALL, Peaches and dessert Apples. Mr. AMY had a good Melon, and secured 1st prize.

Vegetables were especially numerous. For a collection of six varieties, Mr. RUSSELL, Nursing, was easily 1st; and for the prizes offered by Messrs. TOOGOOD & SONS, Mr. Holloway, gr. to A. BROWN, Esq., Shirley, secured the leading award.

BASINGSTOKE.

AUGUST 22.—In the grounds at Eastland, belonging to Mrs. Millar, the annual summer exhibition was held, and was in every way a success. Plants formed an important feature of the show.

For twelve specimens, Mr. Bowerman, gr. to C. HOARE, Esq., Hackwood Park, Basingstoke, was an easy 1st, his

flowering plants exhibited much merit. Mr. T. Weaver, gr. to W. O. GILCHRIST, Esq., Oakley Park, Basingstoke, was 2nd.

Groups of miscellaneous plants arranged for effect were meritorious, Mr. BOWERMAN taking the lead in this class. Mr. Best, gr. to F. D. LEYLAND, Esq., The Vyne, Basingstoke, 2nd.

Mr. WEAVER won the premier award for exotic Ferns with healthy examples. Mr. BEST had the best table plants and tuberous Begonias.

Mr. RUSSELL, gr. to W. BRADSHAW, Esq., Audley's Wood, Basingstoke, was 1st for Coleus and Fuchsias, both meritorious exhibits.

Out flowers were shown in quantity, and made a bright display. Mr. NEVILLE, gr. to F. W. FLIGHT, Esq., Twyford, Winchester, won the premier award for twenty-four and for twelve blooms of Roses, with particularly bright and fresh blooms. This exhibitor also won for twelve show Dahlias. For twelve bunches of any kind of flower, Mr. WEAVER was distinctly 1st; and Mr. RUSSELL won in the herbaceous class.

Ladies made a creditable display of flowers in a separate tent.

FRUIT was shown in good quantity. For a collection of six varieties, Mr. F. Cole, gr. to Sir G. RUSSELL, Swallowfield Park, Reading, won with a good all-round collection; Mr. BOWERMAN following. Mr. COLE also won for three bunches of Black Hamburgh Grapes; Mr. OMAN, gr. to J. G. BAKER, Esq., Ottershaw Park, Chertsey, was 2nd. In the class for any other black Grape, Mr. OSMAN staged well-finished Alicante; and Mr. COLE was 2nd. In the white Grape class, Mr. BOWERMAN won with Muscata.

Harrington Peaches won for Mr. BOWERMAN premier award for one dish; he was also 1st for a green-fleshed Melon. The finest Nectarines were staged by Mr. Holdaway, gr. to Lieut.-Col. MAY, Hawfield, Basingstoke.

Apples made a large display. For three dishes, dessert varieties, Mr. BEST won; and for a like number of kitchen varieties, Mr. DAUNCEY, nurseryman, Hook, was easily 1st.

For three dishes of Plums, Mr. Fulford, gr. to the Earl of NELSON, Trafalgar House, Dorset, won with choice kinds.

Vegetables are always well staged here. Mr. BOWERMAN won 1st prize in each of the three collections of six varieties, with superior produce; Mr. BEST, and Mr. Kneller, gr. to WYNDHAM PORTAL, Esq., Malshanger Park, coming next in their respective classes.

Mrs. LADHAMS, Shirley, made a grand display with a large bank of herbaceous flowers, arranged in an effective manner; a smaller yet choice collection also coming from Mr. G. JACKMAN, Woking.

MANCHESTER ROYAL BOTANIC LILY AND FRUIT SHOW.

AUGUST 22 to 26.—An exhibition where Lilies form the chief feature is altogether a novel one. To Mr. Bruce Findlay must be voted the credit of bringing together such a variety of Lilies in flower, that it is not the lot of the general public, and even of many gardeners, to have seen. Moreover, nearly the whole of them were shown in pots, a matter of cultural importance, and an object-lesson to all who inspected them, presenting an imposing array, set in the sloping, undulating banks of the annexe, a building eminently fitted for displaying to the best advantage pot-plants of every description. The floral scene was amplified by splendid assortments of Gladioli, and border cut flowers in posies of every hue. The fruit was not a large exhibition, and was not particularly notable, with the exception of some well-coloured bunches of Muscat Grapes. The opening-day was a propitious one, but the attendance was not such as a charming exhibition of this kind ought to have commanded.

LILIES.

By far the finest lot of Lilies came from Messrs. R. WALLACE & Co., Colchester. The auratum section comprised some beautiful forms, among which we noted the magnificent ruby-banded variety, rubro-vittatum in several lots, the gorgeous broad-segmental platyphyllum, so prominently banded and spotted, and the plants bearing short stems carrying good-sized flowers, the white form of this under the name of Virginale, is an imported gem, with its minutely spotted flowers and prominent golden band down centre of each segment; then Wittai, as white as speciosum album itself, only having a faint yellow band down centre of segments. Batemanii is one of the most striking of the Icolirion type, bearing glowing apricot flowers, almost unspotted. Among the speciosum group Melpomene is a superb variety, making a splendid exhibition plant, the vivid crimson-purple blotches and the white margins renders this form one of singular attraction. Speciosum album was in several varieties, the Kratzeri form being pure white, and the album having prominent golden anthers. This group is always a telling one, and although the numbers generally were limited because of the season, they still take front rank in Lily mixtures. Longiflorum giganteum was very prominent, even beating for quality the ubiquitous Harrisii. The chief novelties and varieties were L. Henryi, called the orange-yellow speciosum. This seems to be a gigantic grower, and a very free flowerer, some of the spikes bearing twenty flowers, and carrying good foliage; the flowers were represented grown under glass, and out in the open, the latter mode emphasizing the orange colour. The groups of this species here commanded

general attention and observation. L. Leichtlinii is a very charming Lily of the Martagon group; colour, yellow ground, covered with purple spots. L. nepense is a pretty combination of brownish-crimson and citron. Another of the funnel-shaped section, named Lowii, is striking in having its interior covered with purplish spots. L. tigrinum Fortunei giganteum is a gigantic form of the type, bearing larger flowers, and in greater number than the type. The old double Tiger Lily always tells well in a group. This firm also showed a new form of Hemerocallis, under the name of Aurantica major, which received a First-class Certificate. The collection, as a whole, obtained the Society's Gold Medal, and it richly deserved it.

Mr. HUDSON, from Kilburn, showed over a hundred pots, comprising chiefly forms of auratum and speciosum, the white ones being less numerous than the coloured-spotted ones. It was an effective group, however. Mr. FINDLAY put up a large group, mostly of the auratum and speciosum breed, and in the course of a few remarks he made at the luncheon, he advised all gardeners not to try and force speciosum Lilies, because they would refuse to be conjured into flower under the influence of the pressure of artificial heat. As an instance of the wisdom of his observations, we saw a house in the garden range completely filled with Lilies which in another fortnight would be a blaze of beauty, but nothing short of sunshine and time would effect the evolution of the flowers. Messrs. J. & R. THYNE, Glasgow, sent a very good lot of L. auratum, in which the large platyphyllum were represented, also some good rubro-vittatum.

GLADIOLI, ETC.

Next in importance to the Lilies were the Gladioli, particularly those from KELWAY & SON, Langport. There were hundreds of them, and all clean and beautiful. Among the very best were Mr. J. Eyton, white, shaded rose; Lord Rothschild, scarlet, crimson shaded; Empress of Germany, white, with rose venation; Rev. H. H. D'Ombraïn, cerise and white throat, splendid substance; Mr. Fowler, crimson, with yellow citron, crimson, good form; Fiducius, crimson, deeply shaded centre; Maori Chief, mulberry, crimson blotch; Duke of Edinburgh, rose and purple-white throat. Among new ones we noted as best—Acis, marbled scarlet and purple, very stylish; Mus, deep velvety, crimson shaded, fine substance; Milus, beautiful shining heliotrope, with whitish base; Mano, maroon-crimson, tender, of grand form and substance; Pine, orange-scarlet, purple lines; and Madame Calve, shaded orange and ruby blended. This firm also exhibited a splendid lot of Gaillardias, of which Vampire may be said to be the chief; and the free-fruited Japanese Wineberry, Rubus phoenicolasius. This makes a handsome plant, with fine ovate acuminate leaves with a profusion of rich scarlet berries crated together, of prominent vinous flavour. Along with this among others were the showy yellow-flowered Rudbeckia laciniata, and the intense blue in long spikes of Veronica longifolia subsessilis.

Messrs. BARR & SON had several Lilies in their collection, the double-flowering Tiger Lily not being the least effective of them; and the fine orange-scarlet Montbretia crocosmaeflora, along with Lobelia Queen Victoria, a brilliant form of the fulgens type.

Mr. ANTHONY WATERER sent out sprays of the new Spiraea Anthony Waterer in rather pretty ruby-coloured thyrses. Messrs. DICKSON, BROWN & TAIT sent a lot of cut Gladioli, set among nice dwarf greenery. Messrs. DICKSON & ROBINSON had a very good assortment of H. P. and Tea Roses; among the latter, Madame Hoste, a yellow, was very prominent. Mr. JOHN KIRSON, Altrincham, had a miscellaneous lot of hardy border flowers, nothing so fine as the varied Snapdragons which are again coming to the fore.

Mr. FRANK LAW, Sale, put up a grand assortment of cut flowers, such as he supplies daily to the Manchester bazaar trade. They were arranged on a central bed, in which Kentia Fosteriana was the fountain-like apex—and beautiful they looked. They comprised Gladioli, the best market flower in that way being the scarlet Brenchleyensis, then Phloxes, particularly the late white; various kinds of border Chrysanthemums, the charming white Mignon Aster, then which it has no rival for purity and form; fine posies of varied Zinnias, yellow Papaver, and also the deep pink variety, more beautiful when cut than to look at them in the plants; Germania Carnations, of fine sulphur colour; also a new border one, very double, and of good form—cerise, called Mrs. Frank Law; Mrs. Sunkias Pink is also a favourite, and the Sweet Sultans and Coreopsis, and Gaillardias; and Centaureas forming a group for brilliancy of these simple border flowers that may be equalled in the other departments of Flora, but could not be excelled.

FRUIT

Comprised collections of ten sorts, Mr. Goodacre, gr. to the Earl of HARRINGTON, had good Muscat and Black Hamburgh Grapes, a Queen Pine, Bellegarde Peaches, Elruge Nectarines, a good Victory of Bath Melon, Downton Plums, and Jarzonelle Pears. Mr. W. Wallis, gr. to R. SNEYD, Esq., Keele Hall, was 2nd with, among others, Pearson's Golden Queen and Black Hamburgh Grapes, Walburton Peaches, Golden Drop Plums, and Negro Largo Figs. Mr. Slade, gr. to the Duke of NEWCASTLE, was 3rd, having Muscat and Hamburgh Grapes, a small Pine, and several other dishes, of which the Hero of Lockinge Melon was the best.

For the best twelve bunches of Grapes, Mr. GOODACRE was 1st, with a showy lot, beautifully finished, but the bulk of them having smallish berries. The Muscats here were good, considering the time of year, being of fair size, good colour, and proper form; there were five bunches of them in the collection; then good-berried bunches of Gros Maroc; fair-sized bunches, finely-finished, of Barbarossa, but berries small; and a pair of Alnwick Seedling.

Mr. Elphinstone, gr. to S. M. MUNDAY, Esq., Shipley Hall,

had also a remarkably good lot, many thinking that the prizes should have been reversed; but on close examination the judgment appeared to be perfectly sound. This lot also comprised four good bunches of Muscat of Alexandria, two of Alnwick Seedling, two of Madresfield Court, and two of Black Hamburgh. The bunches were smallish and so were the berries, but the finish and the staging were without blemish.

Mr. Tillett, gr. to Lord BARNARD, Baby Castle, had very good Muscat of Alexandria. For six bunches of Grapes, Mr. ELPHINSTONE and Mr. GOODACRE exchanged positions, the former grower having 1st, with three good bunches of Muscat of Alexandria and three Madresfield Court, the latter exhibitor having also prime Muscats, fairly good Foster's Seedling, and Madresfield Court. Mr. Richardson, gr. to J. E. PLATT, Esq., Cheadle, had fairly good Muscats and Gros Maroc. An extra prize was awarded to Mr. WALLIS, Keele Hall, for his six bunches.

Obituary.

MONSIEUR LIÉVIN SPAE-VAN DER MEULEN.—We regret to hear of the death of Monsieur LIÉVIN SPAE-VAN DER MEULEN, Treasurer of the Syndicale des Horticulteurs Belges, who died at Ghent on August 23, 1895.

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Table with columns: DISTRICTS, TEMPERATURE (ACCUMULATED), RAINFALL, BRIGHT SUN. Rows list districts 0-10 and their respective weather statistics.

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

- 0, Scotland, N. Principal Wheat-producing Districts—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.: Channel Islands.

MARKETS.

COVENT GARDEN, August 29.

Table showing COVENT GARDEN market prices for various goods like Arms, Asters, Bonvardias, Carnations, Chrysanthemums, Eucharis, Gardenias, Gladioli, Lapageria, Lavender, Lilium Harrisii, Lilium laucifolium, Maidenhair Fern, Margerites, Orchid-bloom, etc.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.	s. d. s. d.	
Adiantum, per doz.	4 0-12 0	Ficus elastica, each	1 0-7 6
Aspidistra, per doz.	12 0-30 0	Foliage plants, doz.	12 0-30 0
— specimen, each	5 0-15 0	Fuchsias, per doz.	4 6-8 0
Asters, per dozen		Heliotrops, per doz.	4 0-6 0
pots ...	3 0-6 0	Hydrangeas, p. doz.	9 0-24 0
Chrysanthemums, p.		Lilium Harrisii, per	
doz. pots ...	6 0-12 0	dozen pots ...	12 0-18 0
Coleus, per dozen	2 6-4 0	Lilium lancifolium	12 0-24 0
Cyperus, per dozen	4 0-10 0	Lobelia, per doz.	3 0-4 0
Dracæna, each	1 0-7 6	Magnolias, p. doz.	6 0-9 0
— various, doz.	12 0-24 0	Mignonette, p. doz.	4 0-6 0
Evergreen Shrubs,		Palms, various, ea.	3 0-10 0
in variety, per		— specimens, ea.	10 6-34 0
dozen ...	6 0-24 0	Pelargoniums, (scar-	
Ferns, small, doz.	1 6-3 0	lets), doz.	2 6-4 0
— various, doz.	5 0-12 0		

FRUIT.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.	s. d. s. d.	
Apples, per bush...	1 6-2 0	Grapes, Guernsey...	0 6-0 9
Cobs, per 100 lb.	40 0-45 0	Melons, each ...	1 0-1 6
Damsons, half sieve	1 9-2 0	Pine-apples, St. Mi-	
Figs, per dozen	6 1-0	chael, each	2 0-6 0
Filberts, per 100 lb.	35 0-40 0	Peaches, 1st size, doz	3 0-6 0
Gages, half sieve	3 6-4 0	— 2nd size ..	1 6-2 0
Grapes, 1st quality,		— 3rd size ..	0 9-1 0
black, English, lb.	1 3-1 6	Pears ...	3 6-4 0
— 2nd quality...	0 9-1 0	Plums, half sieve ...	2 6-3 0
— Muscats ...	1 6-2 0		

VEGETABLES.—AVERAGE WHOLESALE PRICES.

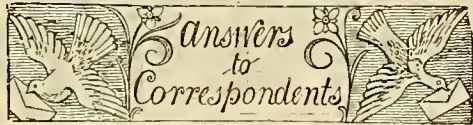
s. d. s. d.	s. d. s. d.
Beans, Runners, per	
bushel ...	1 0-1 6
Cauliflowers, p. doz.	1 0-1 6
Cucumbers, per doz.	0 9-1 0
Marrows, veg., per	
tally of 5 doz.	1 0-1 6
Mushrooms, per lb.	1 6- —
Tomatoes, Home-	
grown, p. doz. lb.	
— Smooth ..	2 6 3 0
— ordinary ..	2 0-2 6
— Guernsey ..	1 6-2 0

POTATOS.

Trade very dull. Supplies heavy. Prices lower, £3 to £1 being fair average prices. J. B. Thomas.

SHOW REPORTS, &c., DELAYED.

An unexpected demand upon our space unfortunately compels us to keep over until our next issue reports already in type of exhibitions held at Bath, Brighton, and other matter.



Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.

PLANTS, FRUITS, ETC., TO BE NAMED.—Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.

ANTS: G. T. C. The means of destruction may be applied at the present time. When it is seen by digging into the nests that the ants are dead, the former should be dug into, and the earth containing the eggs scattered on the surface of the ground. Domestic fowls, pheasants, &c., would soon then make a clearance of these.

ASTERS: Will your correspondent R. King (p. 216) be good enough to send me one of his diseased Asters with roots and soil adhering, also name and address, as I am deeply interested in the matter, and may possibly be able to give him information. L. Davies, Rosecroft, Hambledon, Hants.

BAMBOOS: J. R. Bambusa has the spikelets arranged in fascicles, and the flowers have six stamens. Arundinaria has many flowered spikelets arranged in branched spikes, without any enveloping leaf, and the stamens are three. The canes are cylindrical, with numerous buds at the joints, as pointed out to us by Mr. Bean. Phyllostachys has loosely paniced one-flowered spikelets, surrounded at the base by a large leaf, stamens three. The canes are flattened or grooved on one side, and only two shoots proceed from each node. Thamnocalamus is not essentially distinct from Arundinaria.

BOOKS: E. Tremeller. Handy-book of the Flower-garden, by D. Thomson (W. Blackwood & Sons, London & Edinburgh) will afford the information needed. The later edition costs 5s.—MARKET GARDENING, &c.: J. N. C. Tillage and Implements, by W. J. Malden, published by G. Bell & Sons, York Street, Covent Garden. The New Potato Culture, by E. S. Carman, Rural Publishing Co., New York, or through a foreign bookseller. Kitchen and Market Garden, by various writers,

published by Macmillan & Co., Bedford Street, Covent Garden. Market Garden Husbandry, by W. H. Ablett, published by Chapman & Hall, 11, Henrietta Street, Covent Garden.

CÈPES OR CÈPES: Inquirer. The edible species or cep blanc is Boletus edulis; the poisonous species are the cèpe noir, B. areus; and the cèpe faux, B. luridus. There is no known method of cultivating them.

CORRECTION.—In the report of the proceedings of the Royal Horticultural Society's Fruit Committee, at p. 218 last week, Tomato Early July should have been credited to Laxton Brothers, instead of to Sutton & Sons.—Hammersmith Horticultural Show, Gardeners' Chronicle, August 3, p. 137. Mr. A. Salter writes to say that his father did not escape with a fine China dinner-service, as there stated, and which the King Louis Philippe presented to him. We had no desire to impute dishonesty to the late Mr. Salter, or that he performed anything more than a friendly action towards the King.

"FLORA OF TASMANIA": The widow of the late eminent botanical artist, Mr. W. H. Fitch, desires to dispose of this valuable work. It is in parts, but the first one is missing.

FUNGUS ON PINK: A. L. Didymium apumarioides; one of the slime-fungi has overrun the Pinks, but it is not a parasite, and will do no harm, and will soon entirely disappear. G. M.

GARDENERS' ORPHAN FUND. A subscriber to the Gardeners' Chronicle begs to enclose a post-office order for £1 for the orphans of gardeners, in consideration of the Editor's kindness in naming her wild flowers. H. M. E. The amount has been received with very many thanks, and is in the hands of the secretary.

HANDLING A SPADE OR OTHER TWO HANDED TOOL: Spadesman. When the left hand is used lower down the handle than the right, the user is said to be "left-handed," notwithstanding that he is, where one hand only is brought into use, a right-handed man.

JUDGING AT FLOWER SHOWS: R. C. W. 1. The group contest being for plants in pots, the cutting-off of the Bamboos and using the stems, &c., as decorative material should have disqualified the exhibit. 2. Distinct species were doubtless meant by the framers of the schedule, and he who showed two Acalias was rightly put out of competition. 3. Cycads are not Palms.

LETTUCES FOR FORCING: W. D. The black-seeded Crisped Tennis Ball, white; Golden Tennis Ball, but this variety soon bolts; and Tom Thumb. Sow in October on hotbeds, and grow entirely in frames or hand-glasses. We cannot give you any information about prices; consult our market reports of last winter.

MANURE: C. H. W. If your land is light, let the manure be fairly decayed before using it, but if it be heavy, you may dig it in when half-decayed. In any case, do not let it lie about in heaps, but cover it with soil, banking it up as you would Celery. Pour sewage or house-slops into these, which will aid the rotting.

MEALY BUG IN VINERIES: N. Z. We should be inclined to depend on Richards' XL All Vaporiser for the destruction of "bug." It is cheaper than hand-labour, and much more efficient, doing no harm to the fruit, although we might hesitate, for obvious reasons, to its use in vinerias where ripe fruit is hanging; more than one application would be required. Could you not wait till the crop is consumed or put into bottles, when you could perhaps find a way to make the house airtight before using the vaporiser; in the meantime, using methylated spirits and a camel-hair pencil to kill "bug" wherever seen, especially about the bunches.

MEASUREMENT OF CUBIC CONTENTS OF GLASSHOUSE.—A LEAN-TO: F. W. W. First find the area of a cross-section of the house up to the angle which the roof forms with the upright front wall or lights, and then that of the angle formed by the roof, and a line drawn from the wall-plate horizontally towards the back wall of the house. Having found these measurements, add them together, and multiply the total by the number of lineal feet in the length of the house, and you will have the contents in cubic feet.

NAMES OF FRUITS: J. C. B. 1, not known; 2, Duchess of Oldenburg; 3, Ravelston Pippin.

NAMES OF PLANTS: Correspondents not answered in this issue are requested to consult the next number.—

W. M. Prunus Pisardi. There is no fungus or insect on the Begonia, so far as we see. Is there not some defect in the method of cultivation?—N. C. 1, Linaria Cymbalaria; 2, Senecio viscosus; 3, Chenopodium polysperum; 4, may be leaf of Spiræa Ulmaria; 5, Nicotiana rustica. Specimens withered, numbers detached mostly, figures nearly obliterated by damp. We do the best we can under the circumstances.—Correspondent. Both Acer are forms of the Norway Maple, Acer platanoides, L.—H. M. E. Platanna orientalis, variety acerifolia—often called the London Plane, as it is so commonly planted in London. We never heard it called Indian Plane.—W. T. H. Gypsophila elegans.—A. H. Dasylirion acrotrichum.—G. H. S. 7, not recognised, flowers perished; 8, Leptospermum bullatum.—T. H., Ickley. The flower represents a very fine variety of Odontoglossum coronarium. It is much to your credit that you have been successful in growing it for so long a time, and flowering it.—M. 1, Lastrea rigida; 2, Lastrea recurva; 3, Nephrodium molle; 4, Nephrodium molle corymbiferum; 5, Pteris longifolia; 6, Blechnum polypodioides.—H. F., Leeds. 1, Catasetum Gnomus; 2, Brassia caudata; 3, Rodriguezia pubescens.—Lymington. Amaryllis reticulata, an almost evergreen stove species.—J. M., Peebles. Cattleya Harrisoniana.—C. T. 1, Polygonum Persicaria; 2, Æthusa cynapium; 3, Polygonum aviculare; 4, Polygonum Convolvulus. The shells were utterly crushed.—W. P. Rhamnus Frangula.—X. Y. 1, Phyllanthus nivosus (Euphorbiaceæ); 2, Myrsiphyllum asparagoides (Liliaceæ). We have no idea why it should be called Smilax, beyond the fact that there is a remote resemblance.—Munches. 1, Cornus mas variegata; 2, Echinium vulgare; 3, Phacelia tanacetifolia.

PACKING GRAPES FOR TRANSIT: G. H. C. For best manner of packing Grapes, either for market or private consumption, we would refer you to Gardeners' Chronicle for Sept. 27, 1890, p. 363, where various methods are fully described, and a few illustrated.

PHYLLANTHUS NIVOSUS: X. Y. Stove treatment at all times. Soil for potting, sandy loam of a fibrous nature, and similar peat, nodules of sandstone or porous red brick, dried cowdung or other mild manure, and well drained pots. During the summer season it does well in a house which is kept rather moister than dry, doing well with Aroids, such as Philodendrons, and the like. To get the white mottling of the leaves as good as possible it should not be densely shaded or overpotted, and it should not be placed far from the glass. In the winter it usually loses some of its leaves. Prune it if you like before active growth begins.

TOMATO: W. R. One of the diseases caused by fungi, repeatedly figured and described in these columns. You can do nothing now, but next season apply Bordeaux spray early to the foliage and very young fruit. Be careful not to use it too strong; refer to recent back numbers for further detail.—Ubique. The appearances are consistent with some check to growth at a certain stage of development. There is no insect or fungus visible. The conditions too common, but the cause is not clear.

WORMS IN THE GARDEN: C. H. W. Use clear lime-water; keep ducks, or, better still, bantam chickens.

WORMS ON LAWN: W. E. R. The answer appeared on August 10, see p. 167.

COMMUNICATIONS RECEIVED.—P. W., Russia.—E. H. R., Harlem.—G. B., Maidstone.—W. G. S.—H. B.—T. S. W.—J. S.—G. C.—J. O'B.—S. M.—W. L. A. Y., with thanks.—B. Calvert.—Subscriber, Worsop.—R. M.—J. H.—W. R.—H. W. W.—W. Kelly.—R. J. L.—A. C. F.—W. Turvey.—J. F. S.—W. M.—J. W. G.—E. C. S. (next week).

SPECIMENS RECEIVED.—B. L., Southampton; many thanks, next week.—J. V. & Sons; best thanks.—E. F.

PHOTOGRAPHS RECEIVED.—Sutton & Sons, with thanks.

DIED.—On the 16th inst., at Shoji, Yokohama, Japan, HERBERT WILLIAM, eldest son of WILLIAM BROCKBANK, of Brockhurst, Didsbury, aged thirty-three years.

—On the 23rd inst., at Bienne, Switzerland, suddenly, MARY ANNE FRANCES, widow of JOHN LLOYD-WYNN, Esq., of Coed-Coch, Denbighshire, and 7, Eaton Place, S.W., aged eighty-four. Extracts from Times.

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variegata ... 12/-
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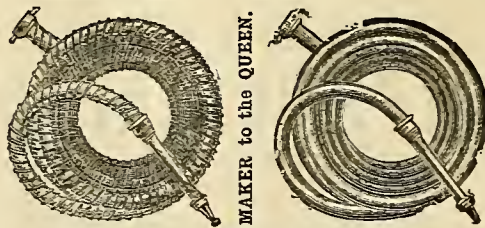
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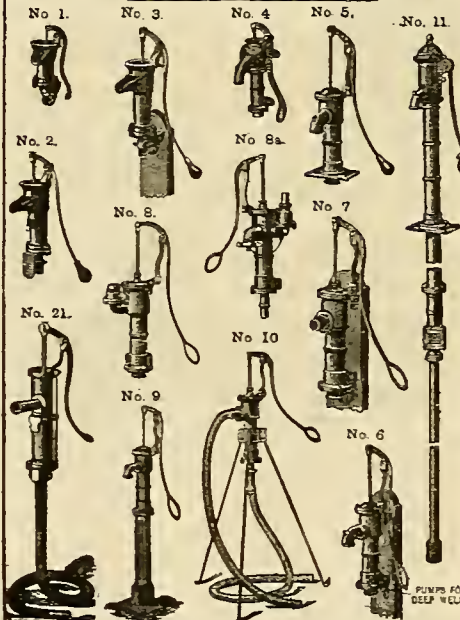
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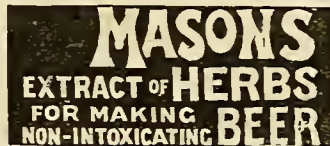
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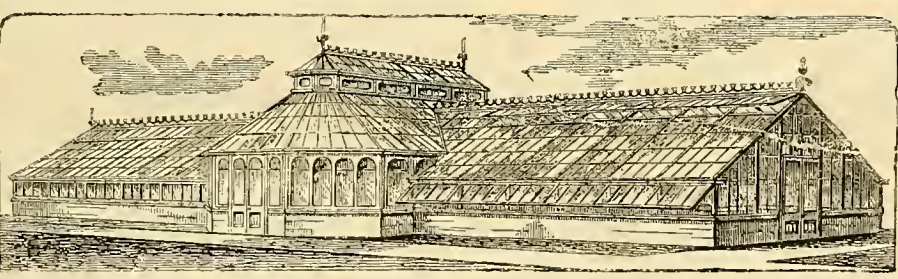


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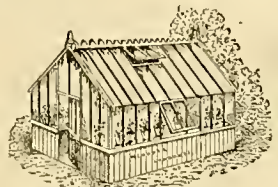
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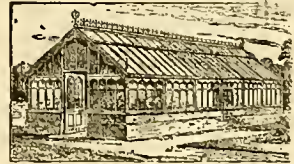


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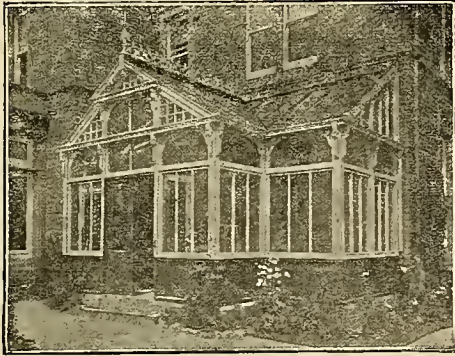


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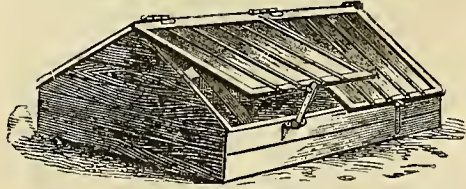
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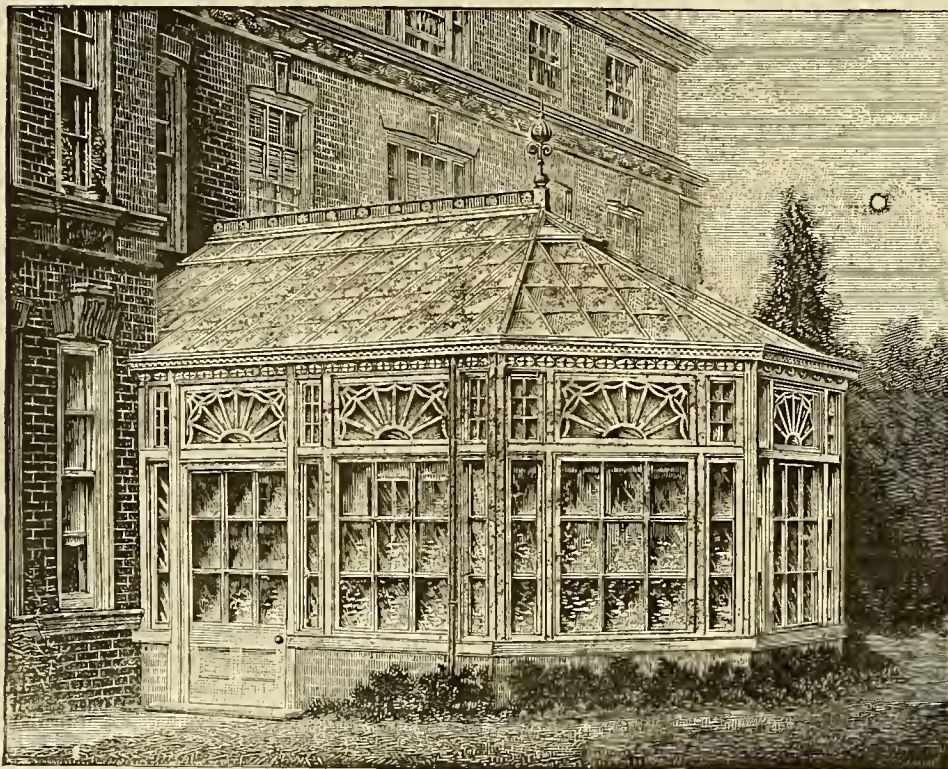
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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

H. CANNELL AND SONS' Complete **H. AUTUMN CATALOGUE**, now ready, containing particulars of the best kind of everything to keep the Conservatory and Garden in the highest state of perfection during the Winter and Spring at the least expense; most valuable and useful list issued, absolutely necessary both to Gardeners and Amateurs. Post free. We cordially invite all to come and see our establishments. Foreign orders a speciality. **SWANLEY, KENT.**

NOW is the TIME to PLANT PYRETHRUMS, Gaillardias, Delphiniums, and Herbaceous Plants. Catalogue of **KELWAY AND SON**, Langport, Somerset.

The Best Present for a Gardener.

VINES AND VINE CULTURE. The most complete and exhaustive Treatise on Grapes and their Culture ever published. Third Edition just out. Price 5s.; post free, 5s. 6d. **A. F. BARRON**, Royal Horticultural Society, Chiswick.

GRANDE MONARQUE NARCISSUS, 30s. per 1000, 3s. 6d. per 100; **CAMPANELLE MAJOR**, 8s. per 1000, 1s. per 100. All good flowering bulbs. **T. GELL**, Week "erm, Ventnor Isle of Wight.

CABBAGE PLANTS.—A large quantity of Early Leading Market Sort, to be Sold Cheap. Apply—Pine House, Isleworth.

SUTTONS' EARLY HYACINTHS and NARCISSI, for flowering at Christmas.

SUTTONS' EARLY ROMAN HYACINTHS. Single White, from 1s. 6d. per dozen. Single Blue, at 1s. 8d. per dozen.

SUTTONS' EARLY NARCISSI. Paper White, at 1s. per dozen. Double Roman, at 1s. per dozen.

SUTTONS' ROMAN HYACINTHS and NARCISSI.—Mr. W. Ward, Gardener to H. James, Esq., says: "The Roman Hyacinths and the Double Roman Narcissus from you are the best I ever had, and are very much admired."

SUTTON'S BULBS GENUINE ONLY DIRECT FROM SUTTON AND SONS, THE ROYAL SEEDSMEN, READING.

Important to Mushroom Growers.

CUTHBERT'S SPECIALITE MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 5s. **R. AND G. CUTHBERT**, Seed, Bulb, and Plant Merchants, Southgate, N. Established 1797.

WHOLESALE BULB CATALOGUE, containing List of all the Best Varieties of Hyacinths, Tulips, Crocus, Lilliums, Daffodils, Snowdrops, Iris, Peonies, &c., free on application. Please compare our prices before sending your orders abroad. **WATKINS and SIMPSON**, Seed and Bulb Merchants, Exeter Street, Strand, London, W.C.

BULBS.—If you want the finest procurable, sorts that won at the Great Haarlem Quinquennial Show, and grown by the actual exhibitors, send for **POPE AND SONS' CATALOGUE**, Nurserymen, Birmingham.

FOR ORCHIDS of every description at Reasonable Prices, and efficient man to cultivate them, apply to **W. L. LEWIS AND CO.**, Southgate, London, N. **PRICE LIST** free.

LAXTON'S "ROYAL SOVEREIGN" STRAWBERRY.—Large well-rooted Runners, warranted true, 10s. per 100, 2s for 3s. 6d. Cash with order. **GEORGE PYNE**, Denver Nurseries, Topsham, Devon.

HENRY RIDES, SALESMAN, Central Avenue, Covent Garden, W.C. Highest Market Prices. Prompt cash.

LOVELS' YORKSHIRE STRAWBERRIES. Runners, strong, healthy, and well-rooted. Sample packet, post-free, 1s. Descriptive LIST. **W. LOVEL AND SON**, Strawberry Growers, Driffeld.

WANTED at once, GERANIUM CUTTINGS. Jacoby, Jacoby, bronze leaf, and others; will exchange good value in Begonia Tubers later on. **JOHN R. BOX**, Nurseryman, Croydon.

WANTED, GERANIUM CUTTINGS.—Jacoby, Veuvius, and other good bedding sorts. Send quantity and price per 1,000, to **L. O. HOUSTON**, Florist, 110, South Street, St. Andrews.

WANTED, GERANIUM CUTTINGS.—H. Jacoby principally, also other good Bedders. Name sort, &c., per 100, to **E. BURTON**, Head Gardener, Kyro Park, Tebury, Worcestershire.

WANTED, quantity of GERANIUM "RASPAIL" CUTTINGS. Price per 1,000 to **TODDINGTON ORCHARD CO.**, Winchcombe, Glos.

WANTED, CUTTINGS of Henri Jacoby GERANIUMS. State quantity and price. **ARMITAGE BROS.**, Nottingham.

WANTED (100), good CINERARIAS, in 60-pots. Price per 100 to **M. EDWARDS**, Florist, Norwood, Surrey.

WANTED, about 150 feet of 4-inch PIPING and four right-angle Bends. Price and particulars to **P., 17, Havelock Terrace, Chalk Hill, Bushey, Herts.**

NARCISSUS.—Emperor, 7½ inches circumference, 6s per doz., 45s. per 100; Horsfieldii, 3s. per doz., 20s. per 100. **POPE AND SONS**, Nurserymen, Birmingham.

PEACHES and NECTARINES.—Large Dwarf-trained and Half Standard-trained Trees, best varieties. Can now be inspected and marked for autumn planting.—**WILLIAM WHITELEY**, The Nurseries, Hillingdon Heath, Uxbridge.

STREPTOCARPUS Hybrids.—Thousands of Splendid Seeding Plants in Bloom, from boxes, 12s. 6d. per 100; do. or in pots, 21 per 100, packed free for cash with order. **J. HUBERT GROGAN AND CO.**, Railway Nurseries, Worthing.

ROYAL SOVEREIGN STRAWBERRY.—The best all round variety in cultivation. Extra strong, well-rooted plants, grown from the original stock, 2s. per doz.; 12s. per 100; 6s. for 50. Cash. **HURST AND SON**, Burbage Nurseries, near Binckley.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free. **P. MOARTHUR**, The London Nursery, 4, Maida Vale, London, W.

Hyacinths, Tulips, Crocus, Lillies, &c. **C. G. VAN TUBERGEN**, Jun., Haarlem, Holland. Wholesale CATALOGUE now ready, and may be had free on application to—**Messrs. B. SILBERRAD AND SON**, 25, Savage Gardens, Crutched Friars, E.C. N.B.—Many new, rare, and interesting plants and bulbs will be found in this Catalogue.

ANT. ROOZEN AND SONS' CATALOGUE for AUTUMN, 1895, now ready, contains Cultural Directions and full descriptive details of their immense Collections of New, Rare, and Fine BULBS and PLANTS (104 pages in English), and will, as usual, be sent post-free on application to their Agents, **Messrs. MERTENS & Co.**, 3, CROSS LANE, ST. MARY-AT-HILL, E.C.; or themselves direct at **OVERVEEN**, near HAARLEM, HOLLAND. N.B.—No connection with any other firm of the same name.

GRAPE VINES, Muscat of Alexandria, Gros Colmar, Gros Maroc. 9 to 10 feet canes, extra strong, 3s. each. **MAIDENHAIR FERNS**, in 4s's, good bushy plants, 5s. per dozen; 3s. per 100. **MAIDENHAIR FERNS**, in 3s's, 7s. per doz. Packing free for cash with order. **T. BAKER**, Manager, Blandford Nursery, Upper Teddington.

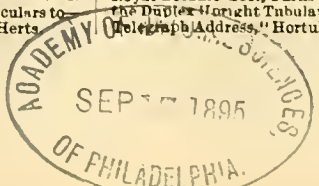
Chrysanthemum Culture. **STANDEN'S MANURE** has produced the most satisfactory results, fully borne out by reports from the leading prize-winners throughout the kingdom. Prices, in tons, 1s., 2s. 6d., 5s. 6d., and 8s. each; in kegs, ½ cwt., 10s. 6d., ¼ cwt., 18s., 1 cwt., 32s. each. **CORRY & CO., Ltd.**, London; and all Seedsmen and Florists.

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

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

By Special Appointment To H.R.H. THE PRINCE OF WALES. **MACKENZIE and MONCUR, Limited**, HOthouse BUILDERS & HEATING ENGINEERS, Edinburgh, London, and Glasgow. Plans and Estimates for all kinds of Horticultural Buildings, Pavilions, Summer Houses, and Heating Apparatus free. Splendid Illustrated Catalogue. LONDON OFFICE:—50, CAMDEN ROAD, N.W.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentes of the Duplex Horizontal Tubular Boilers, King's Road, Chelsea, S.W. Telephone Address: "Hortulanus, London." Telephone, No. 5728.



Friday Next.

A small lot of healthy, growing, fresh imported tubers of the **LARGE GOLDEN YELLOW CALLA** (*Richardia Pentlandii* and *R. Elliottiana* type).

The tubers come from new ground, and the collector asserts that they will be of the finest large spotted type ever imported, in growth and size of spikes resembling the common white Calla, but differing in the rich golden hue of the flowers, many of them having also a glowing purple blotch in the centre. The small lot offered are the sole survivors of the collection.

Also a fine lot of rare **EASTERN AUSTRALIAN DENDROBIUMS**, just arrived in fine condition, and including **DENDROBIUM LINGUEFORME**, a charming species with elegant sprays of white fragrant flowers; **DENDROBIUM TETRAGONUM**, **D. TERETIFOLIUM**, and three plants of **GIANT OYNOCHES**.

Also **IMPORTED ORCHIDS** consisting of *Angraecum superbum*, *A. species*, *grammatophyllum species*, *G. Ellisii*, and *Phajus species* (another property).

MESSRS. PROTHEROE AND MORRIS will include the above in their **ORCHID SALE** on **FRIDAY NEXT**, September 13, at half-past 12 o'clock. On view morning of Sale, and Catalogues had.

Isleworth.

IMPORTANT ANNUAL SALE of thousands of beautifully-grown young **CONIFERS** and **GOLDEN EUONYMUS**, for immediate Potting, Window-boxes, or for Growing-on. By order of Messrs. Chas. Lee & Son.

MESSRS. PROTHEROE AND MORRIS will **SELL** by **AUCTION**, on the Premises, the Wood Lane Nurseries, Isleworth, 5 minutes' walk from the Isleworth Station, L. & S. W. R., and 20 minutes' walk from Osterley Park Station, District Railway, on **THURSDAY**, September 19, at 12 o'clock to the minute, in consequence of the large number of lots:—

5000 **BEST GOLDEN EUONYMUS**, in splendid condition and colour, from 9 to 15 inches, undoubtedly the finest lot ever offered at this Nursery; **THOUSANDS OF SMALL SHRUBS**, For boxes, including Golden Privet, Aucubas, Yellow-berried Tree Ivies, Osmanthus, Gold and Silver Box.

4,000 **CONIFERS**, From 9 to 24 inches, including *Retinosporas* of sorts, *Thujopsis*, *Cupressus*, *Thuias*, 300 **RURYA LATIFOLIA VARIETATA**, from 9 to 18 in.; *Genista Andraena* in pots, *Arancaria excelsa* in pots, *Irish Ivies* in pots, *Clematis Jackmanii*, 500 **AMPELOPSIS VEITCHII**, in pots; *Specimen Palms*, 1000 **KENTIAS**, in pots, from 9 in. to 2 ft., Standard variegated, and green *Tree Ivies*, Standard **Gold Euonymus**, and **Silver Euonymus**. A quantity of **Climbing TEA ROSES**, in pots, 8 to 6 ft. high, *Maréchal Niel*, *Wm. Allen Richardson*, *Devoniensis*, *Gloire de Dijon*, &c.

May be viewed one week prior to the Sale. Catalogues may be had on the Premises; at 38, Hammersmith Road, W.; and of the Auctioneers, Estate Agents, and Valuers, 67 and 68, Cheapside, London, E.C.

PRELIMINARY NOTICE OF FORTHCOMING SALES OF NURSERY STOCK

Important to Gentlemen, and the Trade, Engaged in Planting.

MESSRS. PROTHEROE AND MORRIS beg to announce the following fixtures:—

October 10.—At the **CHILWELL NURSERIES**, **NOTTS**, by order of Messrs. J. R. Pearson & Sons.

October 16.—At the **NURSERY**, **PUTNEY**, by order of Messrs. Malwood & Son.

October 23.—At the **PERRY HILL NURSERIES**, **CLIFFE**, near **ROCHESTER**, Ninth Annual Unreserved Sale of Fruit Trees, by order of Mr. W. Horne.

October 29 and 30.—At the **HALE FARM NURSERIES**, **TOTTENHAM**, Great Annual Sale, by order of Mr. T. S. Ware (two days).

Dates not fixed.

At the **SAXE WEIMER NURSERIES**, **SOUTHSEA**, by order of Mr. T. J. Short (one day).

At the **HORSSELL NURSERIES**, **WOKING STATION**, by order of Messrs. H. & C. Cobbett (three days).

At the **NURSERIES**, **LINCOLN**, by order of Messrs. Pennell & Sons (one day).

At the **GOLDSMITH'S PARK NURSERIES**, **GROOMBRIDGE**, near **TUNBRIDGE WELLS**, by order of the Exors. of the late Mr. E. Hollamby (two days).

At the **NURSERIES**, **BAGSHOT**, by order of Mr. Chas. Noble (six days).

At the **BRANCH NURSERIES**, **FRAMFIELD**, by order of Messrs. Wm. Paul & Son.

Messrs. Protheroe & Morris will be pleased to forward Catalogues of any of the above Sales on application.

Auction and Estate Offices, 67 and 68, Cheapside, E.C.

The Melbourne Nurseries, Bexley Heath, Kent.
ANNUAL CLEARANCE SALE, by order of Mr. R. Gölzow, comprising

- 16,000 **ASPARAGUS PLUMOSA NANA** (true).
- 200 **COCOS WEDELLIANA**.
- 200 **DRACENAS**, of sorts, in colour.
- 400 **CARNATIONS** "Lizzie MacGower."
- 500 **CUPHEA LEAVE**.
- 150 **STATICE PLOFUSA**.
- 150 **AZALEA MOLLISSA**.
- 120 **CALLA** "Little Gem," &c.

Important to the Trade.
MESSRS. PROTHEROE AND MORRIS will **SELL** the above by **AUCTION**, on the Premises as above, on **FRIDAY**, Sept. 20, at 12 o'clock.

May be viewed. Catalogues may be had on the Premises; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Friday Next.

THE COLLECTION OF ORCHIDS formed by A. Easty, Esq., of "Glencourt," Addiscombe Road, Croydon, who is giving up their cultivation, comprising 250 lots of well-grown Plants, amongst which may be mentioned:—

- | | |
|-----------------------------------|---|
| Cypripedium insigne mon-
tanum | Calltleya aurea |
| " Boxalli | " Harrisonian |
| " Rothschildianum | " labiata |
| " Spicerianum | " Gaskelliana |
| " Stonei | <i>Lælia purpurata</i> |
| <i>Calltleya Mendeli</i> | " <i>grandis tenebrosa</i> |
| " Mossiae | " <i>anceps Morada</i> , specially fine |
| " Trianaei | |

Brassavola Digbyana, *Cologyne cristata*, *Dendrobiums*, &c., in variety, together with 300 Cool-house Orchids, including *Odontoglossum Alexandræ*, *O. Pescatorei*, *O. Rossi*, *O. Cervantesii*, *O. Halli*, *Oncidiums* in variety, and others.

MESSRS. PROTHEROE AND MORRIS will **SELL** the above by **AUCTION** at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on **FRIDAY NEXT**, September 13, at half past 12 o'clock. On view Morning of Sale, and Catalogues had.

Avenue Nursery, Bexley Heath, Kent.

Close to Bexley Heath Station, S. E. R.
FIRST ANNUAL TRADE SALE of beautifully-grown PLANTS. By order of Messrs. P. H. and J. Cooper.

MESSRS. PROTHEROE AND MORRIS will **SELL** by **AUCTION**, on the Premises, Avenue Nursery, Bexley Heath, Kent, on **WEDNESDAY**, September 18, at 12 o'clock, without Reserve, 8000 **ROSES**, including *Maréchal Niel*, *Gloire de Dijon*, *W. A. Richardson*, *Sunset*, *L'écéal*, *Climbing Devoniensis*, *O. Marmet*, *Bride*, *Cheshunt Hybrid*, *Niphetos*, *Turner's Crimson Rambler*, *Climbing Niphetos*, *Perla des Jardins*, *Climbing Perle des Jardins*;

3500 **TREE** and other **CARNATIONS**, consisting of *Germania*, *Mrs. Reynolds Hole*, *Mrs. Moore*, *Jolliffe*, *Dorothy*, *Alice Ayers*, *Uriah Pike*, *Duke of Fife*, *Danger*, *Annie Douglas*, and *Light and Dark Malmaison*.

1100 **CLEMATIS**, including *Belle of Woking*, *Beauty of Worcester*, *Jackmanii*, *Jackmannii alba*, *Jackmannii superba*, *Mrs. George Jackman*, *Alba Magna*, *Miss Bateman*, *Lady Boville*, *Rubella*, *Duke of Edinburgh*, *Duchess of Edinburgh*, *Anderson Henryi*, *Lady Londesborough*, *John Gould Veitch*, *Lady Caroline Neville*, &c.

- | | |
|--|--|
| 120 Large Specimen <i>Gardenia intermedia</i> , in 18-pots | 1,000 <i>Ampelopsis Veitchii</i> |
| 100 <i>Eucharis amazonica</i> , in 8, 12, and 16-pots | 2,500 <i>Genistas</i> , in 48-pots |
| 1,500 <i>Erica hyemalis</i> , in 48-pots | 10,000 <i>Her Majesty Pinks</i> |
| 1,500 <i>Erica Wilmoreana</i> , in 48-pots | 6,000 <i>Erica Wilmoreana</i> , in 60-pots |
| | 1,000 " <i>assurans</i> , in 60-pots |
| | 1,000 " <i>gracilis</i> , in 60-pots |
| | 500 " <i>hyemalis</i> , in 60-pots |

And a large quantity of *Asparagna tenuissima*, in 32-pots; *Ficus elastica*, *Ficus elastica variegata*, *Pandanus Veitchii*, *Aspleniums*, *Pteris cristata*, *Polypodium*, *Adiantum cuneatum*, &c.
May be viewed. Catalogues had on the Premises; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

WEDNESDAY NEXT.

AN IMPORTANT TRADE SALE OF DUTCH BULBS.

A **SPECIAL COLLECTION** of FINE **HYACINTHS**, including many of the newest and best sorts, in splendid order, from a trustworthy grower; an exceptional opportunity of obtaining first-class Bulbs.

A large and varied assortment of **CHOICE TULIPS**. Rare and Beautiful **NARCISSUS**, **CROCUS** in variety. Also—**SNOWDROPS**, **IRIS**, **COLCHICUMS**, **SCILLAS**, several thousand **EARLY WHITE ROMAN HYACINTHS**, **LILIUM CANDIDUM**, **L. HARRISI**, and **NARCISSUS** for Early Forcing, from France.

MR. J. C. STEVENS will **SELL** the above by **AUCTION**, at his Great Rooms, 38, King Street, Covent Garden, on **WEDNESDAY NEXT**, September 11, at half-past 12 o'clock precisely. On view morning of Sale, and Catalogues had.

DUTCH BULBS—DUTCH BULBS.

Sales nearly every day, in Large and Small Lots, to suit all Buyers.

MR. J. C. STEVENS will **SELL** by **AUCTION**, at his Great Rooms, 38, King Street, Covent Garden, nearly every day, at half-past 12 o'clock, first-class consignments of Choice **HYACINTHS**, **TULIPS**, **CROCUSES**, **NARCISSUS**, and other **BULBS** arriving daily from well-known farms in Holland, in the finest possible condition. On view morning of sale, and Catalogues had.

Southwick, Sussex.

Near Brighton. Close to Railway Station. Several very valuable Plots of **FREEHOLD LAND**, well adapted for Market Garden and Horticultural Purposes, for **SALE** by **AUCTION**, by

MESSRS. WM. WOOD, SON, AND GARDNER, in a **Marquee** on the Estate, on **WEDNESDAY**, September 11, 1895, at half-past 2 o'clock precisely (after the Luncheon).

Particulars, Plans, and Conditions of Sale, may be had of **W. F. VERRALL**, Esq., Solicitor, Worthing; or of Messrs. **WM. WOOD, SON, AND GARDNER**, Land Agents and Surveyors, Infield Court, Crawley, Sussex.

UPPER HOLLOWAY. — WITHOUT RESERVE.

A **GRAND OPPORTUNITY** FOR PURCHASING **SPECIMEN PALMS**, **TREE FERNS**, &c., for Furnishing Large Winter Gardens or Conservatories.

IMPORTANT SALE OF VALUABLE STOVE AND GREENHOUSE EXHIBITION AND DECORATIVE PLANTS.

By Order of Messrs. B. S. Williams & Son,

Who, with a view to removing their Nurseries to more commodious premises in the country, are about to dispose of a portion of their Freehold Land for building purposes.

THE FOLLOWING WILL BE FOUND IN THE CATALOGUE:—

Splendid **SPECIMEN** and **HALF-SPECIMEN** PLANTS, and also a large selection of **GENERAL NURSERY STOCK**, including **GREENHOUSE RHODODENDRONS**, **AZALEAS**, **CLIVEIAS**, **CAMELLIAS**, **CROTONS**, **TREE FERNS**, **PALMS**, **KENTIAS**, &c.; also fine **SPECIMEN LAPAGERIA ALBA** and **ROSEA**, **ALLAMANDAS**, **BOUGAINVILLEAS**, **CLERODENDRONS**, **PANDANUS**, &c., and a large assortment of **CANNAS**, **DRACENAS**, **CROTONS**, **ARAUCARIAS**, **AMARYLLIS**, **PANCRATIUMS**, **ANTHURIUMS**, **MARANTAS**, **ORCHIDS**, &c., which will be

Sold by Auction, on the Premises,

VICTORIA & PARADISE NURSERIES, UPPER HOLLOWAY, N.
BY **MESSRS.**

PROTHEROE & MORRIS,

On **MONDAY** and **TUESDAY**, **SEPTEMBER 16** and **17**, at 12 o'clock each day.

May be viewed any day prior to the Sale. Catalogues may be had at the Nurseries, and of the Auctioneers, 67 & 68, Cheapside, London, E.C.

N.B.—Messrs. Williams will undertake the packing of any plants, and their dispatch.

SALES BY AUCTION.

By Order of the Proprietor, Mr. Jas. Pattick,
No. 40, Park Road East Acton, W.

To NURSERYMEN, GENTLEMEN, and OTHERS,
MESSRS. WM. EYDMANN AND SON will offer for SALE by PUBLIC AUCTION, on the above Premises, on TUESDAY, September 17, 1895, at 2 o'clock precisely, 16,000 STOVE and GREENHOUSE PLANTS, consisting of about 800 Myrtles, 600 Gardenias, 100 Choisya ternata, 400 Aspidistras, 30 large White Azaleas, and 50 smaller ditto; 10,000 FERNS, in variety; 2000 ARALIAS, 1000 SELAGINELLA EMELENA, 500 VALLOTA PURPUREA, 150 CACTI, Specimen Plants of LOMARIA CYCATHIFOLIA, and a quantity of Garden Lights.

N.B.—Immediately on conclusion of the Sale of the Stock, the following will be offered for SALE by AUCTION: a FREEHOLD PLOT of LAND, being part of the Nursery with a frontage of 70 feet, and a depth of 165 feet, or thereabouts. It is well adapted for the erection of two large Laundries. Title free, and Land-tax redeemed.

May be viewed day previous and morning of Sale. Catalogues on the Premises; and at the Auctioneers' Offices, 225, High Street, Acton, W.

Manchester.—Important Sale of 800 Orchids, including many rare and choice sorts, such as Cattleya Binnii, C. Reineckiana, C. Mendelli Frithii, C. aurea (Young's var.), C. Gaskelliana alba true, C. Wagnerii, best form; C. Skinnerii, Laelia elegans f. Turnerii, dark form, Stand Hall var.; L. elegans alba true, L. purpurata, L. Gouldiana true, L. albida sulphurea, L. anceps Sanderiana, Pleione precox tenera, P. Wallichii and lagenaria, Cologlyne cristata, Chatsworth var.; C. maxima, Dendrobium nobile nobiliss, Wrigley's var.; D. Cooksonii, Hardy's var.; Odontoglossum crispum, Stamford House var., award of merit Temple Show, 1894; Cypripedium Schottianum, C. Leeannum superbum, and unflowered seedlings, Vanda cœrulea, Mormodes, &c.

MESSRS. ARTINGSTALL AND HIND respectfully notify the receipt of instructions from H. Shaw, Esq., J.P., Stamford House, Ashton-under-Lyne, who is changing his residence, to SELL by AUCTION, at 12 o'clock, on THURSDAY, September 19, 1895, at their Horticultural Sale Rooms, No. 45, Princess Street, Manchester, a Valuable Collection of ORCHIDACEOUS PLANTS. On view day prior. For further particulars apply to the Auctioneers, Manchester.

TO BE SOLD, pursuant to an Order of the High Court of Justice, Chancery Division, made in an action, Bennett & Another v. Corbridge (trustee of the property of John Burchell, a Bankrupt), 1895, B. 181, with the approbation of Mr. Justice North, the Judge to whom the action is attached by Mr. Walter William Read, the person appointed by the said Judge, at The Mart, Tokenhouse Yard, in the City of London, on Tuesday, September 24, 1895, at 2 o'clock in the afternoon precisely, in One Lot, the Valuable and Very Compact FREEHOLD ESTATE, known as "LITTLE CANONS," situate in the Parish of Great Parndon, Epping, in the county of Essex, consisting of a capital Residence, Farm Buildings, and Stabling; 8 Greenhouses, heated by Hot-water Piping and Boilers; Bailiff's Cottage, Packing house, and Outbuildings; Gardens, three Productive Orchards, together with 51 acres 1 rood and 4 poles (or thereabouts) of Park-like Pasture, Market Garden, Orchard, and Woodlands.

Particulars, with Plan, and Conditions of Sale, may be obtained of Messrs. SAUNDERS, HAWKSFORD, AND BENNETT, Solicitors, 68, Coleman Street, Bank, E.C.; at The Mart, E.C.; and of Messrs. W. W. READ AND CO., Auctioneers and Land Agents, 1, Queen Street, Cheapside, E.C.

Dated this August 12, 1895.
ALFRED RAWLINSON, Chief Clerk.

NURSERY, FLORIST'S, and FRUITERER'S BUSINESS for DISPOSAL: South coast; shops; Acre of Ground; central position; Rent £100. Stock, Plant, Six Greenhouses, &c., at Valuation. Stabling, Four Horses, and Six Carts.—HORN BROS., Auctioneers, Eastbourne.

FOR SALE, a small valuable long leasehold NURSERY, 6 miles from Covent Garden. Seven large Greenhouses, well stocked; two Vineries, Cucumber-house, Plant-houses, five-roomed Cottage. Low Ground Rent. Lease eighty-six years to expire. Eighty-five feet Glass, Facing main road. All particulars of FLORIST, 11, Dafforne Road, Tooting, Surrey.

FOR SALE.—FREEHOLD NURSERY. 13 Greenhouses, nearly new, well heated with Hot-water pipes; Water laid on. One mile and a half from Station.—Particulars, apply to Owner, J. HOWELL, Hextable, Swanley, Kent.

SOUTHPORT.—Gentlemen's 13-roomed Detached HOUSE, all modern conveniences, with Vineries, 120 by 18, containing about 200 young Canes in full bearing; 6 other Glasshouses, Frames, &c.; Top and Bottom-heat; Gardens, and Stables. Sold cheap. Left owing to ill-health.—Apply, HATCH, Southport; or BATEMAN, Woodlands, St. Mary Church.

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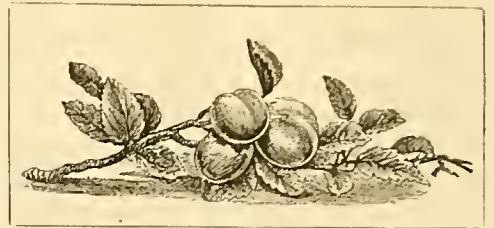
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From the same importation out of
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THE

Gardeners' Chronicle.

SATURDAY, SEPTEMBER 7, 1895.

THE NATIONAL HORTICUL-
TURAL SCHOOL AT VERSAILLES.

IN the year 1874 a National School of Horticulture was established at Versailles, on the site of the old kitchen-garden. The creator of this kitchen-garden was the famous John de la Quintinie, about whom it may be interesting to give a few details. Born at Poitiers in 1626, Quintinie early showed that he had a strong inclination for the study of agriculture and horticulture. He began his gardening career as manager of the gardens belonging to Tamboneau, the then President of the Chamber of Accounts. He is said to have applied himself to so intense a study of the operations of nature that he soon became famous all over France. He made many curious and useful experiments. He was the first who proved it useless to join fibres to the roots of trees when transplanted, and he discovered a sure and infallible method of pruning trees, "so as to make them not only bear fruit, but bear it in whatever part the owner chooses, and even produce it equally throughout all the branches, which had never before been tried, nor even believed to be possible" (*vide Chalmers' Biographical Dictionary*, vol. xxv.).

Quintinie came to England in 1673, and during his stay here paid a visit, at Wotton, to Mr. Evelyn, who prevailed on him to communicate some directions concerning Melons, for the cultivation of which Quintinie was remarkably famous. These directions may be consulted by those who are interested in the history of gardening in the *Philosophical Transactions* of the Royal Society for 1693. It is said that either Charles II. or James II. made Quintinie an offer of a considerable pension if he would stay and take upon him the direction of the Royal Gardens, but he preferred to serve his own King, Louis XIV., who made him "Director-General of all His Majesty's fruit and kitchen gardens."

The architect Mansart it was who designed the kitchen-garden, the "Potager," as it is termed in French, but unfortunately, although he chose a spot that was in harmony with the general appearance of the gardens and park, he made the mistake of not thinking about the effect the site and the nature of the soil would have on the vegetables and fruits. He had constructed the orangery at the south of the palace, and in front of this astonishing edifice a Swiss regiment had dug the lake which still bears the name of the "Pièce d'eau des Suisses." Much of the soil of the kitchen-garden was formed from the earth thrown up by these works, and it was not as good as La Quintinie would have liked to have seen. Moreover, the kitchen-garden was in a place where had been formerly a deep pond, and it was necessary to fill up the place of this pond.

In Quintinie's book entitled *Instruction pour les jardins fruitiers et potagers*, one can read of the difficulties he had to contend with in bringing

the Versailles kitchen-garden to that state of perfection for which it was renowned. The garden was begun in 1678, and was not completed till 1683.

The enclosure placed under Quintinie's direction contained twenty-nine gardens, separated by walls running in different directions, thus giving opportunities for different treatment of the various plots. One is struck while going over the gardens by the happy idea of the organiser, which was to surround the large squares in the middle by terraces, so as to protect the plants against the wind, to reflect the heat of the sun, and to afford large surfaces for fruit-walls.

Quintinie was a great authority on all kinds of fruit-trees, but the Pear was evidently his favourite. In the east of the Potager may be seen two magnificent Pear trees planted by Quintinie himself in 1685—one of these trees, more than 200 years old, is nearly 30 feet high.

Louis XIV. was very proud of his "Potager de Versailles." He liked to take walks in it, and would interest himself in the cultures. He was a very heavy feeder, and, as the chronicle tells us, he liked to have Asparagus in December, Radishes and Lettuces in January, Cauliflowers in March, Strawberries in April, fresh Peas in May, and Melons in June. Quintinie exerted himself to satisfy his royal master, but it will easily be imagined that it was not always easy to do so. When the great gardener died in 1688, the king is reported to have said that he had experienced a great loss which he never expected to have repaired. A statue of Quintinie now stands in the gardens which he created.

The *École Nationale d'Horticulture* occupies the buildings, gardens, and other places where were once the kitchen gardens of the kings of France. The establishment is split up into different sections, the whole occupying a space of some 24 acres. Part of this space is taken up with kitchen gardens; besides these there are the plots for fruit trees, experimental culture beds, greenhouses, an orangery, a winter garden, a school for the botanical students, &c. There is also a little model nursery.

The object of the school is to train gardeners, and to instruct them in the theory and practice of horticulture; to provide teachers of horticulture for the practical and normal schools of agriculture, to train professors of horticulture and landscape gardeners, to turn out well-educated agents for public or private offices—in a word to provide for all those who may need it an efficient education in all branches of horticulture.

The students who have satisfied the Minister of Agriculture as to the conditions of admission, and who have passed the preliminary examinations, receive a three years' training at the school. The theoretical teaching includes the following courses:—the laying out of gardens and the construction of greenhouses, instruction in physics, meteorology, chemistry, geology, mineralogy, the culture of early vegetables, horticultural zoology and entomology, ornamental arboriculture and the reproduction of vegetables, pomology, floriculture, botanical work, the care of fruit trees and methods for getting early fruit. Besides these special studies, the pupils are instructed in English, mathematics, topography, drawing, &c.

The pupils are not simply gentlemen-gardeners, engaged in book-work and in looking at results and practical work, but they are expected to work with their own hands, and thus acquire considerable dexterity of manipulation.

The School of Horticulture is provided with excellent materials for instruction, including a library, a laboratory for horticultural research,

a meteorological station and fine collections, which include plant-albums, herbaria, specimens of seeds and woods, a little museum of useful and noxious animals, models of implements, casts of fruits, &c.

The creation of this school was due to the initiative of the late P. Joigneux, an eminent agriculturist and a deputy, and its organisation to the late Auguste Hardy, who was one of the first horticulturists in France. To-day it is under the direction of M. Nanot.

For many facts in the above sketch we are indebted to an article that recently appeared in *La Nature* over the signature of E. Hennebert, H. C. F.

NEW OR NOTEWORTHY PLANTS.

CATASETUM FEROX, *Kranzlin, n. sp.**

If not beautiful, this is certainly a very striking plant, in habit rather like the other *Catseta* we have in our stoves. The spike bears about twenty flowers of dirty-green colour outside, and pea-green inside, more or less spotted with small purplish spots. The sepals and petals are of about the same size and form, growing in a sort of helmet as in some other *Catseta*, *Catsetum purum*, Nees, for instance (= *Catsetum inapertum*, Hook.). The most peculiar part of these flowers, and the one by which they can easily be distinguished from other species, is the lip. This part is rather small for a *Catsetum*, and looks very like a lower-jaw with a prominent chin and teeth; on both sides there are two rows of molar teeth, not very long and prominent, but broad and stout; a little behind the top is a row of six; very prominent incisors, the middle ones coherent except at the apex. The plant was introduced by Messrs. F. Sander & Co., St. Albans, and flowered in midsummer. *F. Kranzlin.*

LINOSPADIX MICHOLOTZII, *Ridley, n. sp.†*

I have received, through the kindness of Mr. Micholitz, specimens of a very remarkable new Palm, a species of the small genus, *Linospadix*, from the mountains of New Guinea. Seeds of the plant have been sent to Mr. Sander's establishment at St. Albans. The genus *Linospadix* is typically Papuan, though the original and best-known species, *L. monostachya*, Wendl., is a native of Northern Australia. The present species is unique in its genus in being quite stemless, the wedge-shaped leaves rising erect from the ground in a large tuft; they are upwards of 4 feet in height, narrowed into a petiole at the base, and broadening upwards, and end in a pair of long acute points. The spadices are extremely slender and elegant, and are remarkable

* *Catsetum ferox*, Krzl., n. sp.—Habit omnino *Catsetorum* minorum, racemo elongato plurifloro; bracteis triangularibus quam ovaria multo brevioribus; sepalis lanceolatis acuminatis cum petalis paulum latioribus galetis, labello crasso postice margine serrato antice saecato mentum formante leviter sulcato, lobis lateralibus nullis margine atrinque incrassato infra multituberculoso (quasi dentes molares referente), lobo intermedio nullo, dentibus 6 quorum mediani quique majores mediani 2 coaditi infra ante limbum anteriorem saeci; gynostemio alto sepalis fere equante anthera longe mitrata, cirrhis longissimis ad marginem anteriorem saeci deconcurrentibus; pollinia generis. Flores inter minores generis 2.5 cm.—3 cm. alti, sepalis sordide viridis; petala late viridia purpureo-punctata, labello late viride albo-marginatum. *F. Kranzlin.*

† *Linospadix Micholitzii*, n. sp.—Acaulis caespitosa. Folia elongata erecta cuneata basi in petiolis attenuatis, apicibus profunda bifidis, laciniis 10 pollicibus longis acuminatis, glabra, carina crassiuscula et nervis elevatis (ad 22) subtus brunneofurfuraceis exceptis, 3½ pedes longa, 6 pollices lata. Spadices erecto-nutantes, gracillimi; pedunculis 1½—2½ pedes longis, speciebus singulis ad 10 pollices longis vix incrassatis brunneofurfuraceis, unisexualibus. Flores spiritaliter dispositi minuti, masculi bini in foveis ½ pollicis longi; bracteis minutis. Sepala ovata inaequalia obtusa imbricata. Petala 3 lanceolata obtusa. Stamina 6. Flores feminei singuli in foveis. Sepala ovata obtusa cuneolata. Petala paulo longiora late ovata obtusa. Stigmata breviuscula lata crassa recurva. Drupa oblonga ½ pollicis longa, ½ pollicis lata, stigmata terminali, rubro, pericarpio tenui extus carnosio, intus fibroso; albumine aequabili, duro; embryo basilari.—Mountains of New Guinea, Coll. Micholitz. *H. N. Ridley, Singapore.*

in being unisexual, the male and female flowers being on different spadices. The fruit is oblong, about half an inch long, bright red, the albumen of the seed white, and very hard. The plant inhabits the wet ravines of the higher slopes of the mountains.

THE FRUIT CROPS.

[For Tabulated Summary, see p. 119.]

(Concluded from p. 208.)

5, SOUTHERN COUNTIES.

BERKSHIRE.—Notwithstanding the drought, which prevailed more or less up to July 18, I am able to report in this district one of the best all-round crops ever seen; and having had copious rains (since above date to July 31, 4.60 inches), I have every confidence that a good crop is now assured, although smaller in size than usual, through drought. Apples are a very heavy crop; names need not be given, as nearly all here are carrying heavy crops, in a collection which includes over 200 varieties. Pears a fair crop, rather under average, but will, I anticipate, be of fine quality, as the fruit is clean, free from rust, and now swelling rapidly. Cherries were an extraordinarily heavy crop, and fruit large; trees making good growth, and free from black-fly, which is usually very troublesome here on walls. Peaches and Nectarines, good crops, and trees looking well. I have been gathering good-sized Peaches, of fine colour, from south walls, since July 16, variety Alexander. Apricots, average crop, of nice clean fruit. Plums, medium crop, of good quality. Damsons, heavy crops. Strawberries were a good crop, but only by persevering with thorough watering for several weeks; fruit firm, and of good size; James Veitch proved a good variety here this season, and of better flavour than usual. The appearance of the beds, after severe frost in spring was deplorable—not a leaf left, and I had doubts whether many of the crowns were not killed outright; however, when growth commenced, they soon recovered, and showed strong bloom. Unfortunately, May was very dry and hot when fruits were set and swelling and this checked the crop considerably. Only 36 inch of rain fell here during May. Small fruits are abundant. Gooseberries formed a remarkably heavy crop. Raspberries were plentiful, but the fruits rather small. Nuts: Filberts average crop; Walnuts the heaviest crop I ever saw, and the branches are already bending with the weight. *Owen Thomas, Royal Gardens, Windsor.*

DORSETSHIRE.—The Apple trees and bushes give promise of a very fine crop, and the best of them are Annie Elizabeth, Beauty of Kent, Bismarck, Brownlee's Rasset, Devonshire Quarrenden, Dutch Mignonne, Irish Peach (very fine), Kerry Pippin, Keswick Codlin, Lord Suffield, Margil, Northern Spy, Reinette du Canada, Ribston Pippin, and Warner's King. The best Pears are Beurré Rance, Beurré Dial, Glon Morceau, Marie Louise, Williams' Bon Chrétien, Thompson's Seckle, and Catillac. Raspberry Superlatives should be more known, as it is a very fine variety, and a heavy cropper. Strawberry Royal Sovereign, fruits of which were ripe here on May 29 on a south border, in point of earliness is equal to Noble, and much superior in quality. *Thos. Denny, Down House Garden, Blandford.*

HAMPSHIRE.—Apples are an average crop on the whole, some varieties, as for instance, Lord Suffield, Lord Grosvenor, Warner's King, Blenheim Orange, Cox's Orange Pippin, and Stirling Castle; Mère de Ménage, Irish Peach, King of the Pippins, and Devonshire Quarrenden, are bearing heavily; others, such as Ecklinville, Lady Sudeley, Bismarck, Lady Henniker, and Golden Pippin have a very thin crop. The trees are very healthy, and free from insect pests of any description. Cherries were remarkably good, May Duke, Governor Wood, Elton, and Bigarreau Napoleon were the most satisfactory varieties. Strawberries have borne immense crops of fine fruit, Royal Sovereign and Sir Joseph Paxton especially. Raspberries suffered from the frost. *E. Molyneux, Swanmore Park, Bishop's Waltham.*

— Apples are large and early, but many of the fruits dropped, I think for the want of rain; good crops on Keswick Codlin, Lord Suffield, Blenheim Pippin, Hawthornden, Cellini, and Irish Peach. Pears, good on the walls, but the fruits have dropped badly from the cold nights and want of rain. Plums good on walls, and very early. Peaches, a fair crop, the trees clean, and look well. Damsons, splendid crop. Strawberries were a bad crop. Raspberries, on the contrary, were a good crop, but suffered from drought. *Wm. Smythe, Basing Park Gardens, Alton.*

KENT.—Apples and Nuts are the crops of the season, and the rains we have had will assist them greatly in swelling out. Pears are rather thin in this district. *W. Craik, Hothfield Place, Ashford.*

— Apples, especially early kinds, are very plentiful, later kinds more scarce; the fruits promise well, although many have fallen through drought. Blenheims are very good indeed; Lord Derby, Warner's King, and many others well laden. Pears short, but promise to be of good size and quality. Plums scarce. The dry weather has been all in favour of Cherries, and fine fruits have been marketed. Peaches and Nectarines plentiful, but will be rather smaller than usual through drought. There have been heavy crops of Strawberries, but the season short; late kinds did not grow so large, though good-flavoured. Currants good. *H. Markham, Mcreworth.*

— Apples form a splendid crop around here, almost all the well-known varieties are cropping remarkably well. It is really surprising how well the fruits have developed during the drought. Blenheim Orange on large trees are carrying very heavy crops. Worcester Pearmain, Irish Peach, and Quarrenden are found to be amongst the very best for marketing, being sold at the foot of the ladder, and generally realise good prices. Cox's Orange Pippin is cropping heavily, and necessitates a great deal of thinning to encourage fair size and quality. The old Ribeton Pippin is bearing well. In reference to this Apple, I find it necessary to thin to a single fruit, on account of the stalks being so short that they push one another off before they have finished growing. Amongst some of the newer varieties I am fruiting this year, and which strike me as being good croppers are—Swedish Reinette, with a beautiful bloom; Barnack Beauty, colours well, an immense cropper; and Bramley's Seedling. This latter is fruiting well on the Paradise. Where it can be done, the fruits should be thinned, as poor samples this year are not likely to be of much use for marketing purposes. Damsons are a very good crop, but Plums varying. Peaches and Nectarines are a grand crop. I am calculating to grow about 12,000 this year. I gathered my first fruits on July 22 from a west wall—the variety was Alexander. *G. Woodward, Barham Court Gardens, Maidstone.*

MIDDLESEX.—Apples are most abundant, almost every tree bearing a full crop. Fruit rather small, but the late heavy rains will benefit them much. Plums on walls were quite a sight. Early Favourite is a variety that was ripe on July 20, and is especially to be recommended as a first-class fruit for dessert. *A. F. B., Chiswick.*

— Fruit crops on the whole are a fair crop in this neighbourhood, but the dry weather told heavily upon the bush-fruits and Strawberries, and where water was not supplied the crops of these are light and small. Plums in many places are a failure. Victoria seems to be the principal sort bearing well this season; the trees are very free from blight, so are the Cherries. Cherries and Peaches have ripened very early this season. Good Waterloo Peaches were gathered out-of-doors on July 14. *W. Watson, Harefield Place, Uxbridge.*

— The prolonged frost caused a late bloom, with the result that most fruits are plentiful. Apples and Pears at one time promised a very heavy crop, but the great heat and the drought have caused many fruits to drop. Apricots are thin, but good. I never saw Peaches and Nec-

tarines more healthy, or bearing better crops, but such trees have, during the drought, required much attention. Cherries were all one could desire. Plums a small crop, but the trees look well. Strawberries were very good, and very early; Royal Sovereign and British Queen are varieties that have given splendid crops. Currants and Gooseberries good and plentiful; but most small fruits in this district suffered much from drought. *G. Wythes, Sion House Gardens.*

SURREY.—With the exception of Pears, all the fruit crops here are most satisfactory. Apples (especially on young trees) have required severe thinning. Damsons are heavily laden. Strawberries were of large size and good flavour. We commenced picking Noble on June 14, and finished with Latest of All on July 16. Caterpillars have been more than usually troublesome on the Gooseberry bushes; and owing to the continued drought, red-spider has made its appearance on many of the fruit trees. *G. W. Cummins, The Grange, Wallington.*

— Apples are looking well, and promise to be a heavy crop, especially Grenadier, Stone's, Peasgood's Nonsuch, Lord Suffield, Lord Grosvenor, Wellington, Allen's Everlasting, Prince Albert, Lord Derby, and Oldenburgh, kitchen; Cox's Orange Pippin, Brownlee's Ruseet, Blenheim Orange, Kerry Pippin, and Mother, dessert. Red Currants and Gooseberries were very fine in quality. Raspberries suffered much from frost, but the fruit was very large. *C. J. Salter, Woodhatch Lodge Gardens, Reigate.*

— On some trees there are very heavy crops of Apples, on both old and young trees; others have few and some none, in the same locality. Pears not so good. Plums very thin. Young orchards in high cultivation, making splendid growth. I never saw Peaches on walls looking better, both in fruit and foliage; small fruit of all sorts plentiful and good, with the exception of Raspberries, which are very small. *W. Miller, Ruxley Lodge, Esher.*

SUSSEX.—Plums in this district suffered much through the severity of the frost during last winter, particularly those in exposed places, the consequence being a short crop. Many of the Damson trees were almost killed by the frost, Frogmore Prolific suffering the most. Apples are an abundant crop, but the fruit is small for the time of year. Pears on trees in the open are a very partial crop, and Cherries were never more abundant, or of finer quality. Peaches are small, owing to the dry weather; and the same may be said of Apricots and Nectarines. Strawberries have been very abundant. Black Currants were the heaviest crop we have ever grown. *H. C. Prinsep, Busted Park.*

WILTS.—Apricots, Peaches, and Nectarines, on which the blooms were protected from frosts, set immense crops of fruit, thereby necessitating severe thinning of the latter. Apple trees in orchards are heavily laden with fruit of good quality, as also are espaliers in kitchen gardens, including trees of Annie Elizabeth, Red Astrachan, Beauty of Bath, Juneating, Irish Peach, Stirling Castle, Keswick Codlin (a never-failing cropper), Emperor Alexander, Duchess of Oldenburg, Ecklinville Seedling, &c.; the trees, too, are in good condition. Plums and Pears generally are under average. Gooseberries, heavy crop. Currants and Raspberries average. Walnuts are a heavy crop, and the same may be said of Filberts and Cob nuts. Altogether, the fruit crops of 1895 may be stated as being highly satisfactory. *H. W. Ward, Longford Castle, Salisbury.*

7, ENGLAND, N.W.

LANCASHIRE.—Fruit trees are clean and healthy. Apples and Pears are a good crop, although many of the fruit dropped in consequence of the drought. Damsons are very plentiful, and other kinds of Plums are as good as I have seen them. Gooseberries and Raspberries had heavy crops, and the fruit of the latter sold at 5s. per dozen quarts. Strawberries abundant, and secured without much loss from wet. Growers for market in this part confine themselves to Barnes' Prolific, presumably a

local variety. *W. P. Roberts, Cuerdon Hall Gardens, Preston.*

— Apples small through drought. Pears plentiful on walls and trained trees. Damsons are a very heavy crop, a circumstance that occurs about once in seven years. *B. Barham, Croxteth, Liverpool.*

WESTMORELAND.—Apple and Pear trees are very clean, and the good bearing varieties have excellent crops considering the sunless summer we experienced last year, and the unusual amount of east winds and frosts this season. *W. A. Miller, Underley Gardens, Kirkby Lonsdale.*

8, ENGLAND, S.W.

CORNWALL.—Fruit crops are very good on the whole, the only deficiency being in Raspberries and Gooseberries; Peaches, Nectarines, Cherries, and Currants especially being good. Strawberries were an immense crop, and very fine, Sir Joseph Paxton and Laxton's Latest of All being the best. *Alfred Read, The Gardens, Port Eliot, St. Germans, R.S.O.*

— The Apple crop in East Cornwall is under average, but many varieties are carrying a good crop, and the fruits are large and clean; Blenheims, Cox's Orange and King of Pippins being the best. Pears are good, and, at present, show no signs of cracking. Strawberries have been splendid; in spite of the heavy crop, the late fruits swelled up well, Latest of All on a north border giving us some grand fruits. Cherries also have been very fine, the dry season suiting them on our heavy soil. Bush fruits abundant and good. *Charles Page, Boconnoc Gardens, Lostwithiel.*

— Apple-trees gave promise of abundant crops early in the season, but fully two-thirds have fallen, many of the trees being left without a single fruit, the result, I think, of the severe and prolonged easterly gales. Cox's Orange, Starmer, King of Pippins, Mère de Méuage, and Stirling Castle, appear to have stood best. Pears are numerous enough, but promise to be very small. This is not a good Cherry district, but they have been exceptionally good with me this year. Peaches and Nectarines are a grand crop. Plums are a complete failure. Medlars and Quinces are very good. Bush-fruits are all good, and grown under permanent wire-net, which is much less trouble than old fish-net, and less expensive in the long run. When I first adopted it ten years ago, I was told that caterpillars would never allow me to have a fruit, but a little helibore powder soon destroys them, and they have given less trouble than under the old plan, though the birds are not allowed inside the wire, winter or summer. *Wm. Sangwin, Trellisick Gardens, Truro.*

DEVONSHIRE.—The fruit crops are all alike good, and up to or beyond a full average. All stone fruits, especially Victoria Plums and Damsons, are a full crop. The same of Peaches, Apricots, &c., and an almost entire absence of aphid and other insect life, and blotched leaves. The result is a very satisfactory promise for another year. Walnuts and Filberts most abundant, and far in excess of what is ordinarily seen. *James Enstone, 38, Temple Road, Exeter.*

GLOUCESTERSHIRE.—The fruit crop generally in this district is the best I can call to mind for some years. The trees are particularly free from all kinds of insects, and have made good, clean growth. We escaped the frost of June 15 which proved so disastrous in some parts of the country. *Thos. Arnold, Cirencester House, Cirencester.*

HEREFORDSHIRE.—The fruit crops in this district are generally very good, and, considering the very dry weather during early summer, is of good quality. The blossom was very abundant, but the grub has been very bad in some parts. *Frank Harris, Eastnor Gardens.*

— Fruit crops generally are good, and the fruit clean, excepting Apricots, which are very much spotted and unkind. Strawberries have been a heavy crop, and the dry weather was favourable for keeping the fruit when ripe. *Thos. Spencer, Goodrich Court Gardens, Ross.*

MONMOUTHSHIRE.—Strawberries were a good crop and of good quality. Both fruits of all kinds were remarkably good in every way. Plums are a good average crop, Victoria, Early Transparent Gage, Kirke's, Jefferson's, and Coe's Golden Drop are heavy bearers. Pears are partial, the best crops being upon west and south walls, those on east walls, excepting Marie Louise, are thin; the crops on pyramid trees are also partial. Cherries are good, particularly May Duke and Morellos. Apples generally have suffered from caterpillars where no means have been adopted against them. Amongst the best croppers are the following:—The Queen, Gascoigne's Seedling, Grenadier, Lane's Prince Albert, Sandringham, Schoolmaster, Tyler's Kernel, Warner's King, Cellini, Brownlee's Russet, Cox's Orange Pippin, King of the Pines, and Worcester Pearmain. *Thomas Coomber, The Hendre Gardens, Monmouth.*

I do not remember observing such an absence of blight among the fruit crops generally. Apples and Pears are good in various localities, whilst in others there are scarcely any, but on the whole an average crop will be secured. Small fruits are very plentiful and clean. *John Lockyer, Pontypool Park Gardens.*

SOMERSETSHIRE.—I never have seen a better crop of fruit all round than this year. The spring was most favourable, not having any late spring frost, and we had glorious summer weather, which has had a good effect on all kinds of fruit. I never remarked Apples getting high colour as early as they did this season. Apricots are grand. *James Crook, Forde Abbey, Chard.*

WORCESTERSHIRE.—A very satisfactory hardy fruit season, taken collectively, the trees being both clean and healthy, aphid and winter-moth larvae having given very little trouble. Apples of all kinds are heavy, clean crops, already highly-coloured. Apricots bloomed sparsely, but the quality is very good. Raspberry canes were injured by the severity of the frost in January. Pears are a very thin crop, although the trees gave an abundance of strong, perfect flowers. The fruit apparently set well, but the blossoms must have been unobservedly attacked about the flowering period by the insidious Pear-midge, *Diplosis pyrivora*, as the young fruit dropped off in shoals when about the size of a cob-nut, and when opened they were found to contain scores of the midge larvae. How to prevent future attacks is a problem yet unsolved, and is a question of the very greatest importance to fruit growers as well as to ourselves. *William Crump, Madresfield Court, Malvern.*

The Apple crop is a good one, and the trees are healthy, and clearer of caterpillars than has been the case for several years past. The Pear crop in orchards and in the open, as might be expected, is light, after the enormous one of last year; but on the walls there are large crops of fine fruit. Plums and Damsons, as a rule, are average crops. Cherries have been most abundant and good. Apricots are very partial, and in my own case a complete failure. This I attribute to the wet, sunless autumn, and to the subsequent severe frost, and also to the fact of their being in a somewhat low and damp situation. I began gathering good-coloured examples of Early Alexander Peach on July 13. Strawberries, Currants, and all bush fruits, with the exception perhaps of Raspberries were abundant. Walnuts, and the common Hazelnuts are plentiful. Fruit trees of all kinds are this year remarkably free from aphid or any other insect pests. *John Austen, Witley Court Gardens, Stourport.*

WALES.

CARDIGANSHIRE.—Small fruits have been very good; in fact, we have never had better crops. Apples are a very heavy crop, the branches have to be supported on many trees. Pears are about average crop, and very promising. Strawberries were very good, although the season was a short one. *R. G. Williams, Crosswood Park, Aberystwyth.*

DENBIGHSHIRE.—Apples had an excellent appearance until the terrific thunderstorm of July 26, when they were severely peppered with ice-hail, much of it measuring 1 inch in diameter, after which half the crop fell, but plenty still remain, though much marked by the bruising of the storm. We registered 30.6 in 45 minutes; nothing like it has occurred here within memory. Bush fruits of all sorts were excellent, and their season was prolonged by the late rains. Cherries were good crops, and of good flavour. Apricots are extremely thin. Strawberries were very abundant; Noble has done splendidly, being early and large; Sir Joseph, very fine; Dr. Morère, a French Strawberry, of excellent merit for packing, large, flavour good; John Ruskin was very good—in fact, all sorts, excepting President, which we shall now discard. Victoria class of Plums are heavy crops, but Gages are thin; Damsons excellent. Birds have been less troublesome than for years. The long frost has done good service in clearing away much of the American blight. Frost cleared off all weak fruit trees and bushes. *P. Middleton, Wynstay Gardens, Ruabon.*

GLAMORGANSHIRE.—Apples and Pears are an abundant crop in this district. In the gardens here the trees have had to be propped up to keep the branches from being broken by the great weight of fruit. Plums are an average crop, and the trees are freer from aphid than usual, notwithstanding the long-continued drought we experienced during early summer in this locality. Strawberries were very good considering the dryness of the season. *A. Pettigrew, Castle Gardens, Cardiff.*

Apples are an exceptionally heavy crop, and very clean. Pears, average, but such varieties as Winter Nellie, Glou Morceau, Louis Bonne, Chaumontel, Thompson's, and Doyenné du Comice, are carrying heavy crops. Strawberries have been most prolific, and very fine, and the flavour all that could be wished. Plums are quite an average crop, and very clean. Cherries I never remember being so plentiful. All small-fruits have been very plentiful, with the exception of Gooseberries, these have been quite a failure in some gardens. *R. Milner, Penrice Castle, Swansea.*

MONTGOMERYSHIRE.—Very heavy crop of Plums, Gooseberries, and Apples. All fruits are clean and healthy and abundant, with the exception of Apricots. *John Lambert, Powis Castle.*

PEMBROKESHIRE.—Apples are a very heavy crop the weather being fine and dry when the trees were in bloom. Pears are a very light crop, the trees having been fruiting freely this past two seasons, they appear to be exhausted to some extent. Plums, especially Victoria, Jefferson's, Prince Eaglebert, and Damsons are a good crop. Small fruits were all good, with, strange to say, the exception of Gooseberries, which were rather a light crop. Raspberries were very good, where the canes were not injured by the winter's frost. *Geo. Griffin, Slebeck Park, Haverfordwest.*

IRELAND.

CO. DUBLIN.—Apples and Pears are a light crop, but of good quality. Peaches and Nectarines are a good crop. Apricots better than they have been for some years. Cherries very good. Small-fruit of all sorts heavy and good, except Black Currants, which were a small crop, and poor in quality. *G. Smith, Vice-Regal Gardens, Dublin.*

GALWAY.—Notwithstanding the exceedingly dry months of April, May, and June, we never had a more plenteous crop of all kinds of fruit, the quality has also been all that could be desired, and with a moderately fine autumn, Apples and Pears are sure to finish off well. *John Cobban, Garbally, Ballinasloe.*

KERRY.—Apples promise an abundant crop. Pears are rather thin; there was plenty of bloom, but a cold east wind blew most of the time they were in flower. Plums are good. Gooseberry, Currant, and Raspberry crops were excellent, and we have had an abun-

dant crop of Strawberries. *Geo. M. Breeze, Kenmare Gardens, Killarney.*

KILDARE.—The fruit crops, excepting small fruits, are much below average. The blossom was abundant, and appeared strong, and apparently the light crop is the effect of imperfectly-ripened wood. I am inclined to think that the Apple trees have not recovered from the effects of the heavy crops they carried two years ago. The fruit of Apples and Pears are small, and require more heat. *J. Wyke, Bishop's Court, Straffan.*

With the exception of Apricots, all fruits are plentiful and of extra good quality, and, owing to our strong-holding soil, we had no necessity to water, which, as a rule, does more harm than good. Pears are a very heavy crop. Raspberries are the finest crop I have ever seen. Strawberries also were extra good, and lasted over a long period in spite of the dry season. Fruit trees of all kinds are very healthy and clean. *Frederick Bedford, Straffan House.*

KING'S COUNTY.—The fruit crops collectively are good in this district. Owing to the severe winter the trees were a month later than usual in expanding their blossoms, consequently they escaped the spring frosts which so often destroy our fruit crops, and a good set was the result. Pears are the only exception here, they being but a very indifferent crop, and small and late. *T. L. Hart, Birr Castle Gardens, Parsonstown.*

LONGFORD.—The fruit crop has been on the whole very good; not for many years have I seen the Strawberries so good in quantity, size, and flavour. Small fruits also very fine. *J. Rafferty, Castle Forbes, Longford.*

CO. WATERFORD.—Apples are very good this year, both early and late varieties. Annie Elizabeth is loaded with fruit; this variety never fails here. Hollandbury also bears well, and is a noble-looking fruit. Strawberries never did so well with me as this year. *Thos. Singleton, Curraghmore, Portean, Ireland.*

WICKLOW.—I have visited a good many of the leading gardens in this county, and in almost every place I saw a capital crop of bush-fruit, Apples, Pears, and Strawberries; but Apricots are very scarce. *Levi Childs, Kilruddery Gardens, Bray.*

CHANNEL ISLANDS.

JERSEY.—Plums, which promised well, have been affected by the drought, and are a light crop. The yield of Strawberries was poor on light soils, but abundant on the heavy land. Many Fig trees were destroyed by last winter's frost, but those that survived have generally an abundant crop. *Correspondent.*

GUERNSEY.—Apples have no doubt benefited by the abnormally light crops the trees carried last year. Pears also are good. Stone fruits, however, are far from a success, probably from want of real maturity in last season's wood-growth. Strawberries were a great success, and stood better than could have been expected with such dry weather. The younger beds, however, did much the best, and scarcely felt the drought. Raspberry-canes were much damaged by the severe and extraordinary long frost we had last February. *Chas. Smithson, Caledonia Nursery, Guernsey.*

ISLE OF MAN.—With a few exceptions, the Apple and Pear crops in this district are very poor. Gooseberries, Raspberries, and Currants were very plentiful, and of fine quality. Strawberries very good, but soon over, owing to the long spell of dry weather. *James Murphy, Cronkbourne Gardens, Isle of Man.*

THE CAROB BEAN (CERATONIA SILIQUA).

This is exported in very large quantities from Naples, being sent in bulk to Russia and Germany, but the pods are packed in barrels for the American market. They are used a good deal in Italy, and are said to be an excellent horse-food. The trees are described as being of two kinds, called respectively the "Honey Carob" and the "Red Carob," the former being the scarcer of the two.

[EUPATORIUM SERRULATUM.*

We are indebted to Mr. W. E. Gumbleton for the specimen from which our illustration (fig. 50) was taken. The plant is a native of Uruguay and Rio Grande do Sal, Brazil. It was described long ago by De Candolle, and afterwards by Baker in the *Flora Brasiliensis*. It was introduced into cultivation by M. Ed. André from Uruguay. It is a shrubby plant, 5 to 6 feet high, and the flowers are a rosy-lilac. Our illustration and

ORCHID NOTES AND GLEANINGS.

NATURAL HYBRID MILTONIAS.

FLOWERS of two very singular, distinct, and pretty Miltonias come from Mr. John Cowan, Managing Director of the Vineyard and Nurseries, Garston, Liverpool, accompanied by the following note: "Herewith are two flowers labelled A. and B. of plants received from our collector in Brazil as natural hybrids of *Miltonia candida grandiflora* and

folding over the column; white with a purple disc, and with traces of the fine slight ridges seen in *M. candida* at the base of the lip, but with the bi-lamellate crest of *M. cuneata* still more pronounced. The column is hooded and tinged with lilac. The flowers are much firmer in texture than those of *M. candida*, and traces of the two reputed parents are evident.

Variety B. is essentially the same in the main points, but the sepals and petals have the chestnut-brown barred with the yellow markings of *M. candida*, and more distinct traces of that species appear in the



FIG. 50.—EUPATORIUM SERRULATUM, DC : FLOWERS ROSY-LILAC. FROM THE GARDEN OF W. E. GUMBLETON, ESQ.

the description and figure in the works cited below preclude the necessity of giving fuller details now. In this country it must probably be grown as a greenhouse plant, but we are informed by Mr. Gumbleton that after keeping it under glass throughout the winter he placed the plant in the open ground, where it has formed a good-sized bush, too large to be conveniently moved. It will be interesting to ascertain if it will survive the winter under such conditions.

* *Eupatorium serrulatum*, D. C. Prod., v. 147; Baker in Martius *Flora Brasiliensis, Compositae*, p. 318. Ed. André in *Revue Horticole*, July 1, 1894, c. ic. color.

M. cuneata. The plants in appearance certainly bear out the suggestion. We shall be glad of your opinion of the flowers."

The flowers seem to point conclusively to the correctness of the collector's suggestion. The variety marked A. has the sepals and petals as in *M. cuneata*, but slightly broader, and exhibiting in a marked degree the peculiarity of that species, in the flatly displayed sepals and petals being abruptly turned backward and upward at the tips. Colour wholly light chestnut-brown with a slight purple shade, and with yellow tips and narrow yellow margin. Lip irregularly ovate, flat, with up-turned sides, but not

irregular margin of the lip, which is rather more turned over the column at the base than is the variety A. Both are very pretty and highly interesting varieties. J. O'B.

CYPRIPEDIUM KIMBALLIANUM.

The September number of the *Orchid Review* (p. 271) contains the following further note respecting *Cypridium Kimballianum*, written in reply to Mr. O'Brien's remarks at p. 154 of our issue of August 10, which seems to clear the matter up:

"At p. 238 of our last issue some remarks were made respecting *Cypridium Kimballianum*, and

the circumstances under which *C. præstans* has received four additional names were pointed out. We have since discovered that there are two *Cyrtopodiums* bearing the name of *C. Kimballianum*, and that both are included in the above-mentioned note. We therefore hasten to say that the reference to the *Gardeners' Chronicle* figure—the supposed hybrid between *C. Rothchildianum* and *C. Dayanum*, which may be termed *C. Kimballianum* No. 2—must be excluded from our note, which will then only apply to the original *C. Kimballianum*, otherwise *C. præstans*. Of this second *C. Kimballianum* we have now seen a leaf and flower, through the kindness of the editor of the *Gardeners' Chronicle*, and it certainly does appear to combine the characters of *C. Rothchildianum* and *C. Dayanum*, and as both are Bornean, it may be a natural hybrid between them. Mr. J. O'Brien comments on our note to the effect that the writer has 'only (the italics are ours) succeeded in introducing further confusion'—in short, has 'discovered a mare's nest' (*Gard. Chron.* for August 10, p. 154). It is true we did not discover that there were two *C. Kimballianums*, but we certainly cleared up the complex history of the original one. And what of the other? A figure was given, with the solitary statement that it was supposed to be a natural hybrid between *C. Rothchildianum* and *C. Dayanum*. There is no description, and nothing to warn one that it is not the plant hitherto known as *C. Kimballianum*. As a matter of fact, it is not permissible to call a second plant *C. Kimballianum* before the first is disposed of. However, we have now disposed of the first and cleared the way for the second, but it must be written with the sign of hybridity added, thus: *C. × Kimballianum*. We regret the error, but our readers will now be able to see how we 'jumped to conclusions,' and apportion the blame. It now remains to add a brief description of *C. × Kimballianum*: the dorsal sepal is $2\frac{3}{4}$ inches long by $1\frac{1}{2}$ broad, whitish-yellow, with seventeen to nineteen purple-brown lines. Petals nearly flat, 4 inches long by eight lines broad at base, narrowed to an acute apex above; strongly ciliate; whitish-yellow, lined with purple-brown towards apex, but the nerves only spotted near the base. Lip $2\frac{1}{2}$ inches long, purplish. Staminate obcordate, with a tooth in the sinus, purple-brown, pubescent all over. Leaves strongly tessellated. In most respects the plant approaches *C. Rothchildianum*, but the marbling of the leaf, the hairs of the petals, some of which are $2\frac{1}{2}$ lines long, and the shape of the staminate, all show the influence of the other species. The hairs of the staminate must have come from *C. Rothchildianum*, but those of the petals can only have come from *C. Dayanum*. If it is a wild plant, it is a most interesting one, for there can be little doubt as to its parentage."

THE ROSARY.

THE MULCHED ROSE-GARDEN.

It was a real pleasure to read a word of protest from so capable a rosarian as "Wild Rose" in the *Gardeners' Chronicle* for August 24, against the prevalent but nasty practice of applying malodorous manures to roses. Many who are not exhibitors do it, and thus render the Rose-garden, if not the whole of their garden, untenable during the months of May and June—the most lovely season of the year in any garden.

Nearly all of this objectionable feature of champion Rose culture can be easily got rid of by well manuring the land with pig, cow, or horse-dung in a rotten condition, and in no other way should manure ever be applied, unless the soil be of a close retentive nature, when half-decayed manure may be applied. This should be dug in after the spring-pruning is finished, and not just round about the plants, but all over the beds, so that the roots are compelled (as they do readily) to search for it away from the immediate vicinity of the root-stock. The extra degree of moisture which is always present in the soil where rich moist manure lays, is what lures the roots from home, and this search for moisture is most active during a period of hot dry weather. If the plants require further nutriment during the months of June or July, when perhaps from excessive waterings the dug-in manure may have lost some of its active principles, the ground should be drawn together

in ridges or heaps, and some more manure spread over the roots, but not in contact with them, the soil being immediately returned over it, and made level and neat-looking with a rake. The manure may be ever so offensive when thus applied, it is soon deodorized when brought into contact with the soil, and especially if the latter be dry. Moreover, there is no straw and litter to offend the eye, or blow about the garden. The usual advice given, to lay on a mulch, and sprinkle some earth over it, ostensibly to keep it in place, will not do; observant eyes see through the trick, if the odour does not reveal its presence. The same when applying strong liquid manure; it is better to draw drills with the hoe, pour the liquid into these, and close them in again. This is a method which the Chinese gardeners adopt, not from any ideas of the cleanliness of the practice, which is far from them, but because they have found out the utility of shutting up the fertiliser in the earth, instead of letting it lose its virtue, as it would do, by exposure. Voidings of animals of nearly all kinds and horse-slops can be so buried in little drills, and rendered innocuous, as well as useful, as plant-foods. The method is applicable to any kind of gardening *in petto*: as, for instance, to Dahlias, Hollyhocks, Carnations, Pansies, herbaceous perennials, vegetables of all kinds, fruit-trees, Tomatos, and Strawberry-plants. In regard to salads and Strawberries, it is a method of application that seems eminently desirable, as, by careful use, the manure, whether liquid or solid, need not touch any part of the plants.

Whatever be done in the way of manuring Rose-beds, it will not do for the cultivator to neglect the stirring of the soil with the Dutch-hoe. The hoe should always be run through the beds after rain, which cake the surface, and in a general way, once in a fortnight or three weeks.

FUNGUS ON FLIES, AND PLANT-LICE.

A SPECIAL interest attaches to those species of fungi which attack living insects, on account of the experiments which have been made in inoculating some of the most pernicious of garden pests, and producing artificially a destructive epidemic. When these experiments have been sufficiently repeated and confirmed, the result will be that the destinies of the plant-lice will be in the hands of the horticulturist, and this would in itself be sufficient to invest all the details of this phase of parasitic life with abiding interest. The small group of fungi to which these particular species belong has been called the *Eutomophthoraceæ*, and they have an affinity with the fish-moulds, or *Saprolegniæ*, by reason of a form of conjugation and the production of zygospores. In former times, and for a long while, the only representative known in this country was the mould which attacked house-flies in the autumn, and fixed them in death to the window-pane. On the Continent a few other species soon came to be known, but at the present time not fewer than forty or fifty species have been described, of which one has this summer been detected at work upon myriads of flies, in the Midland counties.

The character of these fly-moulds has been very fairly made out by a series of carefully-conducted examinations, which are embodied in a *Monograph*, published by Professor Thaxter, in the United States. At first they attack and absorb the whole internal economy of the insects, and then the conidia appear like a mouldy or powdery mass on the surface of the insects, varying a little in mode according to the different species.

The *Eutomophthoraceæ* are distinguished by the production of internal hyphæ of considerable diameter, and with fatty contents, which at length emerge from the host and produce whitish masses, bearing at their extremities large conidial spores, which are violently discharged into the air, and propagate the disease. In addition to this method of asexual reproduction, there is another which terminates in the development of thick-walled resting

spores, which may be either sexually produced or zygospores, or asexual and azygospores. These finally germinate and produce conidia, which infect new hosts. Infection takes place from contact of one of the conidia, which adheres to the surface of a healthy insect, and germinates there, whilst the germinating thread enters the body. Conidia absorbed with the food do not appear to produce infection. After the germinating thread enters the body of the insect, it grows rapidly, and produces "hyphal bodies" of variable size and shape, which are constantly reproduced by germination, until the body of the host insect is more or less completely filled with them, and the natural contents of the body absorbed. Each of these hyphal bodies is capable of developing one or more threads, which are simple or branched, and proceed directly into the outer air, where they become conidia-bearers, producing conidia at their extremities. These conidia are formed by constriction, and are at first contained within a mother cell, which, when mature, is ruptured, and the conidium is ejected to a considerable distance. The conidia themselves vary in form and size in the different species, but are mostly hyaline, and their contents contain fatty globules. The discharged spore adheres to any object with which it comes into contact, and if it chances to find a suitable host, proceeds to germinate at once; but if it fails to find a suitable host, it then forms a secondary conidium, and makes another effort at dispersion. If the second conidium fails, a third may be formed from the second in a similar manner to that in which the second was produced from the first.

The "hyphal bodies" already referred to as producing conidia-bearers, may also be concerned in the production of resting-spores, either with or without conjugation in the body of the host. Asexual resting-spores are either formed by the conversion of a hyphal body directly, or by budding from the hyphal body. They are usually spherical, with thick cell walls of three layers. Sexual resting spores or zygospores,* are produced as a result of the conjugation of opposite threads, by a method which reminds one of the conjugation of the filamentary freshwater algæ! The mature resting spores are spherical, mostly smooth, and scarcely coloured.

The original and most ancient species of this family is *Empusa muscæ* on house-flies, to which was subsequently added, as an inhabitant of this country, *Empusa culicis* on gnats, &c.; and this was followed lately by the identification of *Eutomophthora aphidis* on various species of plant lice. Last of all has now to be added *Empusa conglomerata* on a dipterous fly (*Melanostoma scalaris*), which have been found attached to the flower-spikes of a grass in myriads near Birmingham. The species which is of most interest to our readers is that which attacks aphides, and it is in that connection that these observations are made. Dr. Thaxter says that his first acquaintance with *Eutomophthora aphidis* was in a greenhouse during 1886. In this situation it acted as a decided check to the multiplication of the aphides, yet did not spread with sufficient rapidity to render "smoking" unnecessary. He further states that "in one case he observed a large Hop-vine, some 20 feet high, completely covered with aphides, which were killed off by this fungus in about two weeks, the affected hosts being fastened to the under sides of the leaves, and to the younger shoots in vast numbers. The destruction of colonies of aphids by this species or by *Empusa Fressenii* seems to be the rule rather than the exception, and is at least of very common occurrence."

It becomes a practical question whether the encouragement, and even the artificial spread of this fungus amongst colonies of aphides may not be a powerful agent in the future for the destruction of plant-lice. The difficulty at the present time is the rare appearance of the parasite in this country, and consequently the rare possibility of obtaining the diseased insects, in order to place them in the

* See also *Vegetable Wasps and Plant Worms*, by M. C. Cooke, for further details. 8vo. London, 1892, pp. 10 to 12.

healthy colonies; but there is the consolation that every extension and distribution of the fungus will help to spread the epidemic, and carry destruction into the haunts of the plant-lice, as a retribution for their past history. *M. C. C.*

DROSERAS AND THEIR CULTIVATION.

THAT these plants do not receive a more popular share of the attention of horticulturists is much to be regretted; and to account for this neglect is difficult, the plants being of easy culture, and taking up but little space. Not only is the genus of interest on account of the insectivorous nature of the foliage, but when well grown the plants are pretty and attractive. The members of the genus in cultivation are few, and greenhouse treatment suits them, if frost be excluded. They are mostly natives of the Cape of Good Hope, Australia, and New Zealand; while those species found in Britain are easily procured. The plants should occupy a stage where they may be fully exposed to the sun, and where the air circulates freely around them. But although they succeed in an exposed situation, they must be kept damp about the roots, and perhaps the best material upon which to stand them is a shallow bed of sphagnum moss, this retaining moisture for a long time. Water should be copiously afforded, never allowing the compost round about their roots to become dry, and then the secretions from the glands which give the plants their characteristic beauty will be copious. If large masses are desired, it will be found advisable not to disturb them every year, but simply to top-dress them with peat and sphagnum-moss, which, with the addition of sand and broken charcoal, forms the potting material. If single crowns are taken and potted singly, and if of the larger growing species, shifted into larger pots during the summer, larger leaves will result, but when seen growing together in clumps they look at their best; and in the case of *D. binata* and *D. dichotoma*, this is particularly the case. Propagation of the two above mentioned species and *D. capensis* may be effected by division of roots. If the roots of these are cut into lengths of about an inch, placed upon sand, and covered slightly with sphagnum-moss, young plants are soon produced. In raising from seed, finely-chopped peat and sphagnum, with a good addition of sand, should be used. The seeds should not be covered or allowed ever to become dry, and when large enough to handle the seedlings should be pricked-out in pans. As growth towards the autumn ceases, they require a little less water, but sufficient must always be afforded to keep the compost moist, and the roots and buds plump, or shrivelling will take place, and a weakened growth will result the following year.

The following are amongst those most generally cultivated:—*Drosera binata*, a native of Australia and New Zealand, leaves seldom more than 1 foot in height, which are once dichotomously branched, the numerous tentacles being of a dark red colour, the glands secreting very copiously; this is one of the best in cultivation, and when seen in the sun it is a very attractive plant, and usually captures a fair number of insects. *D. dichotoma* is said to be synonymous with the above, but is always a distinct-looking plant with its stronger twice-forked leaves, and lighter-coloured tentacles. It is the largest species in cultivation and makes a good painful, or single specimen; pinching off the flowers imparts great vigour to the foliage. *D. capensis*, as its name implies, is a Cape plant, with a short erect stem, and leaves about 3 inches in length, and a quarter of an inch in width; the tentacles are light red, and longest at the margins. *D. filiformis*, a North-American species, has long leaves, and flowers of a purple colour; the leaves spring from a small bulb-like bud. *D. spatulata* has a rosette of leaves with light-red tentacles and purple flowers, and is a native of Australia and New Zealand. *D. Burkeana* and *D. ramentacea* are South-African species, and are like miniature forms

of *D. spatulata*, but of a much deeper red colour. *D. auriculata* possesses a slender stem with small leaves, carrying long, lightish-coloured tentacles. Others which should be included are *D. peltata*, *D. anglica*, *D. intermedia*, and *D. rotundifolia*, the three latter natives of Britain. *Drosophyllum lusitanicum*, although included generally with these plants, will be found to thrive in a compost of fibry loam and broken crocks. Until thoroughly established, they will need more care in watering. As soon as possible after germination, the small seedlings should be placed in thumb-pots, as if allowed to stand in the seed-pots, less success will be made in their transference. *Roridula*, which are the giants of the genus, were growing here some few years since, when plants attained the height of between 5 and 6 feet. Lately seeds of *R. Gorgonias*, received through the Royal Gardens, Kew, have germinated, and although only about 1 inch high, already show the glands upon their leaves. This, so far as is at present known, under cultivation enjoys a rather higher temperature than many of the *Droseras*, but with a better knowledge of the genus and its requirements, it may perhaps be found to grow as an associate of these plants. The well-known North American Venus Fly-trap, *Dionæa Muscipula*, is very abundant, and succeeds well under the same conditions as afforded the other genera of this order, and is now forming its remarkable leaves. *R. L. H., Edinburgh Botanical Garden.*

THE TUBEROUS BEGONIA.

THE following extracts are taken from a paper read at the Shanklin Literary Institution on August 3 by Mr. W. W. Sheath. After giving a brief history of the origin of the tuberous Begonia and its gradual evolution, Mr. Sheath detailed his methods of cross-breeding and seed-saving, and then went on to consider the method of

PROPAGATION.

The Begonia may be propagated by cuttings as well as from seeds, and this process is usually followed in the case of named varieties (single or double). The cuttings can be taken when the plants start in spring, as in the case of *Dahlia* cuttings, about 3 inches in length, or when the plants throw side-shoots later in the season, but where possible, they should be taken with a heel. Insert the cuttings round the sides of small pots in light sandy soil. I have found a half-spent hotbed a good place in which to strike them, where the bottom-heat would be in excess of the top-heat, and not too moist, as they frequently damp in too moist an atmosphere, or on shaded shelves in warm houses. They soon form roots in a suitable position, and also a bulb at the base of the cutting. If cuttings were taken in spring, they would make flowering plants at the end of the summer, but later-struck cuttings would not need repotting, but should be left in the pots they were struck in until the following spring. In any case, plants from cuttings are not so vigorous as healthy seedlings.

Sow the seed from the middle of January to the middle of March, to obtain flowering plants the same year, or they may be sown in the summer and allowed to remain in the seed-pans or boxes until started the ensuing spring. The following method is that to be recommended:—

The soil in which to sow the seed should consist of two parts loam to one each of leaf-mould and sand, and heat it sufficiently to destroy roots and seeds, or insects the soil may contain.

Drain the pans thoroughly, and fill to within an inch of the top with the compost, and make perfectly smooth and level, then give a good watering, and allow the soil to drain well before sowing the seed. Sprinkle the seeds evenly and thinly over the surface, and then crumble enough dry sand to keep the seeds from blowing away, but do not cover them entirely. Place sheets of glass over the pans, and also cover with paper for nine or ten days, so that the seeds be in semi-darkness; put in gentle hot-bed, or in a temperature of 60° to 70°, turning the glass daily to prevent the evaporated moisture from dropping

on the seed. Examine the seed-pans, and if they show any signs of dryness, immerse the pans in water until the moisture is seen gently to percolate the surface, not allowing it to float over the top, or the seed would be displaced.

In about three weeks the seed should have germinated and be showing above the soil, but be careful not to allow the sun to shine fully on it at this stage, or a few minutes would suffice to ruin them. As soon as the young seedlings show the first leaf, they must be pricked off. Prepare pans or boxes similar to the seed-pans, making the surface smooth and moist, and with a notched stick or label make a small hole in the soil, and lift the seedlings carefully and drop in holes about an inch apart, gently pressing the soil to them. It is quite necessary to do this, as sometimes they damp off rapidly, especially if the surface of the soil is at all green. It is a tedious affair, but will repay all the trouble bestowed on them in such a small estate, and can be done in evenings with advantage. Water gently with a fine rose to settle them, and place in a warm, moist temperature, and shade from the sun, as near the glass as possible. As soon as they touch each other they should be again pricked out or potted in small pots, and kept warm until they make a fair growth, when they will bear more air and light, and gradually harden off to the greenhouse or frame. If required for pots, shift on into larger ones as required; but if for planting out, keep in the boxes and plant out the first week in June.

POT CULTURE.

The soil for pot culture should consist of the following ingredients (for the first potting): 2 parts friable loam, 1 each of leaf-mould, sand, and well-rotted manure; for the larger pots, use 3 parts loam in a rougher state, 2 parts leaf-mould, 1 part of thoroughly decayed cow-manure, if obtainable, or other well-rotted manure, powdered charcoal, and enough sand to keep the whole porous.

If required to flower in May, they should be started in January, in a temperature of 60°; but for ordinary summer display, March would be soon enough. Drain the pots in the ordinary way, using sizes according to the size of the bulbs, allowing an inch or more outside the bulb to the sides of the pot, pressing the soil gently for the first potting, keeping the crown of the bulb level with the soil, not much water being required before they start into growth. The top of the bulbs is sometimes hollow; where this is the case, water must not be allowed to lodge there, or they will soon decay.

As soon as the roots begin to run round the sides of the ball of soil, they will require a shift into a pot one or two sizes larger, bury them an inch deeper than in the previous potting, and press the soil more firmly.

Unless plants of large size are required, this potting would be sufficient, and plants can be kept growing late in the season, when the pots are full of roots, by the application of liquid manure in a weak state, such as soot and cow manure, immersed in bags in a tub of water, and used in a clear state.

Avoid artificial or strong manures either mixed in the soil, or as a top-dressing, as, unless used by experienced hands, they will soon do harm to the plants.

A good light airy greenhouse, shaded from strong sunlight, will suit the plants when in bloom, or they will accommodate themselves to almost any light airy position, whether in the conservatory, cold frames, or the cottage windows, and may be termed air-loving, light-loving, and moisture-loving plants.

After the flowering season is over, ripen the bulbs by withholding water gradually, and after the tops are died down, they may be laid on their sides, under greenhouse stages, in the pots they have been grown in, covering over with slates or something to keep the drip from the pots, or in a dry frost-proof cellar or room.

BEDDING.

The Begonia has a great future before it as a bedding plant, as it can be used in so many ways with such good effect. Only a small space is required to

store a great quantity through the winter season, and thus heated glass structures are not required to preserve them as they are for most bedding plants.

Seedlings are best for bedding, making robust and free-growing plants, and these can be raised easily and in great numbers. Prick out into boxes and transplant in frames, or in sheltered places outdoors.

I generally plant out in frames, and after the plants are well into growth, throw off the lights entirely, when they will flower freely in the autumn.

If certain colours are required, now is the time to select them, and if any choice varieties present themselves, they can be marked for pot culture the following season, or taken up and carefully potted whilst in flower.

In autumn, previous to the occurrence of cold nights or heavy rains, the lights can be put on to hasten the ripening of the bulbs, and should be taken up when turning yellow at the top, or before frosts appear.

I like to dry the bulbs thoroughly after taking them up, and then to store them thickly in cutting-boxes, crowns uppermost, with some fine dry soil under and over the bulbs. Keep in a dry place, which does not fall below 40° in winter. A great quantity can be stored in this way, as the boxes, if of the same size, can be piled one on the other.

In March, look over the tubers, and discard any that may be decayed, and lay the rest in boxes on several inches of fine soil, such as two parts fine loam, one part each of leaf mould and sand, giving the bulbs room enough to transplant, with a ball of earth at bedding-time, and just covering the bulbs with soil.

I find here in the south on the undercliff those for bedding do not require to be started in heat; and if put into pits or houses where heat can be turned on in cold and frosty weather, they will be quite forward enough by the end of May. Care is required in the watering of these, as in the case of potted plants, to avoid water settling in the crowns.

In preparing the beds, fork in light and gritty soil, such as leaf-mould, road-grit (if the staple is heavy), and well-decayed manure (cow-manure if the soil is of a sandy nature). In the last week of May, if the weather is fine, they can be safely bedded out from the boxes, which are preferable to potted plants, as they lift from the boxes, with a mat of fibrous roots, and if carefully handled receive no check. Never let them suffer for want of water. When in full growth they revel in a good drenching, as last year, 1894, being a wet season, Begonias stood out in their glory, whilst the zonal Pelargoniums made but a poor show. They continue to flower until the autumn winds and frost put an end to further growth, when they must be taken up and dried off, as directed with the frame seedlings.

I may here mention that Begonias make a good effect when used other ways than in the mass, such as an oblong, oval, or round bed, dotted with Cannas, or as a groundwork to subtropical beds, when these are planted thinly and edged with bicolor and tricolor Pelargoniums, edged with Lobelia or Pyrethrum, or both; also in larger beds, where pyramid Fuchsias are planted some distance apart, leaving room for Begonias all round, edging with Golden Feather, and Lobelia as an outside finish.

INSECTS.

The Begonias are not much subject to insect pests, but greenfly is sometimes troublesome if grown in too much heat, or in too close an atmosphere. Pot-plants are sometimes infested with a kind of rust on the stems and leaves, which some growers say is a fungus, but I have found it more prevalent when in too much heat in spring, also by sudden changes of temperature, or draughts, by imperfect drainage—in fact, by anything that would cause a check in their growth, this rust causing the blooms and foliage to curl, and to be very brittle, snapping off at the least touch. When such is the case, stand them out in the open air, and if not too far gone they will partly recover themselves.

A small maggot or grub sometimes does much mischief by eating the bulbs underneath, and if not

detected or destroyed will soon ruin them. It is the same grub often found eating double Primulas, Cyclamen, and Echeveria retusa. It is the larva of the Otiorhynchus sulcatus, a brownish, hard weevil, about half an inch in length, and when disturbed, closes itself somewhat, and appears inactive. It can be caught at night when feeding. It will also eat the shoots and bunches of the Vine, &c.; and if in any quantity they do a great deal of mischief. The grub also gets into the Vine and Peach borders, and eats the roots.

FRUIT REGISTER.

THE SPITZENBERG APPLE.

The Spitzenberg Apple always brings a better price per barrel than others, and the question was recently asked of the conductors why it was that, as this Apple brought a higher price, more of them were not grown, and by thus well stocking the market with them, bring the price down. This is a question which could be answered only by those who grow this Apple. Some say that the reason why it is grown at all is that it comes into market at a time when other varieties are scarce; while others contend that the peculiar flavour, so grateful to most tastes, is what gives it more appreciation. It does seem that only orchardists can answer this question. *Meehans' Monthly for August.*

BEURRÉ CLAIRGEAU PEAR.

Among the higher classes of fruits, as well as among Strawberries and other small fruits, there are changes in popularity from one variety to another, often without any apparent reason; while there are some that continue in popular favour for a long time. Among Pears, one of the comparatively old varieties, known as Beurré Clairgeau, is still in as much demand to-day as it ever was, and is one of the standard winter Pears. Its large size has recommended it, as well as good colour and comparatively high flavour. *Meehans' Monthly for August.*

THE WEEK'S WORK.

THE ORCHID HOUSES.

By W. H. WHITE, *Orchid Grower, Burford, Dorset.*

LÆLIA PUMILA.—The dwarf-growing *Lælia pumila* and its varieties *Dayana* and *præstans* are very charming little plants when in flower. All of them are best cultivated in small shallow pans, and suspended close to the roof-glass. A small quantity only of peat and sphagnum-moss is requisite for them to root in, and this should always be kept fairly moist, but now that the plants have commenced to grow, and until this is completed, increased supplies should be afforded. Through the summer the plants have been in the cool-house, but it is now advisable to remove them to a light position in the intermediate-house. The white scale is very hurtful to them, and whenever it appears the pest must be immediately eradicated.

MASDEVALLIAS.—The majority of *Masdevallias* are amongst the most easily cultivated of Orchids, and if well grown they form a very prominent feature in the cool-house. Such showy and brilliant-coloured varieties as *M. ignea*, *M. Veitchiana*, *M. amabilis*, *M. Mundyana*, *M. coccinea*, and others, have a splendid effect when arranged with the lighter shades of colour in *Odontoglossums* of the crispum type. The dwarf species, as *M. Estradæ*, *M. Wageriana*, *M. Wendlandiana*, *M. Armini*, *M. racemosa*, *M. caudata*, *Shuttleworthii*, *M. hieroglyphica*, *M. ionocharis*, and the handsome hybrids, *M. Courtaldiana*, &c., form lovely objects when covered with their small but pretty flowers. These dwarf-growing plants should be grown with their leaves close to the roof-glass, and must never be allowed to become very dry at the root. Instead of suspending them we find that they succeed better when placed upon a raised staging in a light position, where the atmosphere can more easily be kept moist. Contrasting greatly in growth with these dwarf varieties, is *M. macrura*, which has large thick fleshy leaves, and is a veritable giant of the genus. This beautiful species should at all seasons be kept at the warmest part of the house, but if the temperature fall much

below 50° during winter this plant, and *M. tovarensis*, *M. ephippium*, *M. Trochilus*, *M. gargantua*, *M. Schlimii*, and *M. elephanticeps*, should be placed at the coolest end of the intermediate division. Seldom do we see a collection of *Masdevallias* free from black marks and spotted leaves. The principal cause of this is that the plants have had too much moisture at the roots or in the atmosphere during autumn and winter. Even in the summer they should not be kept in a saturated condition, but be allowed to become nearly dry each time before they are again watered. This practice should be specially observed during the next six months. Another cause of "spot" is a low and uneven temperature during the same period, perhaps at a time when the atmosphere of the house is at saturation point. The nearer the night temperature during winter is kept to 50° the better, but during exceptionally cold weather, when much fire-heat becomes necessary, it may be allowed to drop to 45°. Should the external air be above 45°, the ventilators ought always to be freely used, and at other times also a little air should be admitted.

TIME TO RE-POT.—Repotting is best done at this season, but it may be done in February if preferable. Previous to this operation it is important that water should be withheld from the plants for a few days, that the roots being drier may be less injured. It is not necessary to re-pot large healthy specimens annually, unless there is insufficient pot-room; but if the compost has become decomposed, this may be carefully picked out, and fresh material substituted. Overgrown masses that are bad in the centre must be divided and potted-up afresh, or they may be carefully separated, and put into small pots for propagating purposes. All the strong-growing *Masdevallias* make many roots, and require proportionate space for their development. The pots should be two-thirds filled with drainage, and for placing round the plants use good fibry peat and living sphagnum in equal proportions, intermixing it with a handful of crocks. Keep the base of the plants about level with the rim of the pots, and carefully work the compost between the roots. Pot moderately firm, but not so hard that the water cannot pass rapidly through the whole mass. The critical time with *Masdevallias* is just after repotting, it being an easy matter to over-water them. For a few weeks water very sparingly, and as each plant becomes re-established, gradually increase the supply. The dwarf-tufted varieties already mentioned, and the small but botanically interesting species, as *M. gemmata*, *M. mucosa*, and others, succeed in comparatively small pots or shallow pans; and such species as *M. leontoglossa*, *M. platyglossa*, and *M. swartzii*, which produce their quaint flowers in a downward direction, require baskets. The yellow-flowered *M. Daviitii*, *M. Veitchiana*, and *M. Cheloni* × frequently send up stray blooms during autumn, which, if not required by the hybridist, should be removed, so that the plants will give more flowers in their proper seasons.

THE HARDY FRUIT GARDEN.

By W. POPE, *Gardener, Highclere Castle, Newbury.*

SELECTION OF PLUMS FOR PLANTING.—When making a selection of Plums, intending planters should not fail to include Rivers' Early Favourite. As an early dessert Plum it is a grand acquisition, ripening early in July, and being moreover excellent in flavour. A few other good dessert Plums I will mention in the order in which they ripen:—Early Green Gage, The Czar, Oullin's Golden, Dennison's Superb, Haling's Superb, Green Gage, Bryanston's Gage, Purple Gage, Transparent Gage, Jefferson's, Kirke's, Washington, Coe's Golden Drop, Late Green Gage, Monarch, Reine Claude de Brahy, Blue Imperatrice, Ickworth Imperatrice, Late Rivers, Grand Duke. A selection of good cooking varieties should include the following:—Early Rivers or Early Prolific, Early Orleans, Gisbornes, Victoria, Diamond, Prince of Wales, Pond's Seedling, and Belle de Septembre.

STRAWBERRY PLANTATIONS.—All Strawberry planting should now be completed for the season. If this has not been done, it will be best to put the plants into nursery rows, and put them into permanent quarters early in the spring. Young plantations now becoming established should be well watered till they have a firm hold of the soil, and are growing freely, then keep the surface well stirred with the hoe, which, besides checking weeds, will tend to render the young plants more robust and healthy by the admission of warmth and air to the soil. Do not neglect to cut away runners from these young plants, and the old plantations should be

thoroughly cleaned, and all partially-decayed leaves removed. This will give a neat appearance, and be beneficial to the plants, by exposing the younger leaves and crowns to the hardening influence of sunlight and air.

WATERING FRUIT BORDERS.—If there be a continuance of the dry weather all fruit borders will require a thorough soaking of weak manure-water, or sewage, as soon as the fruit is gathered, more especially under walls and in dry warm localities. This will greatly assist trees that may be partially exhausted by heavy cropping, and do much towards restoring their vigour. In some instances also trees perfecting their crops may be much benefited by good waterings of liquid-manure, this being especially needful in the case of late Peaches and Pears. Grape-vines, too, where the roots may be on dry borders or under warm walls, should be encouraged by waterings during the early part of September, should dry weather prevail.

PLANTS UNDER GLASS.

By W. H. SMITH, Gardener, West Dean Park, Chichester.

THE CONSERVATORY.—Should this structure require painting, the work should be undertaken as soon as is possible, that the smell of the paint may have time to depart before it is necessary to keep the house closed. If, however, repainting is not needed, the house should be overhauled and thoroughly cleaned. Remove and gradually dry off Achimenes and Gloxinias that have flowered. Thin out the shoots of any climbers that have finished flowering, to obtain as much light as possible. Of course, Bignonias, Lapagerias, Bougainvilleas, Lasiandras, &c., must be left until later. Wash all the stages and pots, and see that every plant is perfectly clean before being brought into the house. Azaleas should be laid on their side and thoroughly syringed with tobacco water or some good insecticide in case of any thrip. Large Palms, Oranges, Musas, Camellias, Azaleas, &c. in large pots or tubs that have been standing outside, may then be brought in, the soil loosened, and a top-dressing of Clay's fertiliser given them. A few of the early Chrysanthemums of the Madame Desgranges type, which are showing their buds, should be brought in before the flowers open; also Lilium lancifolium, late Fuchsias, Vallotas, Celosias, &c., to make the house look as bright as possible through the autumn.

MIGNONETTE.—Put late plants of Mignonette into their flowering pots, and pinch out all flowers to encourage the plants to emit side shoots. Keep them constantly tied, and place them in a little lighter position to harden the wood. Syringe two or three times daily. Plants intended for earlier use, and which are now full of roots, should receive plenty of manure-water. A sprinkling of soot and Clay's Fertiliser mixed together, will keep them green and healthy. These should still have the flowers picked off until about a month before they are required.

CHRYSANTHEMUMS must be kept regularly tied, and will now need disbudding, which must be done carefully. All suckers should be removed, and the soil pricked over, and the plants given a top-dressing of good loam, leaf-soil, and sand, with the addition of a quantity of bone-meal and soot. Syringe every few days with clear weak soot-water, which will keep the foliage a good colour and help to prevent injury by earwigs, which are very abundant this year. Plants affected with mildew should be placed by themselves, and be dusted with flowers-of-sulphur.

TREE OR WINTER-FLOWERING CARNATIONS.—Carnations will need to be kept regularly tied, but stopping should now be discontinued. If green-fly has made its appearance, the pest should be checked at once, or the plants will be disfigured and will not flower satisfactorily. Syringe the plants at night, and dust a little tobacco powder in the points of the shoots, syringing this off the following morning. When tying the plants, a sharp look-out should be kept for disease, as this generally appears on the old grass, and can be kept in check by cutting it clean out and burning the affected parts. The Carnation-house should be thoroughly cleaned, and the stages and shingle washed, and it is a good plan to give the house a thorough syringing with paraffin-and-water a week or so before the plants are brought in.

FRUITS UNDER GLASS.

By RICHARD PARKER, Gardener, Goodwood, Chichester.

POTTING FRUIT TREES.—Where such fruits as Peaches, Nectarines, and Figs are grown in pots for

the production of early crops, the repotting of these plants must be done at once. The sooner this is done when growth is completed, and before the foliage falls, the better, as new roots form quickly during the present month, and the trees will be thoroughly established before they are again placed in the forcing-house. It may not be necessary in some cases, when the trees are in a healthy and fruitful condition, to repot the plants, a surface dressing of fresh material being all that is required. In such cases, as much of the old soil should be removed with a sharp-pointed stick as possible without damaging the roots, replacing this with good fresh loam, to which has been added a dusting of crushed bones, some mortar-rubble, and wood-ashes. Ram the compost quite firm with a potting-stick, and make sure the drainage is quite perfect, at the same time dislodge any worms by watering with lime-water. Trees in an unhealthy state should be turned out of their pots, and the roots carefully examined, cutting away any portions that are decayed, and removing all soil that has become sour. After doing this, it may be better to repot the trees into smaller pots for a season, and water carefully until new roots are formed. Good drainage and firm potting are two essential points to be observed. After potting, the plants should be placed on bricks or coal-ashes, watered carefully, and syringed overhead during bright weather. Some protection will be required during wet weather to prevent the soil becoming saturated with water before the roots are active. Apples, Pears, Plums, and Cherries will require similar treatment, but as these are not forced so early as the former, these may be left until later in the month.

VINE AND PEACH BORDERS.—Much of the old soil may be removed from the borders in early houses, and the borders extended or top-dressed, as the case may require. The compost used should be in a fairly moist condition, and consist of the same material as recommended for trees in pots, but in a rougher state. Avoid farm-yard manure, which is more valuable as a top-dressing during the growing season than as an ingredient in the compost. The border should be beaten with the back of a fork to make it quite firm. Continue to keep the foliage healthy by syringing frequently.

THE KITCHEN GARDEN.

By JOHN LAMBERT, Gardener, Powis Castle, Welshpool.

CELERY.—The Celery crop has advanced rapidly of late, and that portion intended for use until Christmas, is quite ready for a preliminary earthing-up. When it has been well cleaned and tied, apply to the soil, along each side, a sprinkling of salt to kill slugs and other pests. Sandringham Dwarf White, and white varieties generally, are preferable for early work, but red ones appear to me the better able to withstand the winter. Provided strong sturdy plants are at hand, a late batch may still be put out, and will be likely to be of use in the spring.

GHERKINS FOR PICKLING should be gathered in dry weather as they become fit. Do not allow them to get too big, but try to obtain a large quantity ready to cut at the same time. When the plants are exhausted, have the heaps of manure well mixed by turning, that it may be ready for garden purposes.

CHILLIES AND CAPSICUMS required for pickling purposes, if planted out in cool frames, may have the lights placed over them to assist the ripening process. If they are outside in a favourable border, they may be carefully lifted and potted, and put in heat under glass. Plants growing through the summer in pots will produce an abundance of fruit, without any trouble in regard to ripening.

SPINACH.—Another sowing may be made of the improved round-leaf variety for winter use. Allow plenty of room between the rows, and do not sow too thickly. Spinach is frequently ruined during its early stage, owing to the crop being insufficiently thinned. Use plenty of soot as a dressing for this crop.

FRENCH BEANS.—Make another sowing of these in heated pits or frames. Beans like a slight bottom-heat from leaves and litter, but the material must be well prepared first, so that the heat will last until the crops are finished. If the pits have not already been washed with hot lime, and the woodwork newly painted or well scrubbed with soft-soap and water, this work should be first performed. Let the manure settle well down before adding the soil for the Beans to grow in. The compost may consist of

good loam four parts, leaf-soil one part, burnt refuse and mortar-rubble one part, and spent Mushroom-bed manure one part, with a little soot and bone-meal added. Well mix this together, and put it in the pits to warm before sowing the Beans, which may be put in rows not nearer to each other than 2 feet. Choose varieties having dwarf, compact tops. If Beans are to be grown in pots inside during the winter, preparations for them should now be made. Provide good drainage, and leave space for a top-dressing. Afterwards when thinning the plants, put five in an 8-inch pot, which is a very convenient size for use. Cool frames or pits will be a suitable place for them to be placed in at present. Grow them as hardy as possible, but as the cool nights and damp weather approach, afford a little covering at night, and a little fire-heat also.

TOMATOS on walls or trained to sticks should have all side-shoots removed and some of the leaves shortened back, to expose the fruits to the sun and air as much as possible. Look over the plants frequently and remove all fruits that are colouring, and place them in a light airy house to ripen.

THE FLOWER GARDEN.

By BAILEY WADDS, Gardener, Birdsall Gardens, York.

PLEASURE-GROUNDS AND FLOWER BEDS.—Grass lawns should be given close attention in regard to mowing, sweeping, and rolling frequently. If a heavy lawn-mower is used, there may be no occasion to roll, but otherwise the appearance of a lawn is very much improved by a heavy roller. For large lawns there is none better than a good-sized water-roll, the weight of which can be regulated as desired. Take out Plantain and other weeds from the grass, either by digging with a knife, or a boy may take a bottle of sulphuric acid and a thin iron rod, which should be dipped into the acid and then thrust into the centre of the weed. The operation requires care, however, that spots of the acid are not dropped about. The iron should only be wet; it does not want a drop of liquid on the end of it. Flower-beds are now looking well, and every endeavour should be made to maintain this department as attractive as possible by weeding beds and borders, trimming edgings and by the removal of decayed flower-stems and leaves. When cuttings are taken from Pelargonium-beds, it should be carefully done, so that the beds are not left untidy. Small beds of Pelargoniums ought to be cut little or none, and if a quantity of plants are put out in a reserve garden to furnish cuttings, so much the better. Rhododendrons, Azaleas, Kalmias, and other American plants which have suffered from the drought, will be greatly helped by thorough soakings of water. Old flower trusses should be taken off, and everything done to help them to complete their growth. Gravel walks and roads require frequent hand-weeding, for the use of the hoe and rake on gravel should be avoided as much as possible. Notice should be taken, while the leaves are still on the trees, of deciduous trees or shrubs that require thinning. The arrangement of trees and shrubs around a mansion or villa residence requires much taste and forethought; overcrowding should at all times be avoided, and deciduous trees and shrubs are better planted at a little distance, the preference being given to bright-foliaged evergreen shrubs and coniferous plants, which will give warmth and colour during the winter months.

FORMATION OF NEW PLEASURE-GROUNDS.—The formation of new pleasure-grounds, or contemplated additions to old ones, should be arranged for now, staking out the approach roads, paths, and shrubbery sites as soon as possible, that the work may be taken in hand during the autumn. The making of new paths is an expensive operation, and their courses through parks and woodlands should be well considered before commencing on the work. The width of carriage-drives should be sufficient to allow carriages to pass each other and turn without difficulty. Regarding their formation, the bottom should be well drained, and the depth of road material not fewer than 12 inches. The bottom may be made of chalk, free-stone, or ballast, with 6 inches of granite above it, and about 3 inches of fine gravel at the top. The surface must be made so that water will get quickly away. Foot-paths do not require to be made so deep, but the same material should be used, and good drainage given. The cleaning out of ornamental water-courses and ponds must be completed before the fine weather is over.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Letters for Publication. — All communications intended for publication, as well as specimens and plants for naming, should be addressed to the Editor, 41, Wellington Street, Covent Garden, London. Communications should be WRITTEN ON ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETING.

TUESDAY, SEPT. 10 { Royal Horticultural Society, in the Gardens at Chiswick, in connection with the show of vegetables.

WEDNESDAY, SEPT. 11 { Royal Caledonian Horticultural (two days).

SALES.

MONDAY, SEPT. 9 { Tenth Great Annual Unreserved Sale of Pot Plants at the Dyson's Lane Nurseries, Upper Edmonton, by order of Mr. H. B. May, by Protheroe & Morris. Dutch Bulbs at Protheroe & Morris' Rooms.

TUESDAY, SEPT. 10 { Great Annual Unreserved Sale of Winter-blooming Heaths and other plants at the Burnt Ash Road Nurseries, Lee, Kent, by order of Messrs. B. Maller & Sons, by Protheroe & Morris. Dutch Bulbs at Protheroe & Morris' Rooms. Orchids at Protheroe & Morris' Rooms.

WEDNESDAY, SEPT. 11 { Great Annual Unreserved Sale of Winter-flowering and other plants at the Nurseries, South Woodford, by order of Mr. John Fraser, by Protheroe & Morris. Dutch Bulbs at Protheroe & Morris' Rooms.

THURSDAY, SEPT. 12 { Great Annual Unreserved Sale of Heaths, Store and Greenhouse Plants, at the Brimsdown Nurseries, Enfield Highway, by order of Mr. John Maller, by Protheroe & Morris. Dutch Bulbs at Protheroe & Morris' Rooms.

FRIDAY, SEPT. 13 { Great Annual Unreserved Sale of winter-blooming Heaths, at the Longlands Nurseries, Sidcup, by order of Messrs. Gregory & Evans, by Protheroe & Morris. Dutch Bulbs at Protheroe & Morris' Rooms. Orchids at Protheroe & Morris' Rooms.

SATURDAY, SEPT. 14 { Dutch Bulbs at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—58°.4

Apple trees trained on a roof, and other fruits.

A correspondent, writing from Scotland recently, remarks on some Apple trees which he had seen trained over the roof of a cottage in that country, and on the rarity of such an occurrence in these islands. It is perhaps one proof the more of the manner in which we neglect our opportunities, and let in the outsider, with his well-ripened, high-coloured, nice-looking fruits. There are only two reasons why our country cousins should not utilise the walls of brick, wood, &c., of their barns, stables, and dwellings, in growing, not only the tenderer varieties of Apples and Pears, but Grapes, Figs, Peaches, Apricots, the finer dessert Plums, the Lawton, and other American Blackberries, and those reasons are the lack of secure tenancy in the case of those who rent houses and land, and the want of compensation for improvements. It may be alleged that the average farmer, and cottagers and villagers generally, lack the requisite knowledge; but that will, we hope, soon be altered by the peripatetic lecturers of the various County Councils. And we ought soon to have a body of

young folk in all parts of the country, who having attended these horticultural courses, will be quite competent to afford advice on the management of fruit trees to those who need it, and also perform the necessary operations wherever it may be desired. Indeed, there seem to be openings in this line which would, in a short time, give employment to many a man and woman too, who now hardly knows, in the crowded state of nearly all industries, what to turn his or her hand to, to earn the wherewithal to exist in comfort. We have the jobbing gardener, but he is too often a "puir silly body," with a very small amount of the necessary knowledge. In the matter of fruit trees and bushes he is either a ruthless pruner, pruning without knowledge, or he sniggles here and there, and makes thickets of them. Roughly speaking, all the kinds of fruits we have named, can be readily grown in soil that is well-drained, and fairly fertile by Nature or art, in the country south of a line drawn from King's Lynn to Chester, the Grapes, Figs, and Peaches, having south or east walls; and Pears and Apples, and perhaps, Figs and Apricots north of that line, with protection during the winter for the Figs, and in the spring for the last-named when in blossom.

We have received the following communication from the Council of the Royal Horticultural Society relating to the circumstances connected with the retirement of Mr. BARRON from the management of the gardens at Chiswick:—

Mr. BARRON'S Retirement.

"Royal Horticultural Society,
"117, Victoria Street, S.W., Sept. 2, 1895.

"The Council of the Royal Horticultural Society have read with surprise and regret the remarks which have lately appeared in some of the horticultural newspapers with regard to Mr. BARRON'S retirement. The Council have for some time had before them the desirability of making considerable changes in the gardens at Chiswick, and in the early part of this year they determined to initiate these changes in the near future.

"Fully aware of the value of Mr. BARRON'S services for upwards of thirty years, recognising that he had well earned and thoroughly deserved a retiring pension, and anxious to show him every consideration, the Council felt that at his age they could not fairly place upon him the burden of such a re-organisation as they contemplated; and they considered that they were consulting his best interests as well as those of the Gardens in offering him retirement on an allowance of £180 a-year.

"In replying to the council's communications, Mr. BARRON thanked them for their generous recognition of his claims, accepted their proposal, and tendered his resignation from Jan. 1, 1896. The Council are glad to know and to be able to assure the Fellows of the Society that he is perfectly satisfied.

"Having acted justly and generously towards Mr. BARRON, as they believe and to his satisfaction, the Council deemed the matter settled, and were themselves intending to promote a testimonial to him on his retirement, when they found that steps in that direction had already been taken.

"The Council regret to find that they are charged with discourtesy towards the Chiswick Board. The charge rests on their appointment of a special committee to advise them as to the future of the Gardens without communication with the board. They freely admit that it would have been advisable to have conferred with the board on the appointment of this committee. To any members of the board who may have felt themselves slighted at their omission to do so, they offer a frank expression of regret. They need scarcely say that the omission was due to an oversight, and not to any intentional discourtesy.

"By order of the Council,
"W. WILKS, Secretary."

THE TESTIMONIAL TO MR. BARRON.—We have received the following from Sir TREVOR LAWRENCE, Bart.:—"While I cannot but think it unfortunate that the proposal to present a testimonial to Mr. BARRON on his retirement from the service of the Royal Horticultural Society should be mixed up with an attack on the Council, I should be sorry were this to prevent anyone from subscribing to a well-deserved recognition of the work of an old and valued servant of the Society. I have pleasure in enclosing my own subscription, and trust that all will unite in promoting an object which cannot fail to secure complete and general sympathy.—TREVOR LAWRENCE."

—We have been requested to state that in consequence of several members of the Fruit Committee having expressed a desire to be associated by their contributions with the general testimonial that has been inaugurated, the proposal to present a special one from the Fruit Committee to Mr. BARRON as Secretary will not now be proceeded with, as it could only have merit if shared in unanimously. It is, however, the earnest wish of the promoters, that on his retirement from office the Council should still seek to preserve Mr. BARRON'S unique knowledge to the committee by offering him the position of a life membership of that body, with which he has been so long and so honourably connected.

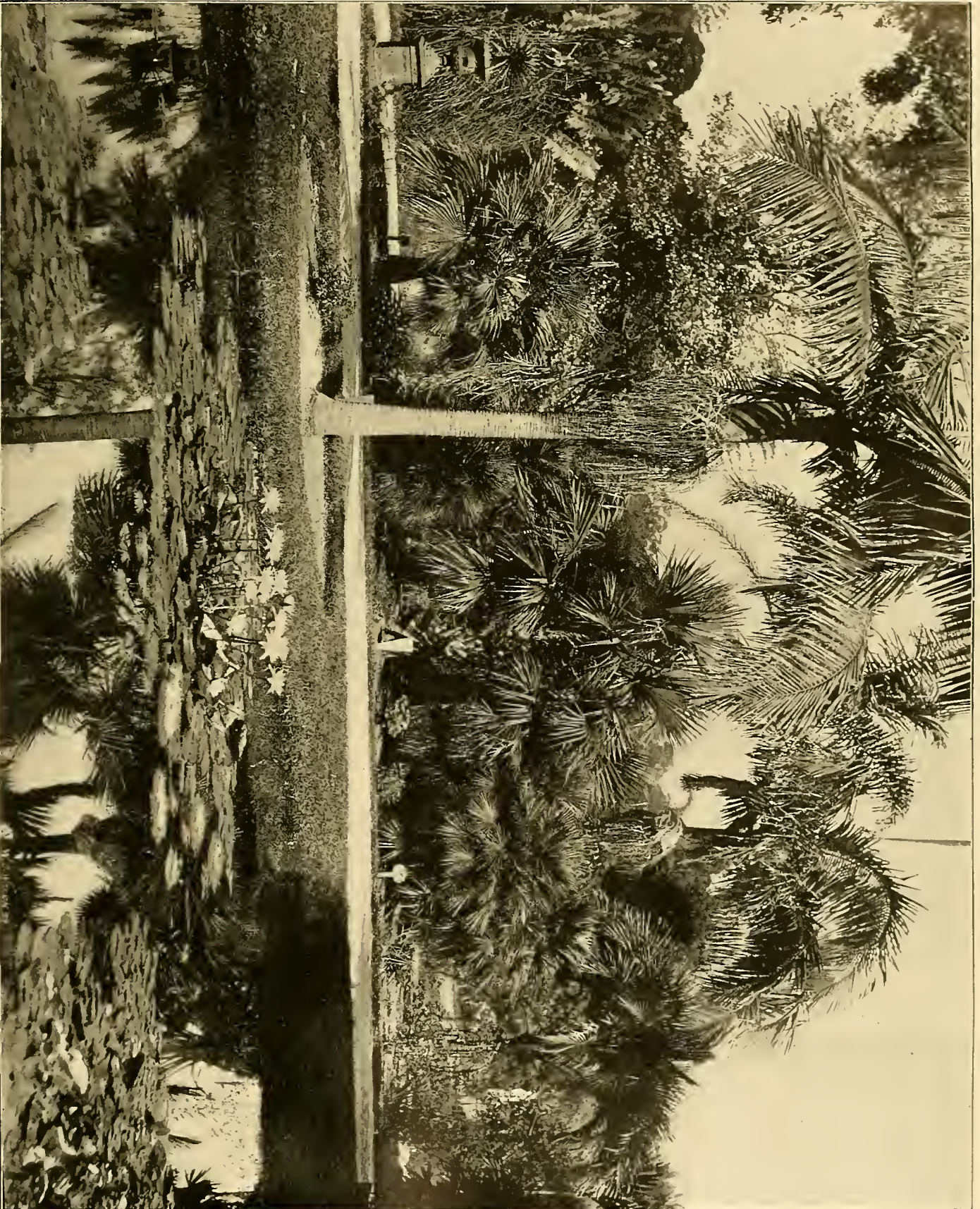
ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Royal Horticultural Society will be at Chiswick Gardens on Tuesday, Sept. 10. Prizes are offered in forty different classes for vegetables, and a good show is anticipated. In addition to the vegetables, however, the usual collections of hardy plants, Orchids, cut flowers, fruit, &c., will be received at Chiswick, and any new or rare specimens will be examined by the various committees, which meet there at twelve o'clock noon. At half-past one there will be a vegetarian luncheon arranged by A. HILLS, Esq., President of the Vegetarian Federal Union; and at three o'clock a lecture on "Garden Manures," by Mr. W. G. WATSON, will be read. Exhibits may be removed at six o'clock.

SYDNEY BOTANIC GARDEN (see Supplementary Illustration).—We are indebted to the veteran curator of the Sydney Botanic Garden for the accompanying illustration of a group of Palms, with a mass of the blue *Nymphæa stellata* in the lake in the foreground. The Water-Lily had forty-one flowers open at the same time within a space of 4 feet in diameter. *Nymphæa stellata* is a tropical species, but M. LATOUR MARILLAC has enriched our gardens with a whole series of lovely varieties quite hardy in this country.

THE "JOURNAL OF THE ROYAL HORTICULTURAL SOCIETY."—The last number of the *Journal* completes the nineteenth volume, and is a worthy successor to those that have preceded it. It contains most of the papers read at the Drill Hall meetings in the spring, including Mr. BARRON'S revision of recent work in the genus *Primula*, and Dr. MORRIS' excellent account of the plants and gardens of the Canary Islands, a substantial addition to our knowledge. The *Journal* reflects credit on the Society, and secures for the country Fellows a return for their subscription that they would not otherwise obtain.

DEVONSHIRE TECHNICAL INSTRUCTION COMMITTEE.—Mr. CHAS. BRAY, horticultural lecturer to the East Suffolk County Council Technical Instruction Committee, has been appointed instructor of horticulture by the Devonshire County Council, and will enter upon his duties at the end of the month.

NATIONAL CHRYSANTHEMUM SOCIETY.—A meeting of the general committee took place on the 26th ult., Mr. B. WYNNE in the chair. The Secretary, having announced the death of Mr. ARTHUR WORTLEY, who in the early days of the old Stoke Newington Chrysanthemum Society had filled the office of Secretary, the following resolution was unanimously passed:—"That this committee place on record an expression of the sorrow with which it has heard of the recent death of Mr. ARTHUR



PALMS AND LAKE WITH BLUE WATER-LILY, SYDNEY BOTANIC GARDEN.

WORTLEY, formerly Secretary of the Stoke Newington Chrysanthemum Society, to which office he was elected in 1851, and bears in grateful remembrance his services to the Society, and to the Chrysanthemum in that capacity, and also as an old cultivator and exhibitor of the 'golden flower.'" It was further resolved that a copy of this resolution be sent to the relatives of Mr. ARTHUR WORTLEY. Mr. GEO. WALKER, Paddington, and Mr. W. A. HOLMES, son of the late Secretary to the Society, were elected to vacancies on the general committee; and Mr. J. MCHATTIE, The Gardens, Strathfieldsaye, to a vacancy on the Floral Committee. A schedule revision sub-committee was appointed to revise the schedules of prizes for September, October, and December. The Jubilee celebration sub-committee, appointed to prepare a scheme for the proper celebration of the Jubilee of the Society in 1896, made a report, and the same was accepted, a committee being appointed to carry out the same. Twenty-three ordinary members and two Fellows were elected.

THE EFFECTS OF LIGHTNING.—During one of the recent severe thunderstorms, three Scotch Firs on the outskirts of the wood, about 50 yards from my cottage, were struck by lightning. As I have never before heard of several trees being thus struck at once, I send a few particulars, which may be of interest to your readers. The trees, measured from centre to centre, form an obtuse-angled triangle, whose sides are 17 feet 6 inches, 12 feet, and 10 feet respectively. The largest of the trees is 50 inches in girth at 3 feet from the ground, and the smallest 28 inches. The trees vary very considerably (more than 10 feet) in height, and they are surrounded by other Fir trees, many of which are more lofty than these. The injured trees are marked in the usual way by vertical lines, from which both the outer and the inner bark has been stripped. There are no signs that the lightning has passed from tree to tree, and I presume that one discharge has become separated over this considerable area. It would be interesting to learn whether similar instances of the effects of lightning have been recorded in this country. GILBERT R. REDGRAVE, Assoc. Inst. C.E., Grove Dale, Abinger, August 26. *The Times*.

THE WORLD'S WHEAT CROPS.—The Hungarian Minister of Agriculture at Buda-Pesth, on Friday evening published the aggregate results of the data obtained from the reports of the various consuls, agricultural specialists, and other correspondents, concerning the world's Wheat crops for the season 1895. The total production of Wheat in the import countries (that is, the countries which have to supplement their home productions of cereals by imports from abroad) is estimated at 264,160,000 hectolitres, or 749,422,000 bushels, and the production in the export countries is estimated at a total of 582,200,000 hectolitres, or 1,651,701,000 bushels, making the total Wheat crop of the world this year 846,360,000 hectolitres, or 2,401,123,000 bushels. The Minister has also amended the estimate published at the end of August last year of the 1894 crops, by increasing his then estimate of the total yield of 872,780,000 hectolitres, or 2,476,000,000 bushels, by 55,000,000 hectolitres to 928,000,000 hectolitres, or 2,632,736,000 bushels thus making this year's world's crop of Wheat 82,000,000 hectolitres, or 232,000,000 bushels, smaller than that of last year. *Agricultural Gazette*, August 26.

THE NELUMBIUM IN EGYPT.—Readers who recall the interesting notes on this subject published in these columns in the spring from the pens of Dr. BONAVIA and Mr. FLINDERS PETRIE, will be interested in the following extract from *Garden and Forest* of Aug. 21:—"The purpose of this note is simply to call attention to the fact that in the Abbot Collection of Egyptian Antiquities, now the property of the New York Historical Society, and on exhibition in the rooms of the Society in the City of New York, there are specimens of the leaves of *Nelumbium speciosum*, obtained from Egyptian tombs, wonder-

fully well preserved after the lapse of twenty or thirty centuries."

INTRODUCTION OF THE BERMUDA LILY.—The Bermuda Lily was first brought to America from the Island of Bermuda in 1876, by Mrs. THOMAS P. SARGENT, Assistant Purchasing Agent of the Pennsylvania Railroad. When she was leaving the island, in the spring of that year, two friends residing there gave her a few of the Lily bulbs. Upon her arrival at her home she presented some of them to Mr. ROBERT CRAWFORD, a near-by florist, who about a year later sold the increase to Mr. WILLIAM HARRIS, of Philadelphia. He began growing the bulbs, and offered them to the public, with the addition of his name, as *Lilium Harrisii*. Mrs. SARGENT was an invalid for many years. Her home in the suburbs of Philadelphia was a centre for all that is lovely in plant growth, and her life was as beautiful and beneficent as the choice flowers with which she surrounded herself. *Vick's Magazine*. [We want to know now how the Japanese Lily came to be cultivated in Bermuda?]

BICOLOR PLUM.—Through Mr. LADHAMS, of Shirley, near Southampton, we have received purple and yellow Plums taken from the same tree. It appears that the occurrence has happened two years in succession. The case is similar to the occurrence of black and white Grapes on the same Vine, and of Peaches and Nectarines on the same shoot, and is probably due to a separation of previously mixed characteristics, but what causes the sudden change is quite unknown.

THE CEDAR OF GOA.—The last part of the *Boletim da Sociedade Broteriana* contains a Portuguese translation of Dr. MASTERS' paper on the Cedar of Goa by Professor HENRIQUES. The Professor adds a note that the structure of the slab of wood found beneath the surface of the soil in the Azores island is identical with that of *Juniperus brevifolia*; and microscopical specimens which he has been kind enough to submit to us amply bear out his opinion. *Juniperus brevifolia* in the island of S. Jorge attains a height of over 3 metres, and the trunk a circumference of 1 m. 30 c.

PUBLICATIONS RECEIVED.—*The Amateur Orchid Cultivators' Guide Book*, 2nd edit., by H. A. BURBURY. Published by BLAKE & MACKENZIE, Liverpool.—*Analytical Key to the Natural Orders of Flowering Plants*, by FRANZ THONNEA. Published by Messrs. SWAN, SONNENSCHNEIN & Co., London.

HOME CORRESPONDENCE.

APOGAMIC FERNS.—It is with surprise that I learn from Mr. Drury's paper on apogamic Ferns (*Gardeners' Chronicle*, August 24), that *Nephrodium (Laetrea) paleaceum* var. *crisatum* (Crested Male Fern), is according to De Bary, destitute of archegonia, and therefore that varieties cannot be raised from its spores. The original plant was found at Charleston, in Cornwall, and as far back as 1857 the late Mr. James, of Vauvert, gave me fertile pinnae, and from these some hundreds of plants were raised. I gave a pinna to Mr. Clift, of Bessall Heath, and from these there must have been nearly a thousand seedlings. Between 1862 and 1863 a large number of seedlings were raised at Highfield House, and amongst them were varieties Belfer and Winstanly, the latter described in *Our Native Ferns*, in 1869. Other crosses were made subsequently, notably with *variegatum* (a normal but variegated variety of *N. Filix mas*); in this batch of several hundred plants every seedling was crested, and had more or less the characters of *crisatum*. Mr. Wollaston of Chiselmhurst, Mr. Sim of Foot's Cray, Mr. Clapham and Mr. Glass of Scarborough, Mr. Willson of Whitby, Mr. Fox of Bristol, and Dr. Lyell of Newbury, all raised plants of this Fern. Mr. Sim raised one known as *crisatum-angustatum*, and Mr. Lyell several distinct congested forms; although apogamic, nevertheless archegonia must have been present, or no varieties could have resulted. In 1890 I had a pan of *Scolopendrium prothalli* in which the whole of them merely developed into thorns, eventually forming a bunch of thorns, and afterwards producing several curious fronds, but they reverted to thorns,

and are now all dead. Quite recently botanists told us that it was impossible to cross *Ferax*, and also that only one plant sprung up from each prothallus. From 1867, year after year, this was pointed out to be incorrect, but it was nearly twenty years before Fern crossing was acknowledged; and, as regards plants from a single prothallus, two, three, four, and five have resulted, and further by dividing and sub-dividing a prothallus nearly 100 plants can be produced, and moreover, these divisions can be continued until some of them have none of the original prothallus; after this, new generative organs are formed, and much more prolific in offspring. *E. J. Lowe, F.R.S. P.S.*—Additional information on the varieties of *Nephrodium paleaceum* can be found on p. 90 of *Fern Growing*, and p. 138 of *British Ferns and where found*. *E. J. L.*

CYPRIPEDIUM × LORD DERBY.—Referring to the paragraph in *Gardeners' Chronicle*, p. 245, on *Cypridium × Lord Derby*, in which Mr. Statter is said to have written that the plant "W. R. Lee" being dead, there was not another plant of the same parentage that had bloomed which was alive. I beg to say that I have such a plant, its parentage being *C. superbiens × C. Elliotianum*. The plant bloomed and was shown at the same Royal Horticultural Society's meeting at which "W. R. Lee" received an Award of Merit. I showed my plant under the name of "C. Mabellaianum." I obtained it from Messrs. Sander as a seedling, it is still alive and doing well, although I do not think it will flower again this year. *Walter C. Clark, Orleans House, Sefton Park, Liverpool*.

WASPS.—These pests have only just made their appearance in force in my garden in the Fen district of Lincolnshire. Last year they took the whole of my early Peas fully six weeks before the present date. It often happens that they make their nest in a thatched roof or stack, in which case fire is out of the question; under these circumstances, and indeed in most others, my plan is as follows:—Take a wide-mouthed bottle, with a closely-fitting cork, through which pass a short piece of glass tube; to the top end of this tube an india-rubber tube about 2 feet in length is attached. Sulphide of iron is placed in the bottle, and just covered with water, the end of the india-rubber tube is inserted into the hole, which leads to the nest, and packed round with damp clay or earth to prevent the escape of gas, strong hydrochloric acid is then poured into the bottle, and the cork at once inserted. Sulphuretted hydrogen is generated, and not a wasp will be left alive in ten minutes. Sulphuretted hydrogen is the gas which gives the smell to a rotten egg, and in its concentrated form, as thus applied, is a deadly poison to all organic life. I took four nests last year by this means in a little more than half an hour, and one was in a thatched roof covered with Ivy. Of course, the operation should be conducted at night, when the wasps are all at home. *R. K.*

CHISWICK VEGETABLE SHOW.—Kindly permit me to suggest to all who may be engaged in the work of judging the vegetables at Chiswick on Tuesday next, that some effort be made, not merely to have all the judgments in harmony, but also that standards of excellence be also, so far as the respective exhibits will allow, be set up. The proposed code of judging, which includes instructions as to the standards of excellence in vegetables, is unfortunately not yet ready. Were it available, much help towards securing the desired result might have been furnished. Failing that, and knowing how severely judgments by the Royal Horticultural Society are criticised and utilised as standards elsewhere, the present opportunity to exhibit higher and consistent ideals in relation to size, form, quality, &c., is so important that it can hardly be too fully utilised. In no description of produce at exhibitions does there seem to be found in making awards more diversity than in connection with vegetables. At Chiswick, apart from these collections, there are separate classes for twenty-eight kinds, affording ample scope for the selection of the best forms and highest quality. The opportunity is so good a one that it cannot be more worthily utilised. *A. D.*

TOMATOS AT MR. W. LAWRENSEN'S NURSERY, EAGLESCLIFFE FARM.—I had the pleasure to look over these nurseries recently, and some of the Tomatos which I saw growing there were to my mind perfect. Mr. Lawrenson, who believes in doing things well, has now obtained, through years of careful selection, three distinct varieties of Tomatos, which are grown under exactly similar treatment as some other crack varieties, and which have outdistanced the latter by far. All are very

free setters, bearing large clusters of even, good-sized, handsome deep fleshy scarlet fruit, the lowest bunches lying almost on the rim of the pots. The clusters are borne on sturdy short-jointed single rods 7 to 8 inches apart—the height of the rods is about 8 feet. Mr. Lawrenson informs me that the yield per plant, when all are ripened off, is 12 to 14 lb. This is a good performance for spring-sown plants, grown in 9-inch pots, and merely set on a thick sod 15 inches square. Of course, the plants are well supplied with manurial aids to growth. I have never, during many years of experience in Tomato culture, seen anything to equal these Tomatos at Eaglecliffe, and I am glad to hear that Mr. Lawrenson intends to send seed of them out next spring. Tomato growers who have now to compete with foreign cultivators of Tomatos sending over very large quantities, will welcome varieties which can be thoroughly depended upon for sure cropping, as a good many of my friends will have found out by now that Tomato growing is not all profit. *Experientia docet.*

THE LARGE CEDAR TREE AT BEECHWOOD PARK, HERTFORDSHIRE.—Seeing the account of large Cedars in your issue of August 3, I am reminded of a fine specimen which now stands in Beechwood Park, Herts, the seat of Sir Egbert Sebright, Bart. The height of it is close upon 100 feet, and the circumference of the stem, 5 feet from the ground, is 29 feet. I feel sure Mr. Freeman, the gardener there, would be pleased to corroborate my statement. *G. Shepherd, The Lilies, Aylesbury.*

"THE SWEET LITTLE, DEAR LITTLE, SHAMROCK OF IRELAND."—Referring to Mr. Tuckwell's note on the above in your issue of August 10, I must, as an Irishman, express the opinion that he is mistaken in his idea that "Shamrock is a name common to all triphyllate plants found growing on March 17." Anybody who has seen the careful searching in the fields a few days prior to March 17, will have noticed that in gathering specimens of the national badge, the Irishman does not always pick up the first trifoliolate plant he meets, but that with the greatest care he proceeds to select what he regards as the true species, which, he will tell you, is known by its small, perfectly green leaves, and wiry much-branched stems, characteristics which are certainly more marked in *Trifolium minus* than in any other species. Living, as I have always done, in the south of Ireland, I have many times watched my neighbours Shamrock-gathering. I have had Shamrocks brought to me by people who professed to know the real plant, and have often examined the sprays sold in the streets and shops for sending to friends abroad as well as those worn on St. Patrick's Day, and as a result, am convinced that for Irishmen, in the south at any rate, there is but one true Shamrock, and that is, without doubt, *Trifolium minus*. *T. repens* and *Medicago*, I believe, are used only in mistake by those who are not observant enough to notice that there are more kinds of Trefoil than one, and I have seen such an individual wearing *T. repens*, laughed at for his ignorance in decorating himself with "Clover." That *T. minus* is regarded throughout Ireland as the Shamrock by those whose interest it is to know it, is, I think, fairly demonstrated by the fact that flowering specimens of it are offered for sale during the summer months to tourists by the guides and peasants at Killarney; and also by the fact that in Dublin, Belfast, and Cork, the manufacturers of Christmas and St. Patrick's Day cards on which sprays of natural shamrock are mounted, so far as I have observed, invariably use this species. While Irishmen are patriotic enough to seek for and wear the Shamrock, Mr. Tuckwell need not fear that they will share his belief that any other plant will do as well as the pretty little one known botanically as *Trifolium minus*. While on the subject of national emblems, perhaps Mr. Tuckwell or some other correspondent would kindly inform us which of the native thistles is the typical Scotch plant, or which of the twenty species and eighty-three varieties of British wild Rose enumerated in the *London Catalogue of British Plants* (9th ed.), we are to regard as the floral emblem of old England. *R. A. Phillips, Cork, August 22, 1895.*

FOOD REQUIREMENT OF THE CHRYSANTHEMUM.—I have read Mr. M. P. Andersen's remarks on the above subject, which appeared on p. 181 in your recent issue. Your correspondent, in telling us of his experiment with Chrysanthemums, exhibits some lack of knowledge of the subject. He tells us:—"I have got a complete analysis of the soil," which he calls light and poor, and yet, further on,

he says:—"My soil is rather rich in potash," and this, together with the remark that it is a fibry turf, naturally leads one to suppose the soil is not so poor after all. Be this as it may, I for one should like to have seen its analysis. Another point I noticed in connection with the soil was the quantity of rubbish he mixed with it (two parts out of five); surely this substance would not improve it very much, for although this is a good thing to put on land or mix with border soil, it cannot be recommended for pot plants, especially such vigorous growers as Chrysanthemums. But to return to the question which concerns us most, i.e., the use of artificial manures. I noticed your correspondent used an entirely different manure to that recommended either by Mr. Willis or myself—with what result? He says:—"The plants made but little progress, the leaves were small and of a yellowish-green colour." And why? Because they were lacking one of their most essential food constituents, viz., nitrogen. "If the plants have not a sufficient supply of nitrogen in the soil, it can be detected by a lack of vigour in their growth; the plants look hard and stunted, the leaves are of a pale yellowish colour, and the growing point is weak" (p. 6 of *Manures and their Application*, by W. Dyke). But then your correspondent will perhaps say, did I not give them 4 per cent. of nitrogen in the mixture I used? Yes, that is quite true, but who, with the most elementary knowledge of manures, would mix two substances like basic slag and sulphate of ammonia together? The caustic lime contained in the slag (about 50 per cent.) would at once combine with the sulphuric acid which is united with—and holds—the ammonia, liberating the latter as a gas, which would then escape into the atmosphere and be lost. Mr. Andersen says he "has a good supply of nitrogen in the stable-manure." He evidently does not know that 1 ton of farmyard-manure only contains 12 lb. of nitrogen, and this chiefly as organic nitrogen. The nitrogen in the stable-manure and fibres of the turf could only become very slowly available for the use of the plant, and in my experiments with Chrysanthemums I have found there is nothing which stimulates their growth like nitrate of soda and potash. A nitrate I have recently used for experiment changed the colour of the foliage from a pale yellowish-green colour to a very dark olive-green in three days. The nitrate in question is ammonium-nitrate, which contains twice as much nitrogen as nitrate of soda. Care must be taken when using this substance, or the plants may be injured. If plants be overfed with artificial manures, they would not have the appearance as described by Mr. Andersen, as their foliage would look very dark green; this can soon be remedied by keeping the soil rather dry for a time. Your correspondent thought his mixture was in accordance with the requirements of the Chrysanthemum. But why, when giving us the analysis, did he omit to say that the mixture also contained 29 per cent. of sulphuric acid and 19 per cent. of chlorine? The plants only require 4½ per cent. of the former and 3 per cent. of the latter ingredients. The chlorine would most probably unite with lime, forming chloride of lime, a substance very injurious to vegetation. Your correspondent asks, "What result such a quantity of artificial manure as I recommended would have?" Why did he not try its effect as recommended, and report the results? and not try something entirely different, and then say "theory has here without any caution being used, given very dangerous advice." It would have been so had he proved the quantity was too strong for the plants, but from experiments I have carried out with Chrysanthemums I can say that the quantity can be used with safety, although it might be advisable to use lesser quantities with very fertile soils. In conclusion, I think, the past thirteen years of practical experience has taught me not to recommend anything I have not tried myself and found beneficial. There are very few plants which will stand with advantage so much feeding as Chrysanthemums, providing the mechanical condition of soil be well looked after. *W. Dyke, Turnford, Herts.*

VEITCH'S CLIMBING FRENCH AND SUTTON'S TENDER-AND-TRUE BEANS.—It seems a great pity that the Fruit Committee of the Royal Horticultural Society should have raised the question as to whether Messrs. Robert Veitch & Son or Messrs. Sutton & Sons have the prior claim to the name of this Bean, and then left it to others to decide. However, there need be no difficulty in the matter, for the official receipt of the Royal Horticultural Society granted to Mr. Ward in 1885 establishes, beyond ques-

tion, precedence in favour of his Bean—now in the hands of Messrs. Veitch. As Messrs. Sutton's Bean was not mentioned in the Chiswick Report until 1891, there is a priority in favour of the Exeter Bean of six years. It cannot matter one jot to the committee, as a whole, to whom shall be awarded the right of naming by virtue of priority, but it does matter in the interests of horticulture that fair play shall obtain in all its transactions. As there is to be a large gathering of vegetable growers at Chiswick on September 10, perhaps that would be a suitable occasion on which to set at rest the question at issue, for then, probably, there may be a fuller meeting of the committee. *H. E.*

PRIVATE GARDENS AND GARDENERS versus CHISWICK.—With the temperate remarks of your leader, p. 244, on Mr. Barron's retirement, no one can find fault, for if a wrong has been done, it should be righted; but as much cannot be said of the closing paragraphs of the leader on p. 234, where comparisons are instituted between Chiswick and private gardens that cannot tend to promote that sympathy from the craft that the writer claims for the cause he pleads; while his ignorance of the duties of gardeners in private places shows that he, at least, is no judge. I gather from his remarks that the only things about which gardeners in private places are able to form an intelligent opinion about, are "such elementary matters as digging, mowing, tree-nailing, and pruning, and the like matters;" while the things they know nothing about, but which it appears handicaps Chiswick, are the loss of time attending meetings, the labour of noting trials, gathering and packing fruits, flowers, and plants, conducting visitors round, &c., for all of which the superintendent has "nothing to show." This will amuse gardeners in places of any pretensions, where a large establishment is never off their shoulders from January to December, who have to grow and pack fruits, flowers, and vegetables almost daily with scrupulous care (having cooks and confectioners as well as employers to study instead of only "Fellows"), and send to London and to shooting-lobges or wherever their employers happen to go—who at home have daily to set aside men to serve the house with the same, not to mention the laborious ice supply by half-tons at a time, nor the large portion of each day the men are taken off to fill vases and dining-rooms with cut flowers and plants, watering them, &c., before a stroke can be done in the garden proper in work involving foresight, skill, taste, and judgment. In addition to these, throw in a school, and a church or two, an agent's garden and vinery, half-a-dozen lodge gardens, and several gardens of employer's friends, absorbing annually some thousands of plants, involving lists and correspondence on almost every horticultural topic, and you have some idea, and no exaggerated one, of work in private gardens for which there is nothing to show. We expect, as a matter of course, visitors by the hundred, and often at a time rendering zoning in the grounds, bazaars for charitable objects monopolising the staff's time, cricket grounds, tennis courts, and the fire-brigade drilled half a day every two weeks, which are nothing. No! the plea on this head for any society's garden had better be abandoned, because it is trash, and it is a pertinent question, if the plea even had any force, why gardeners from private places have usually been appointed to Chiswick, and why men like Thompson, McEwan, and others succeeded so well? I say nothing about the work most gardeners perform outside, "digging and mowing," &c., the experiments they carry on without fee or reward, the facts they are continually recording in the *Gard. Chron.* and elsewhere, and their record in the annals of horticulture generally, where comparisons would be dangerous. Some of your correspondents are inconsistent. I say nothing about the wisdom of employing private gardeners under present circumstances to inspect Chiswick, but as it is admitted that Chiswick is chiefly devoted to growing fruit, &c., for market, and to testing vegetables, fruits, and flowers, for private gardens, the choice in such a case would certainly be limited to gardeners or market gardeners, or both. You are right in stating in your note appended to my letter last week, that I am, perhaps, not aware how the money has been spent at Chiswick, but I know how far a pound will go in a garden, and I will throw in say, one-third of the £1624 for the renovations and repairs mentioned—a very liberal annual allowance—and which would leave about £90 per acre for management, fuel, and sundries, &c.—an allowance

which I have never known to be granted in the best gardens, except, perhaps, where the hot-houses and early forcing were much greater than usual, and the fuel bill high; and enquiry will, I feel sure, prove as

which at present centres in this part of the Arctic regions, the results, especially as to the movements of the ice, are of much importance. From the account which has been forwarded to the Royal

west coast of Novaya Zemlya, trending towards the north-west, and several days were spent in cruising along the edge of the heavy ice to the south-east. Every likely bight in the pack was entered, and in some cases these indentations were followed for 20 to 30 miles, but invariably heavy polar ice barred the way, and the yacht had to return to open water. Coal running short, the vessel bore up for Vardö to refill. The members of the expedition were landed on the Murman coast of Russian Lapland, near Sviatoi Nos, where they went into camp. A week was spent there profitably in ornithological, botanical, and geological investigations. On the return of the yacht from Vardö, a second attempt was made to reach Novaya Zemlya. The pack was again met with in about the same meridian as before, but, a fortunate lead showing, the vessel ran some 40 miles through the pack, and found a space of open water about the centre of Goose Land. Unfortunately, a dense, impenetrable pack of 8 to 10 miles in width was jammed against the shore, and this formed a connection with the main pack off North and South Goose Capes; in fact, the vessel lay in a large water-hole. An attempt was made to press the yacht towards North Goose Cape, in the hope of open water being found in the direction of Möller Bay, which resulted in the little vessel being nearly beset in the pack; but eventually the large pool of open water off Goose Land was regained. The wind now shifted to the south-east, and the lead by which the yacht had entered closed entirely. The pack came up from the direction of Mezhdusharsky Island, and hour by hour the water-pool contracted. Again coal had begun to run short, when, fortunately, a good lead opened to the south-west; a run was made for it, and, after passing through forty miles of dense pack on either side, open water was reached, the yacht running down to the island of Kolguev, with the ice in sight all the way on her port side. A landing was effected on Kolguev on July 5, and the members of the expedition went into camp near the mouth of the Kriva river, on the south-west side of Kolguev. The *Saxon* returned from Vardö and took the party off on July 16. Good results were obtained in Kolguev in various branches of natural history, and a series of interesting photographs were taken. During the stay of the party in Kolguev the weather was very bad, the temperature seldom rising above 35° Fahr., with fogs and bitter cold winds from north and north-west; part of the time the pack came down and girdled the west side of the island. Kolguev was left on July 16, and a third attempt was made to reach Novaya Zemlya. A marvellous change had occurred in the conditions of the ice. The impenetrable pack which a fortnight previously stretched from Kolguev to Novaya Zemlya had altogether disappeared, and the *Saxon* reached Kostin Shar on the evening of July 17, without encountering a piece of ice worth mentioning. Stoppages of some days were made at several anchorages in Kostin Shar, notably in Nekhvatova Bay, the final anchorage being at the head of Bielusha Bay, near South Goose Cape. The Samoyed settlement in that locality was visited. A considerable river which enters the north-east of Bielusha Bay, was explored. The *Saxon* returned to Vardö on July 30, and to England on August 12, after an interesting and adventurous voyage. *Times*.



FIG. 51.—DISA KEWENSIS X: COLOUR ROSY-CRIMSON, PURPLE SPOTTED. FROM THE ROYAL GARDENS, KEW.

D I S A K E W E N S I S X
(UNIFLORA X TRIPETALOIDES).

OUR illustration (fig. 51) represents *Disa Kewensis* X, the first of the pretty hybrid *Dias* raised in the Royal Gardens, Kew, and which annually make there one of the most beautiful displays made by any of the members of the Orchid family. The culture of these plants appears to have attained perfection at Kew, and the fact that the plant here represented flowered there in eighteen months after the seeds were sown, is ample proof of it. As will be seen, the plant is most floriferous. The flowers are bright rosy-crimson, with small purple spots on the galea; and also, especially in the mature flower, often similar spotting on the other sepals.

much. Experimental work is neither more expensive nor more harassing than private gardening, to say the least. *Head.*

NOVAYA ZEMLYA.

An expedition, organised by Mr. H. J. Pearson, left England in the end of May with the intention of visiting Novaya Zemlya. In view of the interest

Geographical Society, we learn that the members of the party were Mr. H. J. Pearson, Mr. C. E. Pearson, the Rev. H. H. Slater, and Colonel Feilden. Leaving Vardö in the steam yacht *Saxon* on June 14, a course was laid for Nameless Bay, in the north-west of Novaya Zemlya. The ice conditions in Barents Sea were found to be extremely unfavourable. Impenetrable pack was met with about 80 miles from the

SOCIETIES.

ROYAL HORTICULTURAL OF ABERDEEN.

AUGUST 22, 23, 24.—Thanks to the generosity of the Aberdeen Town Council, the Royal Horticultural Society of Aberdeen were able this year to give a very fine display in Duthie Park. In point of numbers the exhibits were superior to anything previously got together. The total entries amounted to 2021 as compared with 1375—in fact, 650 more entries than at any previous show. The various sectional displays were laid out in large marquees.

FRUIT AND VEGETABLES.

The number of exhibits in these classes was far greater than entered last year. The entries in the fruit section were more than tripled—392 as against 129. The exhibits were very meritorious, especially in the sections devoted to Grapes and Gooseberries. Owing to the time of year, that favourite berry in Aberdeenshire—the Strawberry—did not occupy the prominent place it usually fills in local shows. The Grapes were very fine, and Mr. W. HUTCHINSON, Balmadie, Mr. G. DUNCAN, Arbroath, and Mr. A. REID, Durris, are to be congratulated on the excellent specimens they sent forward. Currants and Apples were good, but there was nothing remarked of exceeding merit. Vegetables were excellent in all classes. Mr. George Milne, gr. to Lady GORDON CATHCART, Cluny Castle, took the blue riband in this division with a magnificent basket of vegetables; Mr. JOHN DALGARNO, Pitgaveny, Ellon; and Mr. THOMAS MIDDLETON, gr., Monymusk House, being 2nd and 3rd respectively. In the same competition for market gardeners, Mr. A. PATERSON, Ruthrieson, Aberdeen, was 1st. In the other sections of this division, Mr. REID, Urie House, Stoechaven; Mr. JOHN DALGARNO, Elgin; Mr. JOHN DAVIDSON, Outseats, Pitmaxton; and Mr. ALEX. GRIGOS, Fairfield, gave a good account of themselves. The amateurs and working-classes showed very fair products in this division.

POT PLANTS AND CUT FLOWERS.

These divisions constituted the prettiest items, and considering the backwardness of the season, were splendid. The sections for stove or greenhouse plants were well filled, the entries being 282 against 156 last year; cut flowers 620 against 533. Among professionals, Mr. John Proctor, gr. to Sir WILLIAM HENDERSON, Devanha House, Aberdeen, took the premier place for a group of plants (Orchids excluded), arranged for effect on the ground in a circle of 10 feet diameter, defeating many competitors. Mr. REID, Durris; Mr. JOHN DUTHIE, Trinity Cemetery; and Mr. KENNEDY, Wallfield, followed in same order.

Orchids were well represented, Mr. JOHN PROCTOR, Devanha, and Mr. GRIGOR, Fairfield, taking the chief prizes. Such a display of Ferns has not been seen for a long time, those specimens sent by Mr. A. GRIGOR, Mr. PROCTOR, and Mr. GILLESPIE, Aberdeen, being much admired. Mr. PROCTOR, it may also be mentioned, carried chief honours for the best eight stove or greenhouse plants, for the best group of plants, for Orchids, and for four Ferns from the stove or greenhouse, dissimilar. Mr. Robb, gr. to Mr. MURRAY, Glenburnie Park, Aberdeen, was 1st for Pelargoniums and Begonias; and Mr. Strachan, gr. to Mr. JOHN FYFE, Beechgrove, Aberdeen, received similar honours for his display of Fuchsias. The amateurs and working classes also showed well here. The cut flowers were a capital show.

Among the prize-takers were Mr. A. GRIGOR, for Orchids; Mr. REID, Urie House, for ladies' sprays; Messrs. T. MAVER & SON, Aberdeen, for wreaths and crosses. Mr. John Fraser, gr. to Mr. COUPES, Craigmacknacker, for the best twenty-four H.P. Roses, and Tea Roses. Mr. REID, Urie House, for twelve H.P. Roses, dissimilar; and Mr. JOHN WILSON, Montrose, for the best twelve Dahlias.

Among nurserymen, the Roses, as usual, gave rise to keen rivalry between those two eminent firms, the Messrs. COCKER, Aberdeen, and the Messrs. COLL, Dundee. For Tree Roses, the Dundee men sent the local firm to the right-about; but for H.P.'s, the positions were reversed, the Messrs. COCKER's display in this section being very beautiful. Among the other nurserymen who were very successful may be mentioned the names of A. WESTLAND, Banchory; MAVER & SON, Aberdeen; ALEX. GILES, Aberdeen; and Mr. ROBERT BURNS, Aberdeen.

A feature of the show was the displays sent for exhibition by Messrs. BEN REID & CO., Aberdeen; Messrs. W. SMITH & SON, Aberdeen; and Mr. JOHN FORBES, Hawick. The Messrs. REID & CO. had a magnificent display, and one which was much admired by the visitors; while Messrs. SMITH & SON and Mr. FORBES in their display did equally well.

BRIGHTON AND SUSSEX HORTICULTURAL.

AUGUST 17 AND 28.—A very fine exhibition rewarded the efforts of the committee of the Brighton and Sussex Horticultural and Mutual Improvement Association, on the occasion of the fourth annual exhibition, under the new management. The huge dome, and the spacious Corn Exchange adjoining,

were filled with exhibits, and, in addition, two spacious marquees were erected on the lawn, and they were quite full. Mr. Rupert Miller, the Assistant Secretary, was, as usual, very active, and the staging committee got through their work in good time, and the judging commenced at an early hour.

Groups.—There were three exhibitors in the class for a group of plants arranged for effect, to fill a space not exceeding 150 square feet. The best was from Mr. GEO. MILES, Victoria Nursery, Brighton; it was singularly light and graceful. Mr. H. J. JONES, Rye-croft Nursery, Lewisham, was 2nd, with a very imposing group, composed of Begonias of excellent quality, admirably arranged with Ferns and foliage of Asparagus plumosus.

The next class was for a miscellaneous group, occupying 80 feet. This was won by Mr. E. Meachen, gr. to Mrs. ARMSTRONG, Woodgrove, Witheane; prominent was a mass of Bougainvillea, surrounded by plants usually found in groups of this character. Mr. G. Sims, gr. to C. J. INWOOD, Esq., Dyke Road, Brighton, was a very good 2nd.

Groups of Ferns were delightful, the best came from Mr. J. Adams, gr. to the Rev. Sir C. SHEFFERD, Bt., Combe Place, Lewes, a masterpiece of effective grouping; some finely coloured examples of Adiantum, A. Farleyense being used with minor Ferns. Mr. G. MILES, Victoria Nursery, was 2nd. This is a class other societies might copy with advantage.

PLANTS.

Mr. A. Offer, gr. to J. WARR-N, Esq., Handcross Park, Crawley, was 1st for six stove and greenhouse Ferns, with fine examples of Davallia polyantha, D. Mooreana, Cibotium Schiede, Dicksonia antarctica, Adiantum cardiophyllum, and a grand piece of Microlepia birta cristata. Messrs. W. MILES & CO., West Brighton Nursery, were 2nd.

The best specimen flowering plant was Stephanotis floribunda from Mr. G. Fennell, gr. to E. CAZALET, Esq., Fairlawn, Tunbridge Wells.

Tables of flowering and foliage plants, 8 feet by 4 feet, were very effective, eight of them being placed under the dome. Mr. J. Turner, gr. to Sir GREVILLE SMYTH, Wick Hall, was 1st with a very graceful arrangement; and Mr. G. MILES, 2nd.

Tables of Begonias, 4 feet square, were also very effective, several of them finding a place in the Corn Exchange. The 1st prize went to Mr. F. FAIR, gr. to E. CLOWES, Esq., Clayton Wickham, Hassocks; Mr. W. HEAD, The Dive Nursery, Horsham, was 2nd.

Here were the collections of eight stove and greenhouse plants. Mr. E. MEACHEN was placed 1st with a fine piece of Lantana borbonica, grand examples of Croton Queen Victoria and Prince Waldeck, Anthurium crystallinum, Bougainvillea glabra, Allamanda Hendersoni, Stictis fimbriata Gilberti, and Ixora javanicum. Mr. OFFER was 2nd.

Groups of six Croton were represented by small but finely-grown and brilliant-coloured specimens; Fuchsias and zonal Pelargoniums by nice examples of moderate size.

The best six Orchids came from Mr. G. Duncan, gr. to C. J. LUCAS, Esq., Warnham Court, Horsham, who had Dendrobium formosum giganteum, Cattleya Dowiana, C. Mossiae, Odontoglossum Wilckeanum and Alexandrae, and Oncidium Fabae. Mr. B. Garnet, gr. to R. G. FLETCHER, Esq., Mount Harry, Preston Park, was 2nd. Such foliage plants as Palms, Coleus in the form of well-grown and coloured specimens, exotic and British Ferns, the former small but admirably grown; and table plants were all well shown.

Cut Flowers were a great feature, the Cactus Dahlias in particular commanding general praise. The leading classes occupied a commanding position on the platform under the dome, but the light was bad and the judging difficult. Boxes of cut stove and greenhouse flowers were very attractive; the winner of the 1st prize for twenty-four bunches had large and imposing bunches, though set up in a somewhat formal manner. Boxes of twelve varieties were also good. Messrs. PERKINS & SON, nurserymen, Coventry, had the best twenty-four Roses, among them a magnificent bloom of Black Prince, which they appear to grow in the finest condition; but though it was sent out some twelve years ago, it is rarely seen. Mr. T. W. YOUNG, Rose-grower, Eastbourne, was 2nd; some good blooms being shown by both exhibitors.

With twelve Roses, Mr. H. Harry, gr. to Mrs. EVERSFIELD, Denne Park, Horsham, was 1st; and Mr. Lawrence, gr. to T. WEST, Esq., Tunbridge, Horsham, 2nd.

With twelve Teas, Mr. G. W. PIPER, nurseryman, Uckfield, was 1st; and Mr. H. HARRY 2nd, some very good blooms being staged.

Spikes of Gladioli were in good condition, the individuals in the 1st prize twelve of good length, clean, fresh, and the quality excellent.

The best forty-eight Dahlias came from Mr. S. MORTIMER, Swiss Nursery, Farham; Mr. F. W. SEALE, nurseryman, Sevenoaks, was 2nd.

With twenty-four Dahlias, Messrs. J. CHEAL & SONS, Lowfield Nurseries, Crawley, were 1st; and Messrs. PERKINS & SONS, 2nd.

For twelve blooms, the 1st prize went to Mr. J. STREDWICK, Silver Hill, St. Leonards; Mr. J. DAWSON, of the same address, being 2nd. Pompon Dahlias in twelve bunches, each of ten blooms, were very fine, and the same with six bunches.

Bunches of single Dahlias in 24's, ten blooms in a bunch, were very striking. Mr. F. W. SEALE was 1st, and Messrs. J. CHEAL & SONS, 2nd, with very little to choose between them, but we thought the latter had erred somewhat on the side of size. In the class for six bunches, there was no competition.

Cactus Dahlias were very numerous. Mr. SEALE was 1st with twelve bunches, Delicata, Matchless, Lady Penzance, and other popular varieties being in their best form. Mr. S. MORTIMER was 2nd. For six varieties also, there was a keen competition; and Messrs. J. CHEAL & SONS' special prizes for nine bunches, three of each, was numerously contested.

Collections of herbaceous or bulbous flowers brought some fine contributions. Mr. W. Manton, gr. to Mrs. CLIFFORD BORER, Pickwell, Boving, was 1st with fresh examples in good condition; Mr. G. H. SAGE, The Gardens, Ham House, Surrey, being 2nd. With twelve bunches, Mr. F. W. SEALE was 1st; and Mr. W. E. Anderson, gr. to S. COWELL, Esq., Preston Park, 2nd. Collections of twelve bunches of annuals Zinnias, Asters, quilled and flat-petalled, were also shown.

In the way of floral decorations, Messrs. S. PERKINS & SON took the 1st prize with one bride's and one hall-room bouquet, done in their usual excellent style; Messrs. SCRIVENER & CO., Floral Hall, Watford, came 2nd. Wreaths or a device were also shown.

There was a considerable number of centre-pieces, with natural flowers and foliage. Mrs. JOHNSON, Saldenville, Worthing, set up a charming light arrangement composed of light grasses and Ferns, and pink and heliotrope-tinted Sweet Peas; Miss L. HUDSON, Gunnersbury House, Acton, came 2nd.

FRUIT.

Of fruit there was a remarkable display, perhaps one of the best seen in Brighton in late years. There were several collections of eight dishes. Mr. GORE, florist, Polegate, was 1st with finely finished Gros Maroc and Muscat of Alexandria Grapes, Barrington Peaches, an unnamed Nectarine, and Bon Chretien Pears, Moor Park Figs, and one other; 2nd, Mr. W. Taylor, gr. to C. BAYOR, Esq., Tewkesbury Lodge, Forest Hill.

The best three bunches of Black Hamburgh Grapes came from Mr. T. M. LE PELLEY, Valley Vineries, Ruper, very fine indeed. The best three bunches of any other black Grape were Gros Maroc, very finely finished, from Mr. T. Ambrose, gr. to E. BLENNIRON, Esq., The Farm, Broadheath. The best three bunches of white Grapes were superbly-finished Muscat of Alexandria from Mr. W. TIDY. Grapes were also shown as single bunches.

Melons were plentifully shown, and the tasting process must have been a tedious one. The two best dishes of Peaches were Dymond and Bellegarde, from Mr. G. Goldsmith, gr. to W. E. HUBBARD, Esq., Leonardale, Horsham; Mr. H. Harris, gr. to Mrs. EVERSFIELD, being 2nd. Mr. Goldsmith had the best two dishes of Nectarines in Elruge and Pine-apple. Mr. Coles, gr. to H. F. WALKER, Esq., Balcombe, was 2nd with Prince of Wales and Downton. Pears, both dessert and stewing, were very good.

Apples were in grand form, there were many entries for four dishes of culinary varieties, Mr. WILL TAYLOR, was 1st with superb fruits of Ecklinville, Lord Suffield, The Queen, and Warner's King.

Mr. MARTIN had the best four dishes of dessert Apples staging Astrachan, Worcester Pearmain, Queen, and Irish Peach.

Single dishes were also shown in plenty; also Plums, Cherries, Figs, &c.

Among vegetables, Potatoes were numerous, and collection decidedly good.

Miscellaneous Collections.—A very fine group of Lilies and other plants, also a superb collection of Apples, were from Messrs. BALCHIN & SONS, Hassocks Nurseries.

From Messrs. VEITCH & SONS, Chelsea, came one of the features of the show—a very fine group of Pitcher Plants, &c., and some beautiful Streptocarpus from seed sown in January last. A Gold Medal was awarded.

Mr. J. CHARLTON, Tunbridge Wells, had a collection of Dahlias, &c.; and Mr. WILL TAYLOR some cut Roses.

BATH.

AUGUST 28.—The Bath Floral Fête and Band Committee were fortunate in having fine weather for the holding of their annual show in the Sydney Gardens on Wednesday. The show, on the whole, compared favourably with its predecessors, and much credit is due to the Hon. Secs., Messrs. R. F. Pearson and W. Jeffery, for the excellent arrangements made under their supervision in the various sections of the show for the staging of exhibits.

PLANTS.

Fuchsias are always given precedence at this show. In the class for nine plants in as many varieties, there were only two lots put up, these being really grand plants in every sense they were about 9½ feet high, 4½ feet through at the base, and well furnished from bottom to top with healthy foliage, and grandly flowered, the varieties represented being Charming, Bountiful, Doel's Favourite, Final (dark); Arabella, Lustre Improved, Margareta, Harriett Lye, and Mrs. Rundel (light). Mr. George Tucker, gr. to Major CLARK, Trowbridge, was 1st with the above; Mr. MARSH was 2nd.

In the class for six plants in six varieties, two lots were put up. Mr. James Lye, gr. to Hon. Mrs. HAY, Market Livington, Wilts, was a good 1st; Mr. Snell, gr. to Mrs. COUNSELL, Weston, was a good 2nd.

In the class for twelve ornamental foliage plants, six stove and six greenhouse, Mr. CYPHER was easily 1st, and showed well. Mr. CYPHER was also 1st in the class for one specimen foliage plant, with a fine Croton Chelsou. Messrs. GEO. COOLING & SONS had the best specimen of Lilium auratum.

Mr. CYPHER had the best eight plants of ornamental foliage, showing plants of Cycas revoluta, Croton angustifolium,

Queen Victoria, Mortfontainensis, &c. The same skilful grower took chief honours for six Heaths; Mr. TUCKER being a creditable 2nd. The last-mentioned exhibitor secured 1st for a specimen flowering greenhouse plant, with a good Statice profusa; Mr. CYPHER taking a like honour for a specimen stove flowering-plant, with Ixora Duffii.

Mr. H. POCKOCK, Trowbridge, was 1st for three stove plants, distinct, showing a very finely-flowered Ixora Williamsii, I. coccinea, and Lapageria alba. Mr. CYPHER had the best six stove and greenhouse flowering plants, showing, among others, Bougainvillea Sanderi, Clerodendron Balfourianum, and Erica Turbulla; Mr. W. TUCKER being a very good 2nd.

Coleus were well shown by Mr. DENTON and Mr. C. GRIELOW, the plants, flat-trained, being highly coloured.

For twelve exotic Ferns, Mr. TUCKER was 1st, with an even fresh lot of plants, including excellent plants of Davallia hemiptera, Adiantum gracillimum, and Dicksonia antarctica; Mr. POCKOCK, was 2nd. Mr. BAILEY, Frome, had the best six plants including good-sized Davallia Mooreana, and Adiantum Farleyense. Mr. J. H. HOLMES had the best specimen Fern in a fine plant of Davallia polyantha (D. variegata).

Groups arranged for effect, on a space not less than 100 square feet, were shown by four competitors. The contest lay between Mr. CYPHER, Cheltenham, and Mr. CATER, Bath, both having very good and effective groups. Choice Orchids of suitable varieties and size told well in Mr. Cypher's arrangement, which was placed 1st.

CUT FLOWERS.

The classes devoted to cut flowers were filled. Mr. Baird, gr. to F. H. FOX, Esq., Wellington, was 1st for thirty-six spikes of Gladiolus, showing a fine lot; Mr. HALL was 2nd. Mr. SAMUEL TITTLE, Taunton St. James, was 1st for twelve spikes with good well-grown specimens.

Mr. GEORGE HUMPHRIES, Chippenham, had the best twenty-four show varieties of Dahlias with a solid, fresh-looking lot of blooms.

Mr. THOMAS HAWKINS, Soundwell, was 1st for twelve blooms; Messrs. J. GRAY & Sons, Frome, being 2nd. The last-named exhibitors took 1st for nine blooms, and Messrs. KEYNES, WILLIAMS & Co., Salisbury, were placed 2nd.

In the class for single Dahlias, shown in bunches, Mr. THOS. TRACKLE, gr. to THOMAS CARR, Esq., Tiverton, was 1st, with a good exhibit.

Roses made a fine show. Mr. GEORGE PRINCE, Oxford, was 1st for twenty-four single blooms, distinct, showing a grand lot for the time of year, including Louis Van Houtte, Reynolds Hole, Hon. Edith Giffard, and Duke of Edinburgh; Mr. STEPHEN TRESEDER, Cardiff, was a creditable 2nd. Mr. HOBBS, Bristol, had the best twelve blooms, in single trusses; and Dr. BUDD, Bath, was 1st for twelve Teas, with excellent blooms.

Cactus Dahlias were well exhibited by Messrs. KEYNES, WILLIAMS & Co., Salisbury, and were much admired.

FRUIT.

On the whole this made a good display, though in the class for a collection of twelve dishes only one lot was staged, viz., that from Mr. Nash, gr. to the Duke of BEAUFORT, Badminton, Chippenham, who was justly awarded the 1st prize.

The chief class for Grapes was one for eight bunches in four varieties, and only three lots were put up in competition. Mr. GIBSON, gr. to Earl COWLEY, Draycote House, Chippenham, was 1st; and Mr. S. HODGES, gr. to JAMES FORTH, Esq. Bath, 2nd. The 1st prize collection contained grand bunches of Gros Maroc, Black Hamburg, fine in berry and colour Buckland Sweetwater (one bunch), and three fine examples of Madresfield Court.

There were twelve stands of three bunches of Black Hamburg. Miss MARRIOTT, Bath, was an easy 1st, showing specimens large in bunch, berry, and splendidly finished; Mr. GIBSON was 2nd.

Three stands of two bunches of Muscat of Alexandria were staged, and Mr. W. CARPENTER, gr. to A. R. BAILEY, Esq., Frome, was well 1st, as he also was for any other white.

Mr. NASH was a good 1st in any other black class, with weighty, well-finished bunches of Black Alicante, fine in shape and berry.

Melons were fairly well represented. Twenty-one fruits of red and green kinds were shown. Mr. JONES was 1st for a green-flesh, with Hero of Lockinge. Mr. W. STRUGGELL, gr. to the Right Hon. W. H. LONG, Rood Ashton, Trowbridge, had the best scarlet-flesh in Carter's Blenheim Orange.

Peaches were not extensively shown. Mr. Pymme, gr. to Mrs. GOLDSMITH, Trowbridge, had the best dish of nine, with good even fruits; and Mr. CARPENTER had the best six.

Nectarines were best represented. Mr. John Wright, gr. to H. C. WILLS, Esq., Kelstons Knoll, Bath, had the best nine, showing extra fine fruits of Stanwick Elruge; Mr. Coombs, gr. to J. W. LANGDON, Esq., Freshay, was 2nd.

Plums were largely shown, and on the whole the quality and size of the fruits were good.

Of Cherries, there were nine good dishes put up, Mr. JONES taking the premier position with very fine Morellos.

Pears were plentifully shown. Mr. J. GIBSON was a good 1st; and Mr. WILKINS, gr. to Lady THEODORA GUEST, Inwood, Henstridge, was 2nd.

Apples made a fine display, a good length of staging being devoted to them. Mr. E. D. BOURDILLION, Wells, had the best three dishes of dessert varieties; Mr. G. GARAWAY, Bath, taking 2nd place.

Vegetables were well represented. Mr. COPP, Sherborn, was 1st for Messrs. Webb's special prize for six kinds, and for Messrs. Sutton & Son's prize for a similar collection. Mr. WILKINS was 1st for the Society's class for twelve kinds, and the quality of his produce was very good.

Non-competitive Exhibits.—Messrs. GEO. BUNYARD & Co., Maidstone, had a collection of fifty varieties of Apples, the fruits being of fine size, clean, even, and many of them beautifully coloured. Messrs. GEO. COOLING & SONS also had a good collection of Apples and Pears.

SANDY HORTICULTURAL.

AUGUST 29.—The Sandy show was held on the above date, and financially, as well as in other respects, the result was a very favourable one. Horticulture forms but a section of this exhibition, where there are classes for dogs, cats, poultry, cage birds, pigeons, and other specialties. However, the horticultural part of the schedule included classes for plants, fruit, vegetables, and market garden produce, and a good exhibition was made of these.

In the open classes for plants, Mr. J. CYPHER, Cheltenham, well won 1st place for ten stove and greenhouse plants in flower; and Mr. W. FINCH, Coventry, also showed creditably. The best group of plants arranged for effect was the exhibit from Mr. W. VAUSE, Leamington; and he was followed by Mrs. ASTELL, Woodbury Hall. Mr. W. J. EMPSON had the best six plants suitable for table decoration.

In classes excluded from the competition of nurserymen, Mr. W. J. EMPSON took 1st place for four foliage plants, distinct; and Mrs. ASTELL was 1st for six stove and greenhouse plants in bloom, and for six stove and greenhouse Ferns.

Other classes for plants in the open section, also for amateurs and cottagers, were very numerous, and a good display of commendable quality was made.

The competition for the best collection of eight distinct kinds of fruit, Pine excluded, was won by Mr. G. R. ALLIS, gr. to Major SHUTTLEWORTH, Old Warden Park, Biggleswade, and the collection of six kinds by Mr. W. J. EMPSON. Both these exhibitors also figured largely among the winners in other fruit classes.

Vegetables and cut flowers were considerable features, and altogether the exhibition was large.

Obituary.

MRS. R. I. MEASURES.—We regret to have to announce the death, on the 2nd inst., of a long illness, of Mrs. Measures, the wife of R. I. Measures, Esq., of Cambridge Lodge, Flodden Road, S.E.

MISS JANE SAUL.—On the 2nd inst., at her residence, Bow Lodge, Bow Road, Miss Jane Saul, in her eighty-eighth year.

MARKETS.

COVENT GARDEN, September 5.

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

OUT FLOWERS.—AVERAGE WHOLESALE PRICES.

Table with 4 columns: Flower name, s. d. s. d., s. d. s. d., s. d. s. d. Rows include Arams, Asters, Bouvardias, Carnations, Chrysantheums, Pansies, Gardenias, Gladiolus, etc.

FRUIT.—AVERAGE WHOLESALE PRICES.

Table with 4 columns: Fruit name, s. d. s. d., s. d. s. d., s. d. s. d. Rows include Apples, Grapes, Melons, etc.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

Table with 4 columns: Plant name, s. d. s. d., s. d. s. d., s. d. s. d. Rows include Adiantum, Aspidistra, Asters, Chrysantheums, etc.

VEGETABLES.—AVERAGE WHOLESALE PRICES.

Table with 4 columns: Vegetable name, s. d. s. d., s. d. s. d., s. d. s. d. Rows include Beans, Cauliflowers, Cucumbers, etc.

POTATOS.

Trade very dull. Supplies heavy. Prices lower, £1 to £1 being fair average prices. J. B. Thomas.

SEEDS.

LONDON: Sept. 4.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that there is now a moderate steady sale for Trifolium incarnatum; prices continue at the abnormally low level previously noted. Winter Tares are still limited, alike in supply and demand; quotations show no noteworthy change. Seed Rye continues exceedingly cheap. Clover and Grass seeds meet at present with no speculative attention. New sowing Rape seed is now unusually low-priced. There is nothing doing in Mustard. Smyrna telegrams describe the market there for Turkish Canary as hardening. Peas and Haricots are without alteration.

FRUITS AND VEGETABLES.

BOROUGH: Sept. 3.—Quotations:—Carrots, 1s. 9d. to 3s. per dozen bunches; Horseradish, 1s. 3d. per bundle; Onions, 3s. 6d. to 4s. 6d. per cwt.; Apples, 2s. to 4s. per bushel; Pears, 3s. to 4s. per case; Plums, 2s. to 3s. per sieve.

SPITALFIELDS: Sept. 3.—Quotations: Cabbages, 3s. to 4s. per tally; Collards, 2s. to 3s. per tally; Carrots, 1s. 6d. to 2s. per dozen bunches; Marrows, 1s. 6d. to 2s. per tally; Turnips, 2s. 6d. to 3s. per dozen bunches; Apples, Keswick Codlins, 2s. to 2s. 6d. per bushel; do., Councilors, 2s. 6d. to 3s. do.

STRATFORD, Sept. 3.—Fair supplies of all kinds of fruit and vegetables, and trade a bit firmer, as under:—Cabbages, 1s. 6d. to 3s. per tally; Cauliflowers, 1s. to 2s. per dozen; do., 5s. to 8s. per tally; Turnips, 1s. 3d. to 2s. per dozen bunches; Carrots, household, 1s. 6d. to 2s. per dozen bunches; do., bag, 26s. to 40s. per ton; Mangels, 15s. to 19s. do.; Swedes, 17s. to 20s. do.; Onions, English, 70s. to 80s. do.; do., Dutch, 2s. 9d. to 3s. per bag; do., Ghent, 2s. to 2s. 6d.; do., Port, 4s. 6d. to 5s. per case; Apples, English, cookers, 1s. 6d. to 3s. per bushel; do., dessert, 2s. to 4s. 6d. per bushel; Watercress, 6d. per dozen; do., 5s. per pad; Plums, ordinary, 1s. 6d. to 2s. 3d. per half-sieve; do., Victorias, 2s. 6d. per half-sieve; Damsons, 1s. 9d. to 2s. 3d. per half-sieve; Greengages, 3s. 6d. to 4s. 6d. per half-sieve; Tomatos, English, 2s. to 3s. per peck; foreign, 3d. to 1s. 3s. per case; Cucumbers, French, 1s. 6d. to 2s. 6d. per dozen; do., field, 3s. to 6s. per dozen; Beans, Scarlet, 1s. 3d. to 1s. 9d. per bushel; do., 2s. 6d. to 3s. 6d. per bag; Beetroot, 2s. to 2s. 6d. per dozen bunches; Celery, 10s. to 12s. per dozen bunches; Parsley, 1s. 3d. to 1s. 6d. per dozen bunches.

FARRINGTON: Sept. 5.—Quotations:—Cabbages, 4s. per tally; Cauliflowers, 2s. per dozen; Marrows, 1s. per dozen; Turnips, 2s. per dozen bunches; Carrots, 3s. per dozen bunches; Onions, Egyptian, 4s. per bag; Cucumbers, 2s. per dozen; Lettuces, 1s. 6d. per score; Sage, 2s. per dozen bunches; Parsley, 3d. per bunch; Mint, do.; Tomatos, 3s. per basket of 12 lb.; Apples, cooking, 2s. 6d. to 3s. per bushel; Ingestres, 6s. per bushel; Plums, Victorias, 3s. 6d. per half-bushel; do., Orleans, 2s. 6d. per bushel; Damsons, 2s. 6d. per bushel; Green Gages, 6s. per half-bushel; Mushrooms, 6d. per pound.

POTATOS.

BOROUGH: September 3.—Quotations ranged from 55s. to 90s. per ton.

SPITALFIELDS: September 3.—Quotations:—Puritans, best, 60s. to 70s.; Bruces, 50s. to 60s.; Reading Giants, 45s. to 60s.; Snowdrops, 80s. to 70s.; Suttons' Regents, 60s. to 80s. per ton.

STRATFORD: Sept. 3.—Quotations:—Magnus, dark soil, 35s. to 45s.; do., light soil, 55s. to 65s.; Reading Giants, 55s. to 70s.; Snowdrops, 55s. to 75s.; Hebrons, 65s. to 75s.; Regents, 60s. to 75s. per ton.

FARRINGTON: Sept. 5.—Quotations: Snowdrops, 70s. to 90s.; Hebrons, 80s. to 90s.; Puritans, 70s. to 90s.; Early Regents, 55s. to 65s.; Early Rose, 60s. to 70s.; Imperators, 55s. to 65s. per ton.

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.					RAINFALL.		BRIGHT SUN.				
	Above (+) or below (-) the Mean for the week ending August 31.	ACCUMULATED.				10ths Inch.	Ins.	Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1895.			
		Above 49° for the Week.	Below 49° for the Week.	Above 42° difference from Mean since January 1, 1895.	Below 42° difference from Mean since January 1, 1895.							
		Day-deg.	Day-deg.	Day-deg.	Day-deg.							
0	aver	180	0	+ 207	+ 262	21	+ 153	29	0	13	30	
1	2	100	0	+ 7	+ 415	5	+ 127	19	8	23	35	
2	3	122	0	+ 135	+ 277	1	+ 126	18	9	33	33	
3	2	130	0	+ 79	+ 283	4	+ 109	16	2	60	40	
4	1	120	0	+ 88	+ 372	3	+ 103	15	5	47	37	
5	1	134	0	+ 18	+ 333	3	+ 98	13	9	58	40	
6	2	108	0	+ 78	+ 384	12	+ 133	23	5	23	33	
7	1	120	0	+ 98	+ 303	4	+ 114	19	1	28	36	
8	0	aver	121	0	+ 32	+ 337	1	+ 105	20	1	44	43
9	1	107	0	+ 14	+ 268	8	+ 146	22	2	16	31	
10	1	118	0	+ 45	+ 195	1	+ 122	23	4	21	33	
*	1	141	0	+ 53	+ 248	3	+ 121	18	4	55	50	

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

0, Scotland, N. Principal Wheat-producing Districts—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending August 31, is furnished from the Meteorological Office:—

"The weather was unsettled and showery in nearly all parts of our Islands during the first two or three days of the period; it subsequently became very fine and dry over England, but continued very unsettled in the extreme north-western and northern parts of the kingdom, with frequent and heavy rain. "The temperature just equalled the mean in 'Scotland, N.' and 'England, S.W.,' but slightly exceeded it in all other districts. The highest of the maxima were recorded during the middle or latter part of the week, when the thermometer rose to 7° in 'England, S.,' 76° in 'England, E.,' and to between 70° and 73° in most other districts. The lowest of the minima were registered on the 25th, when they ranged from 35° in 'England, S.W.' (at Llandover), 38° in 'Scotland, N.,' and 39° in the 'Midland Counties,' to 43° in 'England, N.E. and N.W.,' in the 'Channel Islands,' however, the lowest reading was 51°.

"The rainfall was less than the mean over southern, central, and eastern England, as well as in the 'Channel Islands' and 'Ireland, S.,' but exceeded the normal amount elsewhere. In 'Scotland, N. and W.,' and in 'Ireland, N.,' the excess was very large, the fall in 'Scotland, N.' being more than three times as much as the mean.

"The bright sunshine was less prevalent than during the preceding week, but again exceeded the mean over the greater part of England. The percentage of the possible duration ranged from 80 in 'England, E.,' 58 in 'England, S.,' and 55 in the 'Channel Islands,' to between 18 and 21 over Ireland, and to only 13 in 'Scotland, N.'"

NOTICES TO CORRESPONDENTS.

•• Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.

•• PLANTS, FRUITS, ETC., TO BE NAMED.—Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.

BOOKS: F. T. C. 1, *Practical Forestry*, by A. D. Webster, is published by Wm. Rider & Son, Ltd., 14 Bartholomew Close, London, E.C. 2, *Johnson's Gardeners' Dictionary*, published by G. O. Bell &

Sons, York Street, Covent Garden, London.—Urgent. We know of no such list, but probably you will obtain the information you require from *The Garden Annual*, published at 37, Southampton Street, Strand, W.C.; or from *The Horticultural Directory* published at the *Journal of Horticulture* Office, 171, Fleet Street, E.C.

CARNATIONS: J. F. S. The plants are affected with eel-worms. Burn the plants, char the soil, and make a new plantation elsewhere in the garden. Be careful about any new loam that you may introduce from pastures, as it is sometimes swarming with eel-worms.

CELOGYNE CRISTATA: Constant Reader. If the plants of *Celogyne cristata* are quite satisfactory where they are, you had better let them remain there. When the flower-spikes appear, they should be removed to the most airy part of the house.—W. W. Hard water will sometimes cause the tips of the leaves to turn brown, and present the appearance shown on the foliage sent. But your leaves are small and narrow, and point more to degeneration of the plants than any other cause. Probably yours have small crowded pseudo-bulbs. In time they would improve if broken up and repotted, and a liberal allowance of rain-water given them when growing. Tolerable shade and a free but not draughty ventilation is necessary.

FLAVOUR IN PEACHES: A. M. Your fruits of Peaches and Nectarines are but poor specimens, and they arrived somewhat bruised. If liberal culture is given and the fruits are of fair size, there need be no difficulty in regard to flavour. Keep the fruits well exposed to the sun, and give an abundance of air.

FLOWERING HABIT OF LÆLIA ANCEPS: Amateur. In the usual course the flower-spikes proceed from the tops of the pseudo-bulbs of *Lælia anceps*. Even when an abnormal growth appears to indicate that the plant is flowering from the base of the pseudo-bulb, examination invariably shows an incipient pseudo-bulb at the base of the flower-spike. The flower-spikes often show on the growing pseudo-bulb, but they take long to grow and expand their flowers, and by that time the pseudo-bulbs have reached their full size. The production of a good quantity of healthy roots, if the plant also looks well in other respects, is evidence that the situation in which it is placed is suitable. You cannot be sure that the plant will flower until you have seen the spike, and even then it may not come to maturity.

FREESIA CORNS: Constant Reader. If the *Freesia* corns are thoroughly dried-off and ripened after flowering, the largest of them should be re-potted for flowering. Put the smaller ones in pans by themselves to increase in size.

HANDLING A SPADE OR OTHER TWO-HANDED TOOL: W. H. W. See answer to same question in our last issue.

HERBACEOUS PLANTS: W. Price. We are not prepared to say which nurseryman has the largest collection of these plants. Each of those you mention keeps excellent collections, though perhaps neither may have just the plant you require. If they have not, however, most likely they would procure it for you.

MUSCAT GRAPES: Constant Reader. The dreaded "soot," *Gæsporium laticolor*. Collect all affected berries, and burn them.

NAMES OF FRUITS (see notice under Names of Plants): A. B. Nectarine Pine-apple.—F. W. G. 1, decayed; 2, Green Gage; 3, not known; 4, Kirke's; 5, Jefferson; 6, Duchesse d'Angouême Pear.—T. B. 1, not known; 2, New Hawthornden; 3, Crimson Queening; 4, Rosemary Russet.—W. Cann. Pear Jargonelle; Apple Beauoi.—E. W. W. Pear Bellissime d'Hiver; 1, Ribton Plopin; 2, Tower of Glamis; 4, Gloria Mandi; 5, New Hawthornden; 6, King of the Pippins; W. Parker. Pear Williams' Bon Chrétien; Apple Golden Spire.—T. G. F. 1, Belle de Louvain; 2, Kirke's; 3, Washington; 4, Belle de Septembre.—D. C. Foreman. Apples: 1, Hawthornden; 3, Domelow's Seedling. Pears: 1, Uvedale's St. Germain; 2, Beurré d'Aremberg; 3, Josephine de Malines; 4, Louise Bonne of Jersey; 6, Beurré Rance.

NAMES OF PLANTS: Correspondents not answered in this issue are requested to consult the next number.—Jas. Hamilton. *Calyptegia pubescens* (*Convolvulacæ*).—J. F. S. *Dioscorea argyrea*.—A subscriber. 1, *Sedum glaucum*; 2, *Sedum rupestre*;

3, *Sedum Sieboldi*; 4, *Sedum spurius*; 5, *Rhodiola rosea*.—E. J. W. 1, *Hæmanthus albidus*.—W. T. 1, *Vanda Roxburghii*; 2, *Woodwardia radicans*; 3, *Polypodium aureum*; 4, *Polystichum angulare*; 5, *Doodia blechnoides*; 6, *Pteris longifolia*.—W. W., *Aberfeldy*. *Eria bracteata*.—J. J. J. *Browallia elata*.—L. C. H. *Lilium tigrinum*.—W. Smith. *Colutea arborecens*.—H. B. 1, *Anthericum lineare variegatum*; 2, *Davallia bellata*; 3, *Carex variegata*; 4, *Adiantum elegans*; 5, *Erigeron speciosus*; 6, *Muhlenbeckia complexa*.—C. L. 1, *Cyrtomium caryotideum*; 2, *Adiantum decorum*; 3, *Adiantum Waltoni*; 4, *Adiantum tenerum*; 5, *Adiantum Williamsii*; 6, *Lastrea tenericaulis cristata*.—E. H. *Epipactis latifolia*. *W. M. Hæmanthus coccineus*.—A. G. 1, *Cyperus longus*; 2, *Dracæna congesta*; 3, *Panicum pilcatum*; 4, *Begonia riciniifolia*; 5, *Dracæna fragrans*; 6, probably *Browallia* sp.: send flowers.

PHALÆNOPSIS LEAVES DAMAGED: A. H. M. The yellow and spotted leaf sent is not eaten by any insects. The indented appearance is caused by degeneration, decay and collapse of the cellular tissue between the outer cuticles of the leaf. It is not an uncommon occurrence for *Phalænopsis* which have been previously healthy to go like yours after a severe and protracted winter like the last, and during which much artificial heat had to be maintained. A check to root-action through being cold and wet sometimes produces similar results. If the crowns of the plants are sound, and the roots good, you will doubtless bring them to health again.

PRESERVING AMMOBIUM, XEBANTHEMUM AND OTHER EVERLASTINGS: F. C. S. The first-named is best treated as an annual, raised on a hotbed in March or April, and pricked out in the open air in May. If pure white blossoms are desired, cut the flowers with short or long stalks before the yellow disc becomes visible. The long-stalked flowers are hung up in the sulphuring chest, and the short ones are laid on a lath framework for the same purpose. The acid used is sulphurous acid. The sulphuring chest is a stoutly-made, air-tight, quadrangular wooden cupboard of any desired dimensions, provided with a very close-fitting fall-door in the front, furnished with an indiarubber cushion all round the edges, so as to keep in the fumes. There should be an air-hole or holes provided in the top and near the bottom, which can be closed with a kind of damper. It is furnished with narrow wooden ledges on which to rest the drying-frames of bars from which the grasses, flowers, &c., hang in small bundles, or upon which short ones are laid. Only wooden nails should be used in its construction, or if screws be used the heads must be deeply countersunk and protected by a close-fitting wooden plug. Any flowers or grasses bleached in the sun should be finished by placing them in the sulphuring chest, first dipping them in river or rain-water to increase the effect of the sulphur by greater absorption. For a chest 1 yard high by 30 inches broad and 18 inches deep, about 100 grammes of sulphur is required. It should be ordinary brimstone, finely broken or powdered, and it must be put into a metal or earthen vessel and lighted with a fusee made from a strip of canvas or cotton cloth dipped in melted sulphur. So long as the air is admitted by the air-holes the sulphur will burn and the fumes spread all through the chest, and when the latter is filled, as will be evident by the issue of the fumes from the air-holes, the damper should be closed, and the burning sulphur removed and extinguished by covering with a bit of cloth. The flowers must remain in the chest twenty-four hours, and then air should be admitted by opening first the upper air-holes and then the lower. Bine and red flowers will appear on opening the chest, a snow-white, and white flowers should have the stalks and calyces of a grey tint. The bleaching by sulphur injures flowers much less than bleaching by chlorine. In the case of bundles of flowers not losing their red or blue colours entirely in the middle part of the bundles, the bundles must be opened out, and the operation done again till the desired result is attained.

COMMUNICATIONS RECEIVED.—E. J. B.—N. E. B.—Dr. Kriozlin—*Frankfurter Garten Zeitung*—Mertens & Co.—A. D.—W. D.—E. F. B.—R. S. & J., Ltd.—R. D.—R. W.—R. K.—W. E. B., Grenada.—J. V.—W. M. B.—A. P.—H. W. W.—J. B.—A. H.—M. T.—W. C., Jamaica.—A. G.—C. E.—W. R.—J. F., and others.

PHOTOGRAPHS RECEIVED, WITH THANKS.—J. Burt Davy.

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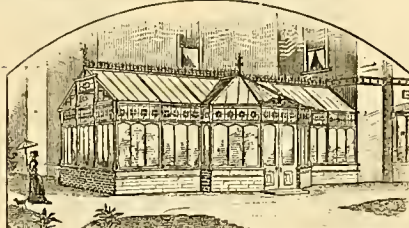
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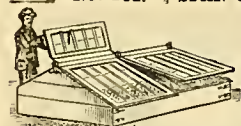
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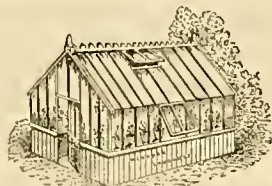
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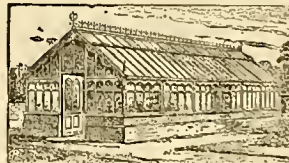


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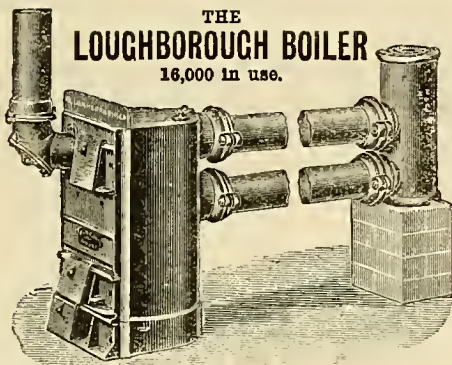
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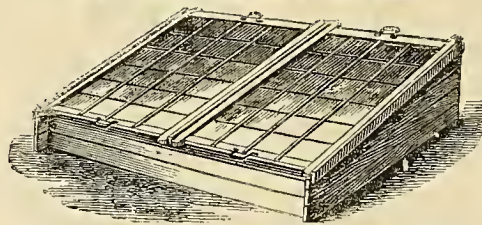
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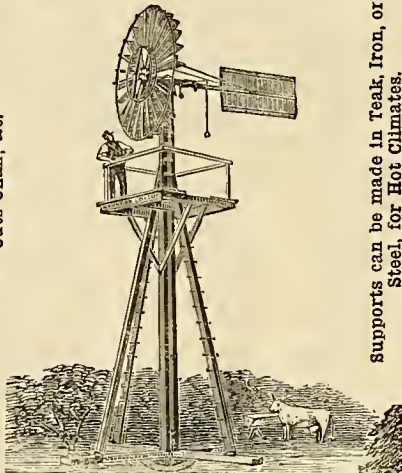
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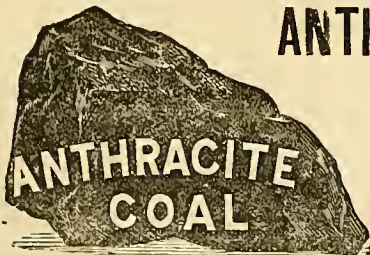
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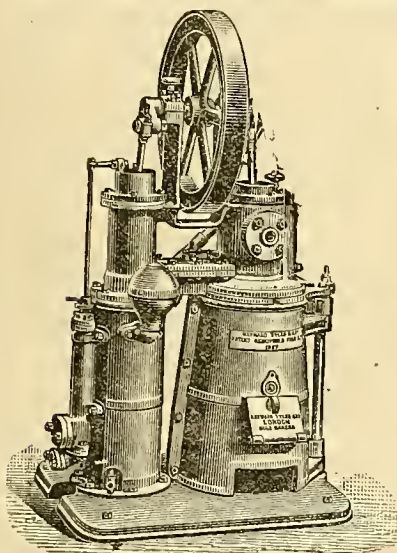
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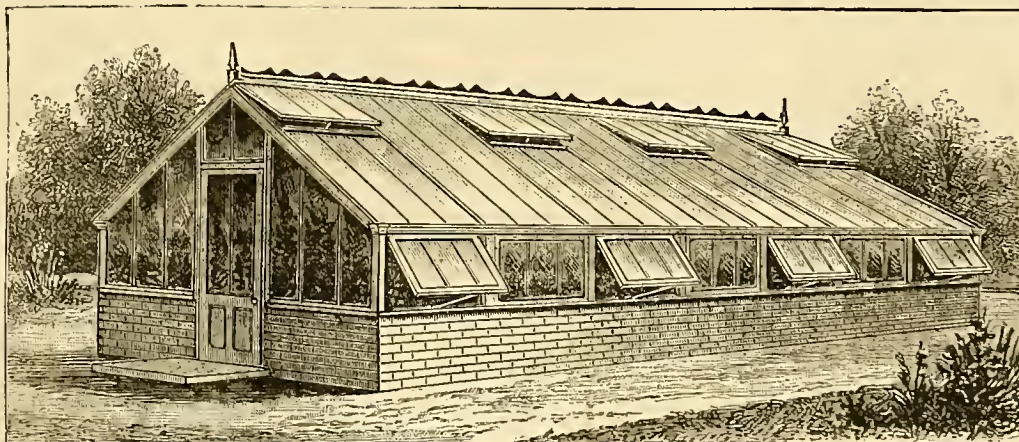
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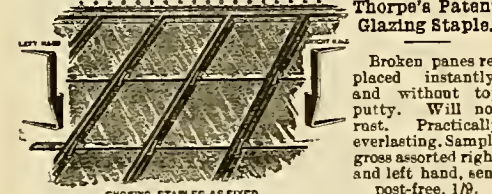
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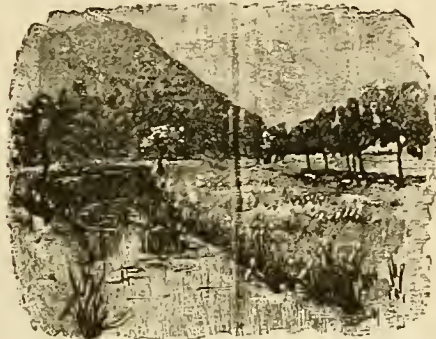
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NOTICE TO ADVERTISERS.

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PALMS, CORYPHAS and LATANIAS from Stores, 10s. per 100. Cash or exchange for Carnations, Pelargonium Cuttings, or Bedding Geraniums.
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CABBAGE PLANTS.—A large quantity of Early Leading Market Sort, to be Sold Cheap. Apply—**Pine House, Isleworth.**

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free.
P. McARTHUR, The London Nursery, 4, Maids Vale, London, W.

Important to Mushroom Growers.
CUTHBERT'S SPECIALITE MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 5s.
R. AND G. CUTHBERT, Seed, Bulb, and Plant Merchants, Southgate, N. Established 1877.

NOW is the TIME to PLANT PYRETHRUMS, Gaillardias, Delphiniums, and Peonies.
Catalogue of **KELWAY AND SON, Langport, Somerset.**

Cucumber Seed, Covent Garden Favourite, true stock.
J. ANCRUM MARSHALL is now prepared to book orders for large or small parcels. Terms on application.—**Holly Bank Nurseries, Potter's Bar, N.**

DOUBLE WHITE PRIMULAS, good strong stuff, in large 60s., 25s. per 100.
HARWOOD BROTHERS, Balham Nursery, Balham, S.W.

MUSHROOM SPAWN, 2s. per bushel (16 cakes).
ELPHICK AND ALLEN, 7, Beaconsfield Road, Willesden, Middlesex. Established 1835.

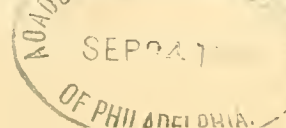
MAURICE PRICHARD'S PERENNIAL PLANT CATALOGUE now ready, for Autumn, 1895, and Spring, 1896, post-free on application.
Riverslea Nursery, Christchurch, Hants.

SPECIAL LINES of JOB LOTS of BULBS.
Cheapest in England. Send for Special List. 500 for 10s.; 2500 for 40s., free.
POPE AND SONS, Nurserymen, Birmingham.

Chrysanthemum Culture.
STANDEN'S MANURE has produced the most satisfactory results, fully borne out by reports from the leading prize-winners throughout the kingdom. Prices, in tins, 1s., 2s. 6d., 5s. 6d., and 8s. each; in kegs, ½ cwt., 10s. 6d., ½ cwt., 13s., 1 cwt., 32s. each.
CORRY & CO., Ltd., London; and all Seedsmen and Florists.

BEESON'S MANURE, Crushed Bones and all High-class Fertilisers, Genuine only from—
W. H. BEESON & Co, Brook Bone Mills, Sheffield.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W. Telegraph Address, "Hortulanus, London." Telephone, No. 8728.



Friday, September 20, 1895.
SALE OF ORCHIDS.

MESSRS. PROTHEROE AND MORRIS have received instructions from Messrs. F. Sauder & Co., St. Albans, to **SELL** by AUCTION, on FRIDAY NEXT, September 20, at half-past 12 o'clock, at their Central Auction Rooms, 67 and 68, Cheapside, London, E.C., a quantity of IMPORTED ORCHIDS, including fine consignments of **CATTLEYA ELDORADO SPLENDENS** in fine condition. The rose, orange, and purple blossoms of this splendid species render it very attractive and effective. There can be but little doubt but that the varieties **VIRGINALIS**, **CARNEA**, **CONSPICUA ORNATA**, &c., will flower from among these plants.

GRAMMATOPHYLLUM MULTIFLORUM TIGRINUM in fine order. This grand Orchid produces its beautiful showy flowers in large racemes, often to the number of sixty or seventy. Also **LÆLIA MAJALIS**, the "Flor de Mayo" of the Mexicans. This noble Orchid ranks among the finest of all. Its large and lovely flowers are always attractive. Also **CATTLEYA CITRINA**, **LÆLIA LUCASIANA**, **DENDROBIUM STATTERIANUM**, an easily-grown beautiful Dendrobe, most useful for Cut Flower work, &c.

CYPRIPEDIUM BELLATULUM, A fine batch. Many very fine plants are included. Also **CATTLEYA SUPERBA**, a really superb Orchid, with large deep rose and rich magenta-crimson blossoms. **ODONTOGLOSSUM LÆVE**, **ONCIDIUM UNGUICULATUM**, **DENDROBIUM PHALÆNOPSIS SCHRODERIANUM**, **CYPRIPEDIUM DAYANUM**, **DENDROBIUM NOBILE**, Lang Tang var. In addition fine bulbs of **EURYCYLES CUNNINGHAMII** (the Brisbane Lily), **BESSERA ELEGANS**, and **HÆMANTHUS KALBREYERII** will be offered. The bulbs are in fine order.

Full descriptions, &c., are given in the Catalogue.

Tuesday Next.
MESSRS. PROTHEROE AND MORRIS will include in their ORCHID SALE on TUESDAY NEXT, September 17, a good Collection of NEWLY-IMPORTED ORCHIDS, comprising a small but good lot of **Vanda Sanderiana**, among which is the Grandest Specimen in Europe; **Aërides Sanderianum**, **Phalænopsis Schilleriana**, **Cypridium Stouei**, among which are some good forms and distinct plants; **Aërides Lawrenceæ**, **Anoctochilum Dawsonianum**, **Dendrobium Deareii**, specially good sound stuff; **Dendrobium bigibbum**, **Grammatophyllum Measuresianum** and **speciosum**, **Aërides**, probably new, from new district.
On view morning of Sale, and Catalogues had.

WEDNESDAY NEXT.

AN IMPORTANT TRADE SALE OF
DUTCH BULBS.

A SPECIAL COLLECTION OF FINE HYACINTHS, including many of the newest and best sorts, in splendid order, from a trustworthy grower; an exceptional opportunity to obtain first-class Bulbs.

A large and varied assortment of CHOICE TULIPS, Rare and Beautiful NARCISSUS, CROCUS in variety. Also—SNOWDROPS, IRIS, COLCHICUMS, SCILLAS, several thousand EARLY WHITE ROMAN HYACINTHS, LILIUM CANDIDUM, L. HARRISI, and NARCISSUS for Early Forcing, from France.

MR. J. C. STEVENS will **SELL** the above by AUCTION, at his Great Rooms, 33, King Street, Covent Garden, on WEDNESDAY NEXT, September 18, at half-past 12 o'clock precisely.
On view morning of Sale, and Catalogues had.

SALES BY AUCTION.

DUTCH BULBS—DUTCH BULBS.

Sales nearly every day, in Large and Small Lots, to suit all Buyers.

MR. J. C. STEVENS will **SELL** by AUCTION, at his Great Rooms, 33, King Street, Covent Garden, nearly every day, at half-past 12 o'clock, first-class consignments of Choice HYACINTHS, TULIPS, CROCUSES, NARCISSUS, and other BULBS arriving daily from well-known farms in Holland, in the finest possible condition.
On view morning of sale, and Catalogues had.

Manchester.—Important Sale of 800 Orchids, including many rare and choice sorts, such as **Cattleya M. Bluntii**, **C. M. Keineckiana**, **C. M. Frithii**, **C. aurea** (Young's var.), **C. Gaskelliana alba true**, **C. Wagnerii**, best form; **C. Skinnerii**, **Lælia elegans Furnerii**, dark form, Stand Hall var.; **L. elegans alba true**, **L. purpurata**, **L. Gouldiana true**, **L. albida sulphurea**, **L. anceps Sanderiana**, **Pleione præcox tenera**, **P. Wallichii** and **lagenaria**, **Ceologyne cristata**, **Chataworth var.**; **C. maxima**, **Dendrobium nobile nobiliss.**, **Wrigley's var.**; **D. Cooksoni**, **Hardy's var.**; **Odontoglossum crispum**, **Stamford House var.**, award of merit Temple Show, 1894; **Cypridium Schottianum**, **C. Lecanum superbum**, and unflowered seedlings, **Vanda cœrulea**, **Mormodes**, &c.

MESSRS. ARTINGSTALL AND HIND respectfully notify the receipt of instructions from **H. Shaw, Esq., J.P.**, Stamford House, Ashton-under-Lyne, who is changing his residence, to **SELL** by AUCTION, at 12 o'clock, on THURSDAY, September 19, 1895, at their Horticultural Sale Rooms, No. 45, Princess Street, Manchester, a Valuable Collection of ORCHIDÆACEOUS PLANTS. On view day prior. For further particulars apply to the Auctioneers, Manchester.

West End Auction Mart, Bath.

DUTCH BULBS, lotted to suit Trade and other large Buyers; GREENHOUSE FERNS, &c.

MR. W. T. D. SUTTON will **SELL** the above by AUCTION, on FRIDAY NEXT, September 20, 1895, at half-past 12 o'clock.
On view morning of Sale, and Catalogues had.

AUCTION SALE OF NURSERY STOCK,

At Kittybrewster Nursery, Aberdeen, On THURSDAY, SEPTEMBER 23, at 11 o'clock.

The following, amongst other lots, will be exposed for Sale:

2,000,000 1-year SEEDLING LARCH.

1,500,000 2-year SEEDLING LARCH.

700,000 1-year 1-year LARCH.

400,000 2-year 2-year SCOTS FIR.

350,000 2-year 1-year SCOTS FIR.

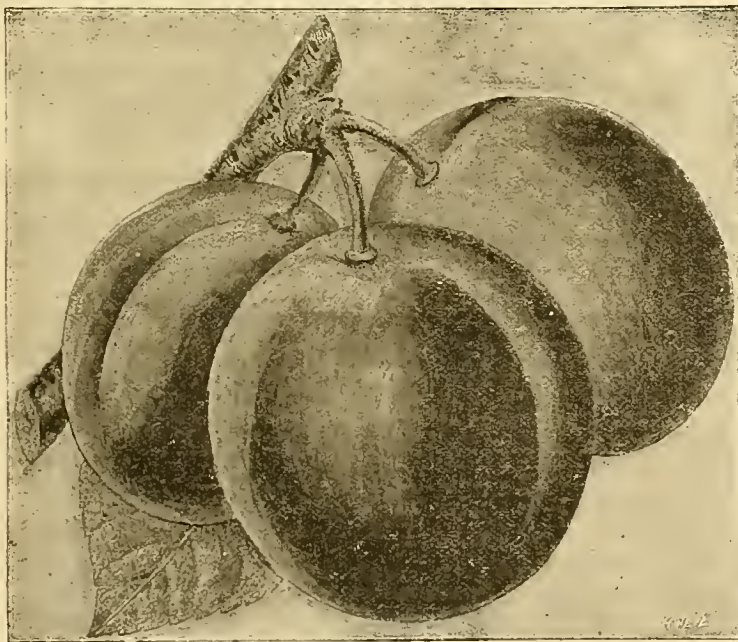
And a large assortment of GOOSEBERRY BUSHES, HARDWOOD, CONIFERS, &c. Catalogues in preparation.
CARDNO & DARLING,
NURSERYMEN, ABERDEEN.

TO BE SOLD, pursuant to an Order of the High Court of Justice, Chancery Division, made in an action, **Bennett & Another v. Corbridge** (trustee of the property of John Burchell, a Bankrupt), 1895, B. 181, with the approbation of Mr. Justice North, the Judge to whom the action is attached by Mr. Walter William Read, the person appointed by the said Judge, at The Mart, Tokenhouse Yard, in the City of London, on Tuesday, September 24, 1895, at 2 o'clock in the afternoon precisely, in One Lot, the Valuable and Very Compact FREEHOLD ESTATE, known as "LITTLE CANONS," situate in the Parish of Great Parndon, Epping, in the county of Essex, consisting of a capital Residence, Farm Buildings, and Stabling; 8 Greenhouses, heated by Hot-water Piping and Boilers; Bailiff's Cottage, Packing-house, and Outbuildings; Gardens, three Productive Orchards, together with 51 acres 1 rood and 4 poles (or thereabouts) of Park-like Pasture, Market Garden, Orchard, and Woodlands.

Particulars, with Plan, and Conditions of Sale, may be obtained of Messrs. SAUNDERS, HAWKSFORD, AND BENNETT, Solicitors, 68, Coleman Street, Bank, E.C.; at The Mart, E.C.; and of Messrs. W. W. READ AND CO., Auctioneers and Land Agents, 1, Queen Street, Cheapside, E.C.

Dated this August 12, 1895.

ALFRED RAWLINSON, Chief Clerk.



MONARCH PLUM;

100,000 FRUIT TREES, 2,500 of the new late Plum, Monarch, are included, 1 to 3 years; several thousands of the first early dessert Apple, Beauty of Bath; about 30,000 Apples, Pears, Plums, and Cherries; 25,000 Baldwin Black Currant, 15,000 Gooseberries and Red Currants, 25,000 2-year Connover's Colossal Asparagus, 25,000 of NEW EARLY STRAWBERRY, LAXTON'S ROYAL SOVEREIGN; 20,000 Hop Sets, 50,000 spring Cabbage plants, 50,000 Cos Lettuce plants, 50,000 Drumhead and Thousand-Head Cabbage, &c.

Catalogues may be had of the Auctioneers, 67, Cheapside, London.

ABSOLUTELY
WITHOUT RESERVE

MESSRS.
PROTHEROE
AND
MORRIS

Have received instructions from

Mr. W. HORNE,
PERRY CLIFFE,
Near Rochester, Kent,

To hold the
NINTH ANNUAL
GREAT
FRUIT TREESALE

On the Premises, on
Wednesday, Oct. 23, 1895,
At 11 o'clock.

HIGHLY IMPORTANT ANNUAL CLEARANCE SALE.

By order of Mr. R. GÜLZOW,

Who is obliged to dispose of a portion of his Stock for want of space, as every season several houses are devoted entirely to the forcing of Lily of the Valley in enormous quantities.

16,000 ASPARAGUS PLUMOSUS NANUS.

This is the true stock, which differs from the original type in not being of such a climbing habit of growth. It is very useful for all kinds of decoration, and particularly well adapted for cutting purposes, and is always in great demand.

Also **STATICE PROFUSA**, **CUPHEA LLAVEA**, **CARNATION LIZZIE MACGOWAN**, **EURYA LATIFOLIA**, **BELLA**, **LITTLE GEM**; **FICUS ELASTICA VARIEGATA**, &c., &c.

MESSRS. PROTHEROE AND MORRIS will **SELL** the above by AUCTION, on the Premises, the Melbourne Nurseries, Bexley Heath, Kent, close to Bexley Heath Station, and Bexley Station, S.E.R., on FRIDAY NEXT, September 20, at half-past 12 o'clock. May be viewed any day prior to the Sale. Catalogues may be had at the Nurseries, and of the Auctioneers, 67 and 68, Cheapside, E.C.

N.B.—A conveyance will meet the trains at Bexley Heath Station, to take up intending Purchasers to the Nurseries.

500 DRACÆNAS (COLOURED).

Fine healthy plants, to 4 feet high.

200 COCOS WEDELLIANA.

In the best possible condition.

FOR SALE, a small valuable long leasehold NURSERY, 6 miles from Covent Garden. Seven large Greenhouses, well stocked; two Vineries, Cucumber-house, Plant-houses, five-roomed Cottage. Low Ground Rent. Lease eighty-six years to expire. Eighty-five feet Glass. Facing main road. All particulars of **FLORIST, 11, Dafforne Road, Tooting, Surrey.**

EALING.—To **FLORISTS, GROWERS, JOBBING GARDENERS.** Excellent Premises, About $\frac{1}{2}$ of an acre of good garden ground (formerly Castle Bar Nursery), filled with valuable fruit trees; new, spacious six-roomed house attached, repairing lease. First-class neighbourhood. Rent, £40 per annum.—Apply
4, Ripley Villas, Castle Bar Road, Ealing.

SOUTHPORT.—Gentleman's 13-roomed Detached HOUSE, all modern conveniences, with Vineries, 120 by 18, containing about 200 young Canes in full bearing; 6 other Glass-houses, Frames, &c.; Top and Bottom-heat; Gardens, and Stables. Sold cheap. Left owing to ill-health.—Apply, **HATCH, Southport;** or **BATEMAN, Woodlands, St. Mary Church.**

To Nurserymen and Florists commencing business. **HAMPTON-ON-THAMES, ON THE MARLING PARK ESTATE,** free from London fogs, a deep rich loam, the favourite neighbourhood for Growers, **FREEHOLD LAND FOR SALE,** on easy system of payment. Excellent sites for residences.—For full particulars apply to **Mr. FREDK. G. HUGHES (Surveyor), the Estate Office, Hampton-on-Thames.**

GARDEN TO LET, south aspect, 2 acres, on slope, 2 miles from Bath.—3 Hot-houses and 19 Vines; 10 Frames, celebrated for Strawberries, from which £28 was realized this year; good water-supply; sleeping accommodation for single man. Rent £35 yearly; if taken at once one quarter's rent remitted.
Address, **L., Mr. Scott, Seymour Street, Bath.**

GOOD GARDEN TO LET, situated in Wales, very warm and healthy climate, good sale for produce, within short distance to three fashionable watering-places.—**J. Y. B., 41, Wellington Street, Strand, W.C.**

SPECIAL OFFER TO CLEAR.—Strawberry Royal Sovereign, Strong Ground Booners, 70s per 1000; Extra Strong Plants, knocked out of 3-inch pots, 12s. 6d. per 100. Cash with order.
GREEN AND LAYCOCK, Catchpit Nurseries, N. Walsham.

DENDROBIUM PHALÆNOPSIS SCHRODERIANA.

MESSRS. HEATH AND SON'S Collection are now in full flower. Specimen blooms on application. Strong plants from 42s. per dozen.
Royal Exotic Nurseries, Cheltenham.

BARR'S ENGLISH DAFFODILS.—The most beautiful and fashionable of Spring flowers. New Descriptive Catalogue now ready, sent free on application.

BARR'S SPRING-FLOWERING BULBS.—Send for full Descriptive List, ready September 1.
BARR'S AUTUMN-FLOWERING CROCUSES, MEADOW-SAFFRONS, CYCLAMEN, SCILLAS, SNOWFLAKES, &c. List free on application.
BARR'S SEEDS for Present Sowing.—Catalogue on application.

BARR AND SON, 12, King Street, Covent Garden, London.

FERNS AND DECORATIVE PLANTS!—(TRADE).—Ferns, in 2½-inch pots, Store and Greenhouse, 30 best selling sorts, 12s. 100; ditto large, to 48s., 10 best selling sorts, 6s. doz.; strong seedlings, 6s. 100, 50s. 1000; Adiantum cuneatum, in 48s., for cutting, 6s. and 8s. doz.; ditto, for making large plants quickly, 16s. and 20s. 100; Aralias, 10s. 100; Cyperus, Aralias, Grevilleas, Geraniums, Solanums, in 48s., 6s. doz.; Heliotrope, Fuchsias, Campanulas, Marguerites, Solanums, Erica gracilis, in bloom, in 48s., 8s. doz.; Ficus, Palms, Dracenas, Crotons, Bouvardias, 12s. doz. Lists free. Packed free. Cash with order.—**J. SMITH, London Fern Nurseries, Longborough Junction, London, S.W.**

STRAWBERRY PLANTS. **H**and-laid RUNNERS and PLANTS in Pots of the best varieties, including Royal Sovereign, President, Sir J. Paxton, British Queen, Keen's Seedling, Vicomtesse H. de Thury, Dr. Hogg, Noble, and others.
Descriptive Catalogue on Application.

DICKSONS NURSERIES, CHESTER.

FERNS!—FERNS!!

50,000 Prime Stuff, in 2½-inch pots—**PTERIS CRISTATA, NOBILIS, MAJOR, TREMULA,** and other Best Market Sorts, at 9s. per 100.

Good, clean, and bushy stuff, in 48s., at 4s. 6d. per dozen.

Above prices are for cash with order only. All orders carefully and promptly executed. An inspection is invited by

B. PRIMROSE,
BLACKHEATH NURSERIES,
ST. JOHN'S PARK, BLACKHEATH, S.E.

WEBBS' EARLY BULBS.

THE FINEST ROOTS OF THE SEASON.
ROMAN HYACINTHS:
Early White, extra large bulbs ... 2s. 0d. per doz.
Ditto ditto ... 15s. 0d. per 100.
Ditto fine bulbs ... 1s. 9d. per doz.
Ditto ditto ... 12s. 0d. per 100.
Ditto smaller bulbs ... 1s. 6d. per doz.
Ditto ditto ... 10s. 0d. per 100.

POLYANTHUS NARCISSUS:
Double Roman ... 3d. each, 1s. 6d. per doz.
Paper White ... 3d. each, 1s. 6d. per doz.

DUC VAN THOL TULIPS:
SINGLE, scarlet ... 8d. per doz., 4s. 6d. per 100.
DOUBLE, scarlet and yellow. 9d. per doz., 5s. per 100.

WEBBS' BULB CATALOGUE,
Beautifully Illustrated, Post-free, 6d.
Gratis to Customers.
Seedsmen by Royal Warrants to H.M. the Queen and H.R.H. the Prince of Wales,
WORDSLEY, STOURBRIDGE.

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

BULBS.—If you want the finest procurable, sorts that won at the Great Haarlem Quinquennial Show, and grown by the actual exhibitors, send for **POPE AND SONS' CATALOGUE,** Nurserymen, Birmingham.

C. G. VAN TUBERGEN, Jun., Haarlem, Holland. Wholesale **CATALOGUE** now ready, and may be had free on application to—**Messrs. R. SILBERRAD AND SON, 25, Savage Gardens, Crutched Friars, E.C.**
N.B.—Many new, rare, and interesting plants and bulbs will be found in this Catalogue.

MESSRS. KVEES AND LARCHE, TIFLIS, CAUCASUS, RUSSIA.
PINUS NORDMANNIANA, per pad (16 kilos.), 22 Rble.
LILIUM COLCHICUM (Scovits) per 1000 bulbs 60 Rble., 100 for 54 Rble.
IRIS RETICULATA per 1000 bulbs, 18 Rble., 100 for 2 Rble.
FETILLARIA talipifolia 1000 .. 28 Rble., 100 for 3 Rble.
PÆONIA CORALLINA 1000 .. 200 Rble., 100 for 25 Rble.
Wholesale Trade **CATALOGUE** of Caucasian Plants and Seeds gratis and post-free.

PEACHES and NECTARINES.—Splendid Dwarf-trained Trees with Fruit, growing in cool orchard-house. In thirty selected varieties, for succession. Can now be inspected and marked for autumn planting.
FREDERICK PERKINS, Nurseryman, Leamington.

MILLER'S BULBS for FORCING, flower quickly, and produce the largest and best Blooms.

100 SCARLET DUC VAN THOL TULIPS, splendid large Bulbs, 2s. 6d.; 1000 Bulbs for 21s.
F. MILLER AND CO., 267, Fulham Road, London, S.W.

100 FREESIA REFRACTA ALBA, strong cultivated Bulbs, 3s. 6d.; extra large Bulbs, 4s. 6d. per 100.
F. MILLER AND CO., 267, Fulham Road, London, S.W.

100 Early White ROMAN HYACINTHS, grand Bulbs, 10s. 6d.; extra large Bulbs, 14s. per 100. Orders above 10s. carriage paid. Bulb **CATALOGUE** free.
F. MILLER AND CO., 2-7, Fulham Road, London, S.W.

NARCISSUS.—Emperor, 7½ inches circumference, 6s. per doz., 45s. per 100; Horsfieldii, 3s. per doz., 20s. per 100.
POPE AND SONS, Nurserymen, Birmingham.

"KENT, THE GARDEN OF ENGLAND."
GEORGE BUNYARD & CO.
Beg to ask Buyers to consult their 1895

STRAWBERRY LIST

Before Ordering their Supplies. Now Ready.

Their Plants will be grand, both for Forcing, in little pots, and as Runners.

SEND ORDERS AND ENQUIRIES DIRECT TO—
THE OLD NURSERIES, MAIDSTONE.

EXHIBITIONS.

CRYSTAL PALACE.
GRAND EXHIBITION of CHRYSANTHEMUMS
SATURDAY, NOVEMBER 2.
N.B.—One day only, not Friday and Saturday, as originally announced.
Schedules and entry forms post-free on application to **Mr. W. G. HEAD, Superintendent, Gardens Department, Crystal Palace, S.E.**

THE BRISTOL CHRYSANTHEMUM SOCIETY'S
32ND ANNUAL SHOW
Will be held in the
COLSTON HALL, on WEDNESDAY and THURSDAY,
the 13th and 14th November Next.
And in addition to the many Valuable Prizes usually given, they are offering a **TWELVE GUINEA CHALLENGE VASE,** and make **SPECIAL PRIZES** and Classes for **AMATEURS.**—Schedules free of the Secretary,
EDWIN G. COOPER, Meryn Road, Bishopston, Bristol.

Under the Patronage of Her Majesty the **QUEEN,** and the Presidency of the Right Honourable Lord **WINDSOR, Lord-Lieutenant of the County of Glamorgan.**

THE CARDIFF FINE ART, INDUSTRIAL, AND MARITIME EXHIBITION, 1896,
WILL BE
OPENED IN MAY, 1896,
And Continue Open a period of Six Months.

The Exhibition will comprise the following (amongst other) Sections:—
AGRICULTURE AND HORTICULTURE. HEALTH AND HYGIENE. SPORTS AND PASTIMES AND AMATEUR EXHIBITS. MACHINERY, ELECTRICITY, AND LOCAL AND GENERAL INDUSTRIES. MARITIME. PHOTOGRAPHY. SCIENTIFIC INSTRUMENTS, SPECIMENS AND INVENTIONS.
Copies of Prospectus and Regulations for Exhibitors, and Forms of Application for Space, may be obtained of the Hon. Secretary,
Mr. WALTER COOK,
98, St. Mary Street, Cardiff.

500,000 LILY OF THE VALLEY CROWNS for Forcing, of the finest quality, for Sale from the beginning of November next.
A. ROSSHEL, 143, Friedrich Strasse, Berlin, N.W.

CARNATIONS.—Extra strong layers of **Ketton Rose, Mrs. Muir,** and many other leading varieties. **VIOLETS,** fine clumps of **Marie Louise, Comte de Brazza, Queen Victoria,** and others.—For lists and prices, apply,
GEO. DRABBLE, Ketton Hall Gardens, Stamford.

NOW READY.



HARPE'S BULB CATALOGUE

Post-free on application to

CHARLES SHARPE & CO., Ltd.,
Seed Farmers and Merchants, **SLEAFORD.**

25 PER CENT. SAVED!

THE BEST HYACINTHS THE WORLD PRODUCES AT

2½d. each.

ROMAN HYACINTHS, Guaranteed First Size, **9s. per 100.**
Other Lines equally Reliable and Cheap.
BEFORE BUYING ELSEWHERE, SEND FOR OUR CATALOGUE (FREE) AND COMPARE PRICES.

MICHAEL RAINS & CO.,
Bulb Growers & Seed Merchants,
34, MANSELL STREET, ALDGATE, LONDON, E.
AND THE NURSERIES, HAARLEM, HOLLAND.



WARE'S BEGONIAS

BLOOMING BEAUTIFULLY AT
BEXLEY HEATH.
Awarded Three Gold Medals and upwards of
Fifty other Highest Honours.

GRANDEST FLORAL DISPLAY



OF THE SEASON.

CALL and SEE
THIS MAGNIFICENT SIGHT

Trains run from London Bridge and Cannon
Street Stations to Bexley Heath (New Line).
Or Omnibus from Woolwich.

THOMAS S. WARE,
HALE FARM NURSERIES,
TOTTENHAM, LONDON.

FERNS,

STOVE and GREENHOUSE,
GREAT VARIETY.

Bushy plants in 2½ inch pots, 12s. per 100; ½s.
per 1000. Seedlings from store boxes, 5s. per 100;
40s. per 1000. Free on rail.

WILLIAM WHITELEY,

THE NURSERIES, HILLINGDON HEATH, UXBRIDGE.



CARNATIONS and PINKS
IN GREAT VARIETY.

CATALOGUES ON APPLICATION.

LAING & MATHER,
Nurserymen and Seed Merchants,
KELSO-ON-TWEED.

BULBS

**Hyacinths, Tulips,
Narcissi, Lillies,
Crocuses, Scillas,
Snowdrops, Irises, &c.**

BEST QUALITIES AT LOWEST PRICES

Delivered Free by Rail or Parcel Post.

Descriptive Catalogue No. 455
POST FREE ON APPLICATION.

DICKSONS Bulb Growers
& Importers,
CHESTER.

Veitch's Bulbs

OF SUPERIOR QUALITY.



VEITCH'S BULBS

FOR
EARLY FORCING.

VEITCH'S BULBS

FOR
POT CULTURE.

VEITCH'S BULBS

FOR
OUTDOOR PLANTING.

AT LOWEST PRICES.

Bulbs carriage free when amounting to 10s. and upwards
in value.

For details see CATALOGUE, forwarded Gratis and
Post-free on application.

JAMES VEITCH & SONS

ROYAL EXOTIC NURSERY,
CHELSEA, LONDON, S.W.

BULBS.—To make a grand display in the
Conservatory, House, or Garden at the lowest price,
send for POPE AND SONS' CATALOGUE, Nurserymen,
Birmingham.

A ZALEAS, Madame Vander Cruysten, the best
for forcing, all good plants, now ready, £4 and £5 per 100.
DRACÆNA INDIVISA, 3 and 4 feet high, very fine plants, £4
and £5 per 100. Special trade offer on application.
JULES DE COCK, Nurseryman, Ledeborg, Ghent, Belgium.

FOR ORCHIDS of every description at
Reasonable Prices, and efficient men to cultivate them,
apply to—
W. L. LEWIS AND CO., Southgate, London, N.
PRICE LIST free.

FOR SALE, in consequence of giving up ex-
hibiting.—A choice collection of specimen, table, and
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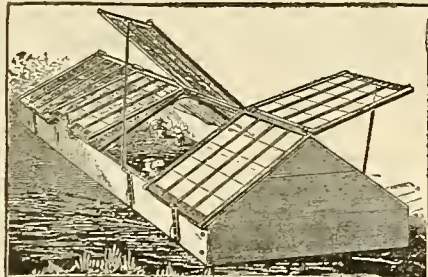
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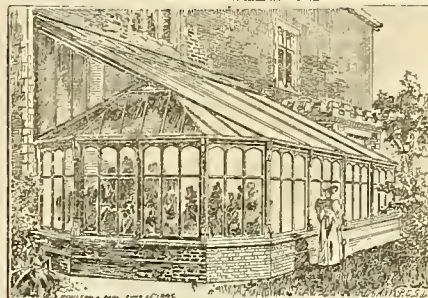
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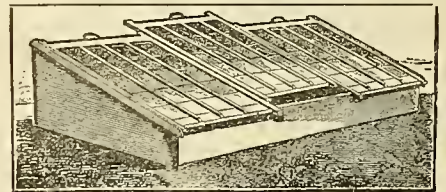
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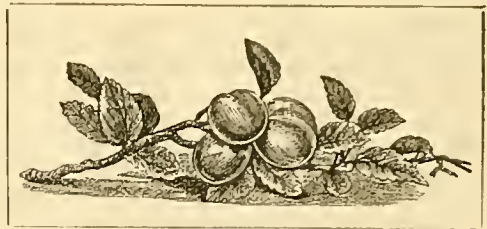
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THE

Gardeners' Chronicle.

SATURDAY, SEPTEMBER 14, 1895.

BUTESHIRE.

BUTESHIRE, with its ancient capital of Rothesay, "the acknowledged Queen of Scottish Watering and Wintering places," contains much to interest the horticulturist. Rothesay, with its beautiful bay, forming a semi-ellipse 1½ mile across the mouth, is undoubtedly one of the finest and best sheltered bays on the west coast of Scotland. Five centuries ago its palace was built in front of its even then old castle, and it had for its first visitors the Kings of Scotland, who, during the summer months, and also sometimes during the winter season, resorted to it for the purpose of enjoying its delightful climate, its translucent waters, and its beautiful scenery. There is no record of the building of the castle, which still survives in the square in the centre of the town. The first mention of it in history is in 1228. It must have passed through many vicissitudes in troublous times; it was seized by Cromwell's troops when they invaded Scotland, and on leaving it they destroyed a portion of the walls. It was subsequently taken by the Earl of Argyll in 1685, and afterwards burned by one of the Earl's brothers. For some time previous to that the castle had been occupied by the Marquis of Bute's ancestors, who, after the burning, and till the erection of Mount Stuart, his lordship's Buteshire residence, five miles away, resided in a house in the High Street.

The meteorologist records that the range of the thermometer in Rothesay is about 18° fewer than the average of Scotland, being 15° warmer in winter, and 5° cooler in summer. This is principally caused by the fact that Bute consists of comparative low land, surrounded with seawater, which latter is a great deal warmer than the atmosphere in winter, and somewhat cooler in summer. The influence of the warm Gulf Stream in winter is remarkably exemplified by the infrequency and mildness of frosts, the rarity of snowstorms, and the quickness with which snow melts when it does fall. Owing to the land being so little elevated, much less rain falls here than in the surrounding parts of Scotland. The high hills of Cowal, Ayrshire, and of Arran on every side break the rain clouds, the contents of which, in many cases, are discharged on them whilst scarcely a drop falls in Bute. For the same reason, this favoured island has a singular immunity from thunderstorms—the thunderclouds being attracted or broken by the high hills surrounding it. The absence of fogs is remarkable—attributable, it is thought, to the Buteshire farms being well drained, and that there is no tendency for an excess of damp to remain in the land or in the atmosphere.

Pleasant walks abound about Rothesay, and throughout the island they form some of the chief attractions of the place. The Marquis of Bute has most liberally constructed paths

through the woods on the heights above the town, which form delightfully shaded and sheltered walks, affording charming glimpses of the bay and surrounding hills. Here come the townspeople in the evenings of week-days during summer, and it is a favourite walk on the Sabbath evening after kirk. The English visitor is struck with the quiet peacefulness of the Sunday in Rothesay, no vehicle plying for hire on land, and no boat upon the sea. Every public-house is closed, and no element of discord is heard in the public streets. What would inote to a revolution in London, is here acquiesced in, and more—appreciated.

The horticultural features of Rothesay are many and interesting. Various shrubs and plants, regarded as tender in colder parts, are hardy during the winter, though violent storms in November last, accompanied by scathing winds, and followed by the keen frost in February, left their mark on many things, the *Euonymus*, in particular, having become very brown. Many fine trees are to be found here, but near the coast, they show the effects of rough winds. Evergreens are plentiful, and they give the line of the shore a furnished appearance at mid-winter. The neighbourhood of Rothesay is famous for the fine quality of the Strawberries and Gooseberries grown there; considerably over 100 acres of land being devoted to the growth of the former fruit. The overflow after supplying the wants of Rothesay, finds a sale at Glasgow and elsewhere. Flowers are grown extensively in the gardens abutting upon the Meadow Walk. The road between the gardens has on either side lofty and wide-spreading trees. Two magnificent Ash trees of great age, which from time immemorial adorned this walk, were known as "Adam" and "Eve." "Adam" has succumbed to old age, but his consort, "Eve," is still quite vigorous. There are some very fine examples of Ash in the neighbourhood of Rothesay.

At Southbank, about 3 miles from the town, resides William Spencer, Esq., who possesses an admirably-furnished place, where there are several glass erections, a select collection of Orchids, Ferns, and other foliaged plants; indeed, all that one could desire to see associated with such a charming residence. In the grounds are attractive beds of Begonias and other flowering plants. Everything is in excellent order. The gardener is Mr. James Lornie, whose work commands our praise. A few miles farther the visitor leaves the shore, and on the higher ground comes to the entrance to Mount Stuart, the seat of the Marquis of Bute, the owner of most of the land in Buteshire. The mansion stands in the centre of a richly-wooded spot; it is a new erection, a handsome Gothic structure occupying the site of the old mansion which, with all its art treasures and beautiful and costly decorations, was destroyed by a fire which took place in 1876, but fortunately, many valuable pictures—most of them family portraits—were saved.

The grounds about the mansion are very extensive and of great beauty; at their lower portion, they terminate in a bank or cliff near the sea. Two avenues, one of Limes and the other of Beech, are wonderful arboreal features. At certain points, lovely and picturesque walks and drives radiate from a centre, opening up charming vistas. There must be miles of roadway and pathway under the trees, and at every point some wealth of natural beauty is perceived. The skill of the landscape gardener has assisted Nature in shaping the lines of woody grounds of indescribable charm. The visitor feels that in the hands of Mr. Michael Heron, the gardener at Mount Stuart, the grounds and gardens are in safe keeping. Kitchen and fruit gardens, with plant-houses, attest to his devotion to his duties.

Not far from Rothesay, indeed on the outskirts of the town, resides Mr. James Dobbie, now in his seventy-eighth year, hale and hearty, and still devoted to his garden, spending the evening of his life in comfort and happiness. He lifted many vegetables, Beet, Turnips, and Leeks in particular, and many

flowers from low to high levels of quality; and he considers his work is not yet completed. While filling municipal office, he was an enthusiastic florist, growing Panais, Hollyhocks, &c., and joining in the fray on the exhibition stage. His enthusiasm led him to resign his ordinary avocation and start a florist and seed business in Rothesay, now finding rapid expansion in the hands of his successors Messrs. Cuthbertson, Birnie, and Fyfe. The business of Dobbie & Co. has become an important industry in Rothesay, and they are among the largest employers of labour. Mr. Alex. Lister, a famous Pansy grower and exhibitor, has a nursery here; he is a raiser of very fine fancy varieties, a grower and exhibitor of Dahlias, Carnations, &c. Near him is Mr. Michael Cuthbertson, who has an extensive collection of hardy plants, and like his neighbours, makes a speciality of Panais and Violas. And when the visitor is at Rothesay, it is impossible he should forego a steamboat trip through the renowned Kyle of Bute. On his way, he calls at Tigh-na-bruaich, a Gaelic word signifying "the house of the brae," and here, near the shore, Mr. Andrew Irvine, another famous Pansy grower, has a nursery. R. D.

NEW OR NOTEWORTHY PLANTS.

DENDROBIUM SANGUINEUM, Rolfe, n. sp.*

A CRIMSON-FLOWERED *Dendrobium* is certainly something novel. No such species has before appeared in cultivation, so far as I have been able to discover, and if such an one has ever been described, I have failed to find it. Its existence, however, is now proved, and the merit of its discovery belongs to Messrs. Hugh Low & Co., of the Clapton Nursery, where the first flower expanded a few days ago. The plant has been submitted to Kew for determination, and has received the above name, in allusion to its unusual and brilliant colour. It belongs to the section *Clavipes*, and has slender stems about 3 feet long, with a fusiform thickened part, some 3 to 4 inches long, and with eight ridges near the base, in which respect it resembles *D. crumenatum*, Swartz. The flowers are solitary in the upper axils, and about an inch long, both the sepals and the broader obovate petals being crimson, except at the base in front, where they are marbled and spotted with the same colour on a whitish ground. The lip is small, much undulate in front, and whitish, with some purple lines and spots. It was introduced from Labuan, North Borneo, and will probably require similar treatment to other Malayan species. Unfortunately, the flowers do not last very long, a peculiarity common to several species of the group; but if the plant should prove easy to cultivate, and as floriferous as *D. crumenatum*, a good plant would be a very striking object. The flower produced is the first one after importation. In any case, it is a very interesting discovery, on account of its unique colour. R. A. Rolfe.

ORCHID NOTES AND GLEANINGS.

ODONTOGLOSSUM URO-SKINNERI, CRAWSHAY'S VAR.

ALTHOUGH imported many years ago, *Odontoglossum Uro-Skinneri* is a rare plant, and fine varieties of it are always noteworthy. One of the

* *Dendrobium sanguineum*, Rolfe.—Stems slender, 3 feet high, with a thickened fusiform part near the base, 3 to 4 inches long, and with eight ridges. Leaves (very young) linear-oblong. Flowers solitary in the upper axils. Pedicels 5 lines long. Sepals lanceolate-oblong, subobtus, 3 lines broad; dorsal one 11 lines long, lateral ones 14 lines long. Petals spatulate-obovate, subobtus, 11 lines long, 5 lines broad. Lip 3-lobed, 8 lines long, 1½ lines broad; side-lobes small, erect; front-lobe oblong, obtuse, undulate; disc with thickened median line. Mentum saccate-oblong, 3 lines long. Column stout, 1 line long. Sepals and petals crimson in front, passing towards the base to whitish, spotted and marbled with crimson; wholly crimson behind. Lip whitish, with the front lined with purple, and the lines terminating in purple-brown spots at the margin; callus yellow. Native of Labuan, N. Borneo. R. A. Rolfe.

largest and best is in the possession of De B. Crawshay, Esq., at Rosefield, Sevenoaks. From the tip of the upper sepal to the apex of the lip the flower measures 2½ inches; the petals are ¾ inch wide, and the lip 1¼ inches across. The sepals and petals are pale greenish-white, evenly spotted with purplish-brown, the lower sepals being also flushed with purple. The lip is white, densely spotted with light rosy-lilac. Striking features in the flower beyond its size are the breadth and even arrangement of the segments, and the uniformity of their spotting.

CYPRIPEDIUM KIMBALLIANUM, Hort. Sander, Grey, in *American Gardening*.

With reference to the statement made by the writer in the *Orchid Review* (*Gardeners' Chronicle*, Sept. 7, p. 266), in explanation of his error respecting this plant, to the effect that there are two plants named *Cypripedium Kimballianum*, it would be well if he gave reference to the work in which the first one, which he calls *C. præstans*, was published. In his original note, he refers to *C. præstans Kimballianum*, which is properly figured and noted in the *Lindenia*, vol. vi., and it appears to be straining matters to drop the specific name, and thus set up a bogey in order to have the honour of knocking it down.

Cypripedium Kimballianum, as illustrated in the *Gardeners' Chronicle*, formed the text of the note in the *Orchid Review*, and there was no excuse for bringing in the other species mentioned, the statements about which are ancient history to Orchid growers.

The voluntary description of *C. Kimballianum*, too, given (*Gardeners' Chronicle*, Sept. 7, 1895), was equally unnecessary. The plant was properly described by Mr. Grey in *American Gardening*, and courtesy demands that the work of our American cousin should be recognised. J. O'B.

FRANCE.

M. GASTON CHANDON DE BRIAILLES is well-known as a lover of plants, especially of Orchids and Caladiums. His fine garden is well cultivated by his gardener, M. Dauvinat. Going through the houses, we noticed a new seedling Caladium named *Triomphe d'Épernay*. This variety is of dwarf and compact habit, with stout petioles, and leaves of a fine dull rose colour; it will soon become popular, and be used for the same purposes as are *C. minus erubescens* and *C. argyrites*. We were surprised to see two plants of *Agave americana* in full bloom, in tubs 2 feet square. The flower-spikes measure a foot in diameter at the base, and are nearly 8 yards in height, bearing numerous branches, with heavy umbels of yellow flowers, the whole plant suggesting an immense chandelier, was an unusual sight.

At LEMOINE'S Nursery, at Nancy, which establishment is as well known in England as on the continent, we admired a good collection of *Cannas* in bloom, and a splendid lot of *Phlox*, carefully selected for seed, the collection of dwarf white and rose varieties were excellent. We cannot say too much about the *Gladiolus*. The plants are only beginning to flower; thousands of spikes will soon be open, nearly all the blooms are extremely large, covering the spike, and the colours are brilliant and clear. Some blue and light purple varieties deserve special mention. Enormous quantities of *Montbretia* are here to be seen, amongst them many good new seedlings.

Another successful horticulturist is M. CROUSSE of Nancy. His tuberous *Begonia*s have for some time proved their superiority at many exhibitions, and their cultivation is successful owing to the care taken in selecting and saving good varieties only. Flowers, single and double, measuring 5 or 6 inches across are not uncommon, and the erect habit of the plants double their value. One interesting plant was noticed in this nursery, a hybrid *Streptocarpus*, *S. Wendlandii* × *S. controversus*, the plant is not yet named, but will soon be described, it seems to be free-flowering and quick growing. We hope, when describing this hybrid, to give also a photographic reproduction of it.

A well-known firm is that of BALTET FRÈRES, at Troyes. There we admired a splendid collection of Pear and Apple trees, and were particularly interested with the new process used for the cultivation of Pear trees in the chalky soil of Champagne. Young plants of *Cratægus Oxyacantha* are obtained from seed; this species will thrive in any calcareous soil even, if this is not deep. When these plants are established, *Cratægus Carrièrei* is grafted upon them, and the next year grafts of good varieties of Pears are inserted on the *Cratægus Carrièrei*. We saw the trees; some Pears were on them, though growing in such soil as Pear trees would never thrive upon. *Polygonum sachalinense* is here extensively grown; it has even been utilised for human food, and M. Baltet told me that the flavour of boiled *Polygonum* was much like that of Spinach.

Our visit to Troyes took place on July 28 last, and we were astonished to see on the walls some beautiful

Clapton, had *Dendrobium speciosissimum*, but the flowers were not in sufficiently good order to be appreciated.

At the VEGETABLE COMMITTEE a fine batch of twenty-five distinct varieties of Cucumber was staged by M. Vilmorin, and the floral committee voted a First-class Certificate to *Tillandsia Sieboldiana*, a beautiful and rare Mexican plant, little known in cultivation, and characterised by vermilion-red floral bracts, perpendicular to the spike, staged by M. Truffaut of Versailles. *George Truffaut*.

A FINE VINE.

THE following details respecting a Black Ham-burgh Vine in these gardens may be of interest to some of your readers (fig. 52). The Vine is twenty-five years old, and stands in the centre of a house 54 feet long by 13 feet wide, which it completely covers

Castle Gardens), who wrote of them, testifying to their excellence when cultivated under glass. I have grown them only to a limited extent in pots in orchard-houses, but could easily appreciate the fine flavour which the fruit would attain when grown in warmth and given abundance of air. Even on a south wall, the improvement of flavour is great compared with that of fruit from a northerly aspect. In size the Morello Cherries I have seen in Wiltshire and around Bath were finer than I have seen anywhere. In a Scottish town Morello Cherries have been produced in quantity on an old tree whose roots were firmly embedded in soil under the pavement, and where moisture must have reached the roots with difficulty. These Cherry trees never required pruning, though in hot, dry quarters, during the summer months, the foliage always remained healthy, and the fruit was very dark in colour.

On a south-east wall, where the soil about the roots of Morello Cherries is composed of strong loam and lime-rubbish, crammed as tightly together as possible, and where a road with much traffic passes over the border, there are heavy crops of Morello Cherries every year, and during the present season the crop required to be thinned. It is of great moment to cultivate the trees so that little pruning is necessary, and the natural spurs and short growths then formed render the trees safe from canker. On a north wall, and one due east, we do not always get heavy crops, and the fruit is more acid than on the trees facing south-east. This year many of the trees, for want of time (by reason of the continuous late frost), were left untied, and with little pruning. These mostly set heavy crops of fruit; but we never at any time had to contend so much with grubs, hand-picking was done, and this was followed up by applications of soft soapy-water, in which was mixed hellebore-powder. While in north aspects in Scotland I should be inclined to train Morello Cherries close to walls, in positions where sun had full power, I should prefer allowing the wood to grow outward somewhat, and by attention to keeping the roots in very firm soil, with plenty of lime in it, the growths would be short and fruitful.

§ An object-lesson on the good culture of Morello Cherries I once had at the Royal Gardens, Windsor, many years ago, when on a visit to the late Mr. Rose. The young-bearing wood was short, and allowed to hang from main branches untouched. The crop of fruit was immense. Though good Morello Cherries can be grown in quantity on standard bush-trees in some places, those fruited on such in Scotland are very poor. *M. Temple, Carron, N.B.*



FIG 52.—VINE AT HACKTHORN HALL, LINCOLN.

ripe Nectarines. We soon learned that the fruit was a quite new variety raised from seed by Mr. Lucien Baltet, who has given it his own name. This Nectarine, which is of a fine deep colour, is a seedling of the *Précoce* of Cronsels, which directly resulted from a seedling of *Amsden Peach*. The curious fact so often commented upon of a Nectarine being raised from a Peach stone was, in this case, absolutely borne out. We found the new Nectarine, L. Baltet, of delicious flavour, and so also thought the members of the Fruit Committee at the last meeting of the Society in Paris.

LÆLIO-CATTLEYA ANDREANA, &c.—A very good plant, shown to the ORCHID COMMITTEE (Paris) lately, was a hybrid between *Cattleya bicolor* and *Lælia elegans*. This *Lælio-Cattleya*, named L.-C. *Andreana* by the raiser, M. Maron, gardener at M. L. Farnier's, Marseilles, is quite a distinct variety. The flower is rather larger than that of *C. bicolor*; the divisions are of a creamy-rose colour, the lip presenting an unusually long middle lobe of a dull magenta colour. The upright pseudo-bulb is cylindrical, with two leaves; the variety seems free-growing; it was first sown in 1890. Mr. Low, of

It springs from a single upright stem, the girth of which is 1 foot, and which sends out two horizontal branches in opposite directions. From these descend ten smaller branches, which follow the slope of the roof. The Vine is always very clean and healthy, and is now bearing 390 bunches of well-coloured Grapes. I should be interested to know if there are many larger Vines in private gardens. *E. W. Cracroft, Hackthorn Hall, Lincoln.*

NOTES ON MORELLO CHERRY CULTURE.

SELDOM is the crop of Morello Cherries in a private garden larger than necessary, there being so many ways in which the fruit can be used. We do not use the fruit for dessert much in this country, but I believe it is so used in southern Europe, and also in Britain if the fruit has been grown under glass. The trees are, however, more often planted at the foot of walls with northern aspect than elsewhere, yet when they are grown under clear glass, exposed to full sun, the fruit is much changed in flavour. I think it was Mr. Knight (when at Floors

PLANT NOTES.

IMPROVED VARIETIES OF CANNA.

Two houses full of these plants at the Royal Horticultural Society's Gardens, Chiswick, are now looking remarkably well. They combine fine ornamental foliage with blossoms, which rival *Gladioli* in their beauty, and they last in good condition much longer than the latter. These plants require liberal treatment, and a certain amount of protection in order to flower them perfectly in this country. If nothing else was to be seen at these gardens, the *Cannas* alone would be worth a visit; but I noted many other interesting and instructive things in the brief time at my disposal.

CLEMATIS DAVIDIANA.

This plant is at present flowering well in the borders at the Royal Horticultural Society's Gardens, Chiswick, and its sweet-scented lavender-coloured flowers compel one's attention. It appears to require a warm climate, as it does not succeed half so well with me at Belvoir, although it is growing in a sheltered position. Such a beautiful plant is well worthy of a place under glass, where space admits of it, and if specimen plants were in fashion, it would prove a good thing for exhibition purposes. *W. H. Divers, Belvoir Castle Gardens, Grantham.*

PANCRATIUM CANARIENSE.

Those who have before them the recently-issued part of the *Journal of the Royal Horticultural Society*, in which is an extremely interesting and important account of "the Plants and Gardens of the Canary Islands," by Dr. Morris, the Assistant-Director at Kew, may be interested to know that *Panocratium canariense* is now flowering in the Botanic Gardens at Cambridge. It is one of the three species of bulbous plants said to be specially noteworthy, the other two being kinds of *Romulea*. As a garden plant it is decidedly pretty, but without much showiness. It is quite a distinct plant, most nearly allied, perhaps, to *P. maritimum*, though smaller in all its parts, except for the longer scape, and in common with all the other species that has white flowers. In a 6-inch pot we have one flowering bulb with several others, which bear ensiform glaucous leaves about 14 inches long. The scape exceeds 2 feet, and supports an umbel of a dozen flowers, two or three of which open at the same time. The perianth segments are narrow, and spread about 2½ inches; the staminal cup is broadly campanulate, with a diameter of 1½ inches. This specimen is placed in an intermediate-house, and flourishes with usual treatment. *R. J. L.*

BROWALLIA SPECIOSA MAJOR.

This charming greenhouse plant was seen in excellent character at the recent exhibition of the Trowbridge Horticultural Society. The foliage and flowers alike are much larger, bolder, and more striking in appearance than those of the well-known form of *B. elata*. It appears to be very free, and the deep hue of blue in the flowers makes it valuable for associating with other plants in the decoration of the greenhouse. It is one of the novelties introduced by Messrs. F. Sander & Co., and it gained an Award of Merit from the Royal Horticultural Society in 1894. It only requires to be known in order to be widely grown.

PELARGONIUM (DECORATIVE) MADAME CHARLES KOENIG.

The value of this variety for cutting purposes is shown by the fact that Mr. W. Richardson, the manager at Messrs. Balchin & Sons' nurseries at Hassocks, has cut during the space of twenty weeks as many as 12,050 trusses from 230 plants, and they are still full of buds. Mr. Richardson considers it to be the finest of the white-flowered decorative varieties, and in his experience there is none other so free-flowering. That is one reason why it is grown so largely at the Hassocks nursery; another is, that it is in great demand.

FUCHSIA COCCINEA.

Whether or no this represents the original species which Mr. James Lee purchased at Wapping so many years ago I cannot say with certainty, but I call attention to it for the purpose of saying what a pretty shrub it makes in the open border. I saw little bushes of it at Messrs. J. Cheal & Sons' Lowfield Nurseries, Crawley, a few days ago, forming a part of the second line of a mixed border, and very pretty it was, and singularly free. I think this species, mingled with *Agathea cœlestis* and a white *Viola* like *Sylvia*, or the tinted *William Niel*, would make a charming combination for a summer bed. I presume the plants at the Lowfield nurseries had passed through the rigours of last winter without any harm to the root stock. *R. D.*

CHRYSANTHEMUM × PRINCESS MAY.

In our issue for August 17, special mention was made of a very fine collection of new single-flowered hybrid annual *Chrysanthemums*, which were exhibited by Mr. Henry Brownhill, seedsman, Sale. We now give an illustration of one of the best of these (fig. 53, p. 295), known as *Princess May*. The flower is white, with a deep yellow ring round an orange disc, the florets are broad, and the flower of excellent shape and decorative value. These hybrids, obtained by crossing *C. coronarium* with *C. carinatum*, may be propagated by means of cuttings.

BOTANICAL SECTION OF THE BRITISH ASSOCIATION.

THE annual meeting of the association is in progress at Ipswich. The public business was opened on Wednesday by an address from the President, Sir Douglas Galton, who gave an account of the progress of science generally during the last sixty-five years, prefacing it with a few remarks on the career and personality of the late Prof. Huxley. On Thursday the business of the several sections began. The Botanical Section was opened by an address from Mr. W. T. Thiselton Dyer, C.M.G., the Director of the Royal Gardens, Kew, the substance of which we give in part in the following columns.

RETROSPECT.—I confess I found it a great temptation to review, however imperfectly, the history and fortunes of our subject while it belonged to section D. But to have done so would have been practically to have written the history of botany in this country since the first third of the century. Yet I cannot pass over some few striking events.

BAUER AND ROBERT BROWN.

I think that the earliest of these must undoubtedly be regarded as the most epoch-making. I mean the formal publication by the Linnean Society, in 1833, of the first description of "the nucleus of the cell," by Robert Brown.* It seems difficult to realise that this may be within the recollection of some who are now living amongst us. It is, however, of peculiar interest to me that the first person who actually distinguished this all-important body, and indicated it in a figure, was Francis Baner, thirty years earlier, in 1802. This remarkable man, whose skill in applying the resources of art to the illustration of plant anatomy has never, I suppose, been surpassed, was "resident draughtsman for fifty years to the Royal Botanic Garden at Kew." And it was at Kew, and in a tropical Orchid, *Phaius grandifolius*, no doubt grown there, that the discovery was made.

It was, I confess, with no little admiration that, on refreshing my memory by a reference to Robert Brown's paper, I read again the vivid account which he gives in a footnote of the phenomena, so painfully familiar to many of us who have been teachers, exhibited in the staminal hair of *Tradescantia*. Sir Joseph Hooker† has well remarked that "the supreme importance of this observation, . . . leading to undreamt-of conceptions of the fundamental phenomena of organic life, is acknowledged by all investigators." It is singular that so profound an observer as Robert Brown should have himself missed the significance of what he saw. The world had to wait for the discovery of protoplasm by Von Mohl till 1846, and till 1850 for its identification with the sarcode of zoologists by Cohn, who is still, I am happy to say, living and at work, and to whom last year the Linnean Society did itself the honour of presenting its medal.

The Edinburgh meeting of the Association, in 1834, was the occasion of the announcement of another memorable discovery of Robert Brown's. I will content myself with quoting Hofmeister's‡ account of it. "Robert Brown was the discoverer of the polyembryony of the Coniferae. In a later treatise he pointed out the origin of the pro-embryo in large cells of the endosperm, to which he gave the name of corpuscula." The period of the forties, just half a century ago, looks in the retrospect as one of almost dazzling discovery. To say nothing of the formal appearance of protoplasm on the scene, the foundations were being laid in all directions of our modern botanical morphology. Yet its contemporaries viewed it with a very philosophical calm. Thwaites, who regarded Carpenter as his master, described at the Oxford meeting in 1847 the conjugation of the Diatomaceae, and "distinctly indicated," as Carpenter§ says, "that conjugation is the primitive phase of sexual reproduction." Berkeley informed me that the announcement fell perfectly flat. A year or two later Suminski came to London with his splendid discovery (1848) of the archegonia of the

Fern, the antheridia having been first seen by Nägeli in 1844. Carpenter* gave me, many years after, a curious account of its reception. "At the Council of the Ray Society, at which," he said, "I advocated the reproduction of Suminski's book on the Ferns, I was assured that the close resemblance of the antherozoids to spermatozoa was quite sufficient proof that they could have nothing to do with vegetable reproduction. "I do not think," he added—and the complaint is pathetic—"that the men of the present generation, who have been brought up in the light, quite apprehend (in this as in other matters) the utter darkness in which we were then groping, or fully recognise the deserts of those who helped them to what they now enjoy." This was in 1875, and I suppose is not likely to be less true now.

DARWIN, HUXLEY, HOOKER.

The Oxford Meeting in 1860 was the scene of the memorable debate on the origin of species, at which it is interesting to remember that Henslow presided. On that occasion Section D reached its meridian. The battle was Homeric. However little to the taste of its author, the launching of his great theory was, at any rate, dignified with a not inconsiderable explosion. It may be that it is not given to the men of our day to ruffle the dull level of public placidity with disturbing and far-reaching ideas. But if it were, I doubt whether we have, or need now, the fierce energy which inspired then either the attack or the defence. When we met again in Oxford last year the champion of the old conflict stood in the place of honour, acclaimed of all men, a beautiful and venerable figure. We did not know then that that was to be his farewell.

The battle was not in vain. Six years afterwards, at Nottingham, Sir Joseph Hooker delivered his classical lecture on *Inular Florae*. It implicitly accepted the new doctrine, and applied it with admirable effect to a field which had long waited for an illuminating principle. The lecture itself has since remained one of the corner-stones of that rational theory of the geographical distribution of plants which may, I think, be claimed fairly as of purely English origin.

HENSLOW.

Addressing you as I do at Ipswich, there is one name written in the annals of our old Section which I cannot pass over—that of Henslow. He was the Secretary of the Biological Section at its first meeting in 1832, and its President at Bristol in 1836. I suppose there are few men of this century who have indirectly more influenced the current of human thought. For in great measure I think it will not be contested that we owe Darwin to him. As Romanes has told us: "His letters written to Professor Henslow during his voyage round the world overflow with feelings of affection, veneration, and obligation to his accomplished master and dearest friend—feelings which throughout his life he retained with no diminished intensity. As he used himself to say, before he knew Professor Henslow the only objects he cared for were foxes and partridges." I do not wish to overstate the facts. The possession of "the collector's instinct, strong in Darwin from his childhood, as is usually the case in great naturalists," to use Huxley's‡ words, would have borne its usual fruit in after life, in some shape or other, even if Darwin had not fallen into Henslow's hands. But then the particular train of events which culminated in the great work of his life would never have been started. It appeared to me, then, that it would not be an altogether uninteresting investigation to ascertain something about Henslow himself. The result has been to provide me with several texts, which I think it may be not unprofitable to dwell upon on the present occasion.

In the first place, what was the secret of his influence over Darwin? "My dear old master in *Natural History*" (*Life*, ii. 317), he calls him; and to have stood in this relation to Darwin§ is no small matter.

* *Loc. cit.*, 141. † *Memorial Notices*, 13.

‡ *Proc. R.S.*, xlv., vi.

§ As I shall have frequent occasion to quote the *Life and Letters*, I shall insert the references in the text.

* *Misc. Bot. Works*, i. 512. † *Higher Cryptogamia*, 432.

‡ *Proc. Linn. Soc.*, 1887—88, 65. § *Memorial Sketch*, 140.

Again, he speaks of his friendship with him as "a circumstance which influenced my whole career more than any other" (i. 52). The singular beauty of Henslow's character, to which Darwin himself bore noble testimony, would count for something, but it would not in itself be a sufficient explanation. Nor was it that intellectual fascination which often binds pupils to the master's feet; for, as Darwin tells us, "I do not suppose that anyone would say that he possessed much original genius" (i. 52). The real attraction seems to me to be found in Henslow's possession, in an extraordinary degree, of what may be called the Natural History spirit. This resolves itself into keen observation and a lively interest in

to be looked at again; or perhaps writes a paper on some obvious phenomena which he could have studied with less fatigue in the Palm-house at Kew.

The secret of the right use of travel is the possession of the natural history instinct, and to those who contemplate it I can only recommend a careful study of Darwin's *Naturalist's Voyage*. Nothing that came in his way seems to have evaded him, or to have seemed too inconsiderable for attention. No doubt some respectable travellers have lost themselves in a maze of observations that have led to nothing. But the example of Darwin, and I might add of Wallace, of Huxley, and of Moseley, show

history in the University previous to his taking up his residence there." The Professor of Botany had delivered no lectures for thirty years, and though Sir James Smith, the founder of the Linnean Society, had offered his services, they were declined on the ground of his being a Nonconformist.*

As to Henslow's own scientific work, I can but rely on the judgment of those who could appreciate it in relation to its time. According to Berkeley,† "he was certainly one of the first, if not the very first, to see that two forms of fruit might exist in the same fuogua." And this, as we now know, was a fundamental advance in this branch of morphology, Sir Joseph Hooker tells me that his papers were all distinctly in advance of his day. Before occupying the chair of botany, he held for some years that of mineralogy. Probably he owed this to his paper on the Isle of Anglesey, published when he was only twenty-six. I learn from the same authority that this to some extent anticipated, but at any rate strongly influenced, Sedgwick's subsequent work in the same region.

BOTANICAL TEACHING.

Henslow's method of teaching deserves study Darwin says of his lectures "that he liked them much for their extreme clearness." "But," he adds, "I did not study botany" (i. 48). Yet we must not take this too seriously. Darwin,‡ when at the Galapagos, "indiscriminately collected everything in flower on the different islands, and fortunately kept my collections separate." Fortunately indeed; for it was the results extracted from these collections, when worked up subsequently by Sir Joseph Hooker, which determined the main work of his life. "It was such cases as that of the Galapagos Archipelago which chiefly led me to study the origin of species" (iii. 159).

Henslow's actual method of teaching went some way to anticipate the practical methods of which we are all so proud. "He was the first to introduce into the botanical examination for degrees in London the system of practical examination."§ But there was a direct simplicity about his class arrangements characteristic of the man. "A large number of specimens . . . were placed in baskets on a side-table in the lecture-room, with a number of wooden plates and other requisites for dissecting them after a rough fashion, each student providing himself with what he wanted before taking his seat."|| I do not doubt that the results were, in their way, as efficient as we obtain now in more stately laboratories.

The most interesting feature about his teaching was not, however, its academic aspect, but the use he made of botany as a general educational instrument. "He always held that a man of no powers of observation was quite an exception."¶ He thought (and I think he proved) that botany might be used "for strengthening the observant faculties and expanding the reasoning powers of children in all classes of society."** The difficulty with which those who undertake now to teach our subject have to deal is that most people ask the question, What is the use of learning botany unless one means to be a botanist? It might indeed be replied that as the vast majority of people never learn anything effectively, they might as well try botany as anything else. But Henslow looked only to the mental discipline; and it was characteristic of the man and of his belief in his methods that when he was summoned to Court to lecture to the Royal family, his lectures "were in all respects, identical with those he was in the habit of giving to his little Hitcham scholars";†† and it must be added that they were not less successful.

This success naturally attracted attention. Botanical teaching in schools was taken up by the Government, and continues to receive support to the present day. But the primitive spirit has, I am afraid, evaporated. The measurement of results by means of examination has been fatal to its survival. The teacher has to keep steadily before his eyes the



FIG. 53.—NEW MARGUERITE CHRYSANTHEMUM × PRINCESS MAY: WHITE, WITH A YELLOW RING. (SEE P. 294.)

the facts observed. "His strongest taste was to draw conclusions from long-continued minute observations" (i. 52). The old natural history method, of which it seems to me that Henslow was so striking an embodiment, is now, and I think unhappily, almost a thing of the past. The modern university student of botany puts his elders to blush by his minute knowledge of some small point in vegetable histology. But he can tell you little of the contents of a country hedgerow; and if you put an unfamiliar plant in his hands he is pretty much at a loss how to set about recognising its affinities. Disdaining the field of Nature spread at his feet in his own country, he either seeks salvation in a German laboratory or hurries off to the Tropics, convinced that he will at once immortalise himself. But "cælum non animus mutat;" he puts into "pickle" the same objects as his predecessors, never

that the result is the fault of the man and not of the method. The right moment comes when the fruitful opportunity arrives to him who can seize it. The first strain of the prelude with which the *Origin* commences are these words: "When on board H.M.S. 'Beagle' as naturalist, I was much struck with certain facts in the distribution of the organic beings inhabiting South America." But this sort of vein is not struck at hazard or by him who has not served a tolerably long apprenticeship to the work.

When one reads and re-reads the *Voyage*, it is simply amazing to see how much could be achieved with a previous training which we now should think ludicrously inadequate. Before Henslow's time the state of the natural sciences at Cambridge was incredible. In fact, Leonard Jenyns,* his biographer, speaks of the "utter disregard paid to natural

* *Memoir*, 175.

* *Memoir*, 37.

† *Ibid.*, 56.

‡ *Voyage*, 421.

§ *Memoir*, 161.

¶ *Memoir*, 39.

** *Ibid.*, 163.

†† *Ibid.*, 99.

‡‡ *Memoir*, 149.

necessity of earning his grant. The educational problem retires into the background. "The strengthening of the observant faculties," and the rest of the Henslowian programme must give way to the imperious necessity of presenting to the examiner candidates equipped with at least the minimum of text-book formulae reproducible on paper. I do not speak in this matter without painful experience. The most astute examiner is defeated by the still more astute crammer. The objective basis of the study on which its whole usefulness is built up is promptly thrown aside. If you supply the Appleblossom for actual description, you are as likely as not to be furnished with a detailed account of a Buttercup. The training of observation has gone by the board, and the exercise of mere memory has taken its place. But a table of logarithms or a Hebrew grammar would serve this purpose equally well. Yet I do not despair of Henslow's work still bearing fruit. The examination system will collapse from the sheer impossibility of carrying it on beyond a certain point. Freed from its trammels, the teacher will have greater scope for individuality, and the result of his labours will be rewarded after some intelligent system of inspection. And here I may claim support from an unexpected quarter. Mr. Gladstone has recently written to a correspondent:—"I think that the neglect of natural history, in all its multitude of branches, was the grossest defect of our old system of training for the young; and, further, that little or nothing has been done by way of remedy for that defect in the attempts made to alter or reform that system." I am sure that the importance and weight of this testimony, coming as it does from one whose training and sympathies have always been literary, cannot be denied. That there is already some revival of Henslow's methods, I judge from the fact that I have received applications from Board schools, amounting to some hundreds, for surplus specimens from the Kew museum. Without a special machinery for the purpose I cannot do much, and perhaps it is well. But my staff have willingly done what was possible, and from the letters I have received I gather that the labour has not been wholly mispent.

MUSEUM ARRANGEMENT.

This leads me to the last branch of Henslow's scientific work on which I am able to touch, that of the arrangement of museums, especially those which being local have little meaning unless their purpose is strictly educational. I think it is now generally admitted that, both in the larger and narrower aspects of the question, his ideas, which were shared in some measure by Edward Forbes, were not merely far in advance of his times, but were essentially sound. And here I cannot help remarking that the zoologists have perhaps profited more by his teaching than the botanists. I do not know how far Sir William Flower and Professor Lankester would admit the influence of Henslow's ideas. But, so far as my knowledge goes, I am not aware that, at any rate in Europe, there is anything to be seen in public museums comparable to the educational work accomplished by the one at the College of Surgeons and the Natural History Museum, and by the other at Oxford.

I have often thought it singular that in botany we have not kept pace in this matter with our brother naturalists. I do not doubt that vegetable morphology and a vast number of important facts in evolution, as illustrated from the vegetable kingdom, might be presented to the eye in a fascinating way in a carefully-arranged museum. The most successful and, indeed, almost the only attempt which has been made in this direction is that at Cambridge, which, I believe, is due to Mr. Gardiner. But our technical methods for preserving specimens still leave much to desire. Something more satisfactory will, it may be hoped, some day be devised, and the whole subject is one which is well worth the careful consideration of our Section. Henslow at least effected a vast improvement in the mode of displaying botanical objects; and a collection prepared by his own hands, which was exhibited at one of the Paris exhibitions,

excited the warm admiration of the French botanists, who always appreciate the clear illustration of morphological facts.

OLD SCHOOL OF NATURAL HISTORY.

If the old school of natural history of which Henslow in his day was a living spirit is at present, as seems to be the case, continually losing its hold upon us, this has certainly not been due to its want of value as an educational discipline, or to its sterility in contributing new ideas to human knowledge. Darwin's *Origin of Species* may certainly be regarded as its offspring, and of this Huxley* says with justice: "It is doubtful if any single book, except the *Principia*, ever worked so great and rapid a revolution in science, or made so deep an impression on the general mind." Yet Darwin's biographer, in that admirable *Life* which ranks with the few really great biographies in our language, remarks (i. 155): "In reading his books one is reminded of the older naturalists rather than of the modern school of writers. He was a naturalist in the old sense of the word, that is, a man who works at many branches of science, not merely a specialist in one." This is no doubt true, but does not exactly hit off the distinction between the kind of study which has gone out of fashion and that which has come in. The older workers in biology were occupied mainly with the external or, at any rate, grosser features of organisms and their relation to surrounding conditions; the modern, on the other hand, are engaged on the study of internal and intimate structure. Work in the laboratory, with its necessary limitations, takes the place of research in the field. One may almost, in fact, say that the use of the compound microscope divides the two classes. Asa Gray has compared Robert Brown with Darwin as the "two British naturalists" who have, "more than any others, impressed their influence upon science in the nineteenth century."† Now it is noteworthy that Robert Brown did all his work with a simple microscope. And Francis Darwin writes of his father: "It strikes us nowadays as extraordinary that he should have no compound microscope when he went his 'Beagle' voyage; but in this he followed the advice of Robert Brown, who was an authority on such matters" (i. 145). One often meets with persons, and sometimes of no small eminence, who speak as if there were some necessary antagonism between the old and the new studies. Thus I have heard a distinguished systematist describe the microscope as a curse, and a no less distinguished morphologist speak of a herbarium having its proper place on a bonfire. To me I confess this anathematization of the instruments of research proper to any branch of our subject is not easily intelligible. Yet in the case of Darwin himself it is certain that if his earlier work may be said to rest solely on the older methods, his later researches take their place with the work of the new school. At our last meeting Pfeffer vindicated one of his latest and most important observations.

The case of Robert Brown is even more striking. He is equally great whether we class him with the older or the modern school. In fact, so far as botany in this country is concerned, he may be regarded as the founder of the latter. It is to him that we owe the establishment of the structure of the ovule and its development into the seed. Even more important were the discoveries to which I have already referred, which ultimately led to the establishment of the group of Gymnosperms. "No more important discovery," says Sachs,‡ "was ever made in the domain of comparative morphology and systematic botany. The first steps towards this result, which was clearly brought out by Hofmeister twenty-five years later, were secured by Robert Brown's researches, and he was incidentally led to these researches by some difficulties in the construction of the seed of an Australian genus." Yet it may be remembered that he began his career as naturalist to Flinders' expedition for the exploration of Australia.

He returned to England with 4,000 "for the most part new species of plants." And these have formed the foundation of our knowledge of the flora of that continent. Brown's chief work was done between 1820 and 1840, and, as Sachs* tells us, "was better appreciated during that time in Germany than in any other country."

MODERN SCHOOL.

The real founder of the modern teaching in this country in both branches of biology I cannot doubt was Carpenter. The first edition of his admirable *Principles of Comparative Physiology* was published in 1838, the last in 1854. All who owe, as I do, a deep debt of gratitude to that book will agree with Huxley† in regarding it as "by far the best general survey of the whole field of life and of the broad principles of biology which had been produced up to the time of its publication. Indeed," he adds, "although the fourth edition is now in many respects out of date, I do not know its equal for breadth of view, sobriety of speculation, and accuracy of detail."

The charm of a wide and philosophic survey of the different forms under which life presents itself could not but attract the attention of teachers. Rolleston elaborated a course of instruction in zoology at Oxford in which the structures described in the lecture-room were subsequently worked out in the laboratory. In 1872 Huxley organized the memorable course in elementary biology at South Kensington which has since, in its essential features, been adopted throughout the country. In the following year, during Huxley's absence abroad through ill-health, I arranged, at his request, a course of instruction on the same lines for the vegetable kingdom.

That the development of the new teaching was inevitable can hardly be doubted, and I for my part am not disposed to regret the share I took in it. But it was not obvious, and certainly it was not expected, that it would to so large an extent cut the ground from under the feet of the old natural history studies. The consequences are rather serious, and I think it is worth while pointing them out.

In a vast empire like our own there is a good deal of work to be done and a good many posts to be filled, for which the old natural history training was not merely a useful but even a necessary preparation. But at the present time the universities almost entirely fail to supply men suited to the work. They neither care to collect, nor have they the skilled aptitude for observation. Then, though this country is possessed at home of incomparable stores of accumulated material, the class of competent amateurs who were mostly trained at our universities and who did such good service in working that material out is fast disappearing. It may not be easy indeed in the future to fill important posts even in this country with men possessing the necessary qualifications. But there was still another source of naturalists, even more useful, which has practically dried up. It is an interesting fact that the large majority of men of the last generation who have won distinction in this field have begun their career with the study of medicine. That the kind of training that natural history studies give is of advantage to students of medicine which, rightly regarded, is itself a natural history study, can hardly be denied. But the exigencies of the medical curriculum have crowded them out; and this, I am afraid, must be accepted as irremediable. I cannot refrain from reading you, on this point, an extract from a letter which I have received from a distinguished official lately entrusted with an important foreign mission. I should add that he had himself been trained in the old way:—

"I have had my time, and must leave to younger men the delight of working these interesting fields. Such chances never will occur again, for roads are now being made and ways cut in the jungle and forest, and you have at hand all sorts of trees level

* *Proc. R. S.*, xlv, xvii.

† *Nature*, x, 80.
History, 142.

* *Loc. cit.*, 139, 140.
Memorial Sketch, 67.

on the ground ready for study. These bring down with them Orchids, Ferns, and climbers of many kinds, including Rattan Palms, &c. But, excellent as are the officers who devote their energy to thus opening up this country, there is not one man who knows a Palm from a Dragon-tree, so the chance is lost. Strange to say, the medical men of the Government service know less and care less for natural history than the military men, who at least regret they have no training or study to enable them to take an intelligent interest in what they see around them. A doctor now-a-days cares for no living thing larger or more complicated than a bacterium or a bacillus."

But there are other and even more serious grounds why the present dominance of one aspect of our subject is a matter for regret. In the concluding chapter of the *Origin*, Darwin wrote: "I look with confidence to the future—to young and rising naturalists." But I observe that most of the new writers on the Darwinian theory, and, oddly enough, especially when they have been trained at Cambridge, generally begin by more or less rejecting it as a theory of the origin of species, and then proceed unhesitatingly to reconstruct it. The attempt rarely seems to me successful, perhaps because the limits of the laboratory are unfavourable to the accumulation of the class of observations which are suitable for the purpose. The laboratory, in fact, has not contributed much to the Darwinian theory, except the *Law of Recapitulation*, and that, I am told, is going out of fashion.

The Darwinian theory, being, as I have attempted to show, the outcome of the natural history method, rested at every point on a copious basis of fact and observation. This more modern speculation lacks. The result is a revival of transcendentalism. Of this we have had a copious crop in this country, but it is quite put in the shade by that with which we have been supplied from America. Perhaps the most remarkable feature is the persistent vitality of Lamarckism. As Darwin remarks: "Lamarck's one suggestion as to the cause of the gradual modification of species—effort excited by change of conditions—was, on the face of it, inapplicable to the whole vegetable world" (ii. 189). And if we fall back on the inherited direct effect of change of conditions, though Darwin admits that "physical conditions have a more direct effect on plants than on animals" (ii. 319), I have never been able to convince myself that that effect was inherited. I will give one illustration. The difference in habit of even the same species of plant when grown under mountain and lowland conditions is a matter of general observation. It would be difficult to imagine a case of "acquired characters" more likely to be "inherited." But this does not seem to be the case. The recent careful research of Gaston Bonnier only confirms the experience of cultivators. "The modifications acquired by the plant when transported for a definite time from the plains to the Alps, or *vice versa*, disappear at the end of the same period when the plant is restored to its original conditions."*

Darwin, in an eloquent passage, which is too long for me to quote,† has shown how enormously the interest of natural history is enhanced "when we regard every production of Nature as one which has had a long history," and "when we contemplate every complex structure . . . as the summing up of many contrivances." But this can only be done, or at any rate begun, in the field and not in the laboratory.

A more serious peril is the dying out amongst us of two branches of botanical study in which we have hitherto occupied a position of no small distinction. Apart from the staffs of our official institutions, there seems to be no one who either takes any interest in, or appreciates in the smallest degree, the importance of systematic and descriptive botany. And geographical distribution is almost in a worse plight, yet Darwin calls it, "that grand subject, that almost keystone of the laws of creation" (i. 356).

I am aware that it is far easier to point out an evil than to remedy it. The teaching of botany at the present day has reached a pitch of excellence and earnestness which it has never reached before. That it is somewhat one-sided cannot probably be remedied without a subdivision of the subject and an increase in the number of teachers. If it has a positive fault, it is that it is sometimes inclined to be too dogmatic and deductive. Like Darwin, at any rate in a biological matter, "I never feel convinced by deduction, even in the case of H. Spencer's writings" (iii. 168). The intellectual indolence of the student inclines him only too gladly to explain phenomena by referring them to "isms," instead of making them tell their own story.

(To be continued.)

VEGETABLES.

VEGETABLES AT HIGHCLERE.

ALTHOUGH Mr. Pope, the gardener at Highclere, is noted for his success in exhibiting vegetables, it should not be assumed that the growth of produce for exhibition absorbs his whole interest. To a gardener of such experience and personal knowledge of vegetables, the testing of new varieties is an agreeable and interesting employment. To visitors this is an important item, as one is sure to see much that is new and interesting. When visiting Highclere just previous to the great Shropshire show, I had an opportunity of seeing some of the specimens in course of preparation for that meeting. The kitchen garden appears especially well adapted to vegetable culture, particularly in such a season as the present; the aspect is a westerly one, having a sharp slope in that direction. A dry summer exactly suits such a garden, for owing to the great depth of soil, and the cooler condition of the garden itself, consequent upon its aspect, the vegetable crops have positively revelled, even during the fierce heat. A tablet over one of the entrances to the garden discloses the fact that the garden has been in existence over 100 years.

Potatoes are made a strong point in collections of vegetables shown by Mr. Pope, for he rightly considers this vegetable the most important of all. Satisfaction is a favourite variety for exhibition, as it combines good form with a clean skin, and, what is more, its cooking qualities are of the highest. Sutton's Seedling is also a favourite, and it too combines all the qualities that make Potatoes valuable. Windsor Castle is esteemed highly, and so is Reading Russet and Prizetaker; the latter has excellent quality here. Mr. Pope does not believe in the crowding method of Potato culture. Abundant space is allowed them here, that they may make a full development of haulm and foliage.

Onions are remarkably well grown, not only for exhibition but as a crop for home use. For the former purpose, some magnificent bulbs were seen; many samples of Excelsior—a variety raised by Cranston—I noted that measured 18 inches in circumference, and it is regarded the finest Onion for exhibition in cultivation. It is sometimes thought that such Onions as these are useless for any other purpose; but this is an error—they will and do keep sound until April. The seed is sown in a gentle heat in January, and the plants are pricked off into boxes of rich soil, grown on gradually, and thoroughly hardened off before finally planting out. Although the weather has been both hot and dry, no watering has been done, but heavy mulchings of Mushroom-bed manure were employed. Anglo-Spanish and Lord-Keeper, too, are prized for exhibition.

The Main Crop varieties, which are grown in large quantity, are thinned but little, and the bulbs thoroughly wedged each other in the rows. Mr. Pope thinks highly of the Southport Red and Yellow Globe varieties, as they are deeply-formed bulbs, strong objection being taken to those that are remarkable only for width. Walker's Exhibition is an excellent cropper; Veitch's Main Crop is an established favourite, and so is Bedfordshire Cham-

panion, and the Wrocton; the latter has especially long bulbs. Giant Zittan is promising, and so is Sandringham. Messrs. Sutton's recent addition, Magnum Bonum, is flatter, but nevertheless promising. Celery culture here is remarkably good. The old-fashioned plan of blanching it with soil is not followed, but sheets of brown-paper are used. The latter is much better for exhibition purposes, inasmuch as it prevents slugs injuring the outer leaves. Abundance of rich food is required to grow really good succulent Celery in August and September. Standard-bearer, Laing's Mammoth, red and white, along with a dwarf-growing red variety, resembling Sutton's AI, are the varieties grown.

At Highclere, extra-large heads of Cauliflowers are not favoured, medium-sized closely grown, pure white heads are those selected; Magnum Bonum, Eclipse, and Autumn Giant, are the kinds preferred. Deep stirring of the soil, combined with heavy manuring, are the points to observe in growing Cauliflowers. Brussels Sprouts at the time of my visit were quite a yard high, the stems already packed with close fine heads. It is useless to expect a full crop of buttons if they are not formed before September is in. For the October and November shows, early sowings and liberal cultivation are the chief points to observe. Especially good are the Carrots; they are not over-large, but perfect in form and colour. The soil here is just suitable for this crop. New Intermediate is the variety depended upon. So well do they grow here, that Mr. Pope drew out of the ground but nineteen roots from which to select the eighteen he staged at the Southampton show in three collections. Mr. Pope grows the bulk of his Tomatoes in a low pit in shallow boxes, training them like Cucumbers under the glass, and smooth fruits of the Perfection type are those grown. Polegate he regards very favourably as being large enough and perfect in form, without the ugly dimple in the centre so objectionable in many varieties. Plants growing against a wall out-of-doors and at the foot of a Yew hedge were carrying very fine crops. I counted as many as two dozen fruits of Polegate upon one plant. The plants were strong, and a good size before planting; it is useless to have them otherwise for planting out-of-doors. Scarlet Runner Beans are much preferred to Kidney Beans. To get them early, Mr. Pope sows in good time, and grows the plants on under glass until they are 2 feet high and in bloom; they are then carefully planted in a warm site. From these plants good Beans are obtainable at the end of July. Ne Plus Ultra is the variety preferred.

Among Beet no variety finds favour for exhibition for the early shows like Pragnell's; and Cheltenham Green Top, or some one of the many dark-leaved varieties for later shows. Very many persons make the same mistake in growing Beet by sowing too early; the roots then grow coarse; medium-sized, richly-coloured examples are preferred. Amongst Cucumbers, Progress is esteemed, being a dark-skinned, straight-growing variety. For packing the vegetables to travel long distances, wood-wool is considered excellent, but dried sphagnum moss, too, is much used. E. M.

VEGETABLES AT READING.

At the autumn exhibition of the local society, vegetables are always shown in first-class form. At the recent exhibition, Messrs. Sutton & Sons offered valuable prizes for a collection of unlimited numbers. There were four specially meritorious collections in competition, each comprising about forty varieties, and a total of 160 dishes. The work of judging these collections was singularly difficult and lengthy, so comparatively even and so fine the average. Coarseness is rarely seen at Reading, quality dominates. The ultimate result was that Mr. Bowerman, gr. to C. Hoare, Esq., Hackwood Park, Baingtoke, was placed 1st; Mr. R. Lye, gr. to Mrs. Kingsmill, Sydmon Court, was 2nd; Mr. W. Pope, gr. to the Earl of Carnarvon, Highclere Castle, 3rd; and Mr. C. Waite, gr. to the Hon. Col. Talbot, Glenhurst, Esher, 4th. Literally, it was a battle of the best vegetable exhibitors in the kingdom, and one of which Reading might well be proud.

* *Ann. d. Sc. nat.*, 7th series, xx, 355.

† *Origin*, 428.

BELGIUM.

PLANTS AT THE ROYAL CHÂTEAU AT LAEKEN.

DURING a visit paid to Laeken lately, I noticed some fine seedling tuberous Begonias, very good and rich in colouring; some of the double varieties were very remarkable. There was a charming collection of Nægelia, as well as large and fine specimens of Sonerila, new this season. Some Streptocarpus filled two stages of a house, where they were intermixed with some fine tuberous Begonias in full bloom. There were some pretty new varieties of Streptocarpus from Messrs. Veitch, and those raised at Laeken are numerous and good.

An unusual and admirable variety, which we compared to a fine Pentstemon, deserves mention. The ground-colouring was purple, the throat had a white ground with very dark and effective veining; there was one white spot at the base of the lower mid-rib, just at the spot whence springs the lateral lobe—in fact, the whole flower is most effective. There were many seedlings of Anthurium Andréanum with large spathe; in some the spathe were very dark, in others the veining were very distinctly marked.

In the Orchid-house, in spite of the unfavourable season, I noted Odontoglossum Harryanum with six flower-stems; Oncidium incurvum with fourteen floral trusses and quite 2000 buds; these branches are trained along iron wires, which trace out a royal crown; this will be very fine when in full bloom. One *Lælia crispata* with a fine well-spread and waved lip, with a dark ground, bore six flower-stems and thirty-eight flowers and buds. Six specimens of *Cattleya Rex* bore altogether forty blooms—one plant alone bore ten; *Dendrobium anaviesimum* with many trusses; and *Epidendrum vitellinum* with seven racemes. I noted, besides some fine *Cattleya gigas*, *Gaskelliana* and *Schilleriana*. I noticed one specimen of *C. Mossia* with 127 flowers, and a plant of *Odontoglossum Bictonense* with fourteen trusses each with fifteen flowers.

ORCHIDS AT BRUSSELS.

In spite of the unfavourable season, I recently found in bloom at l'Horticulture Internationale numerous fine specimens of *Phaius Humbloti* and *Lælio-Cattleyas*, a good *Cypripedium Morganii* × *Cattleya gigas*, numerous plants of *Catasetum Bungei*, and good varieties of *Cattleya Rex*.

M. Peeters has some fine dark varieties of *Miltonia Moreliana* and of *M. spectabilis*; the very beautiful *M. Peetersi*, *Rehb.*, the *M. Blunzi*, *Peetersiana* of Rolfe; the rare *Dendrobium Guiberti*, and a *Cypripedium Harrisonianum*, all greenish-yellow, very curious, but less pretty than the type. *Ch. de B.*

GROUPING FOR EFFECT IN CONSERVATORIES.

In many good gardens I have in wardly lamented the lack of taste exhibited in arranging subjects, indoors and out, frequently involving a waste of good material. When the opposite of this is seen, and good taste is evident, it is a pleasure to record the fact. A few weeks ago I visited the gardens of Osmaston Manor, near "romantic Ashbourne," in Derbyshire, and I was charmed with the beautiful effects which were to be seen in every department. The conservatory struck me as being an admirable exposition of tasteful arrangement. The structure was about 40 feet square, and the effect was made in the centre. There was no staging, but, on the other hand, there were small knolls of rockwork, so arranged over the surface as to form undulating slopes and miniature valleys. Selaginellas and Lycopodiums covered the stones, while here and there arose from this moss-like carpeting, *Dracænas*, *Colens*, *Begonias*, *Crotons*, *Catalpas*, and other richly-coloured foliage plants; while resting on the slopes were *Fattonias*, *Bertolonias*, *Peperomias*, with *Tradescantia* trailing in and around them. Standing up boldly at irregular distances were *Palms* of various kinds, and *Ficus repens* and

similar climbers covered the walls. The effect was most pleasing, and quite apart from the usual style of conservatory arrangement. Out-of-doors the same good taste was evident. Flower-beds gay with *Pelargoniums* had an ample setting of well-kept lawn, giving a soft, pleasing effect, instead of the too frequent garish display. Around the noble mansion runs an open corridor, facing the lawn, with a long series of arched pillars. In the centre of each, and hanging from the arches, were baskets of *Pelargoniums* flowering profusely.

In the vineries and other houses, the abundance and quality of the fruit and the condition of the trees spoke plainly to the skilful culture which obtained at this beautiful place—the out-of-door fruit, the vegetable garden, and the herbaceous border being worthy of equal note. Mr. Bardney, the gardener there, had some very good new *Carnations* in fine condition, and, indeed, the whole place is a credit to him. *Rambler.*

THE WEEK'S WORK.

THE FLOWER GARDEN.

By BAILEY WADDIS, Gardener, Birdsall Gardens, York.

BEDDING PLANTS.—Complete arrangements for the filling of beds next summer, and then propagate the plants in the proportion required. The past summer has not been a favourable one for the flowering of *Pelargoniums*, the heavy storms of the last few weeks have dashed the flowers severely as soon as they have appeared; but, on the other hand, single flowering tuberous-rooted *Begonias*, *Dahlias*, and *Pentstemons*, have done exceedingly well, withstanding the rainstorms and sudden changes of weather. If *Begonias* planted in beds in the East Riding of Yorkshire during a season like the present one give satisfaction—as they have done in many cases—they may be safely planted in any other part of the kingdom. *Begonias* damaged by rain or winds quickly recover, and their bright green foliage accentuates every particle of flower. Cuttings of *Begonias* may still be put in boxes or pots of sandy soil, and placed in a warm-house or pit, and kept growing as long as possible.

PELARGONIUMS.—Cuttings which may be taken after this date and put in boxes or pots should be placed in frames or pits, from which the glass-lights are removed. Keep them in the open air as long as possible; but if the weather becomes wet and cold, the lights should be placed over them, at the same time tilting them up to allow abundance of air. The old varieties, John Gibbons and Amy Hogg, are still valuable as bedders; H. Jacoby has not done so well this season; *Vesuvius* and *West Brighton Gem* are good. The toning of colours in flower-beds is occasionally very well done. One arrangement of a long scroll bed planted with the following, and seen at its best, was excellent:—The edging was of seedling plants of *Centaurea candidissima*, the next broad band was planted with *Lobelia speciosa*, with *Henri Jacoby Pelargoniums* in the centre, dotted through with white *Cactus Dahlia Constance*.

BEDDING DAHLIAS have given much satisfaction; they are easy to cultivate, and they stand changes of weather better than most plants. Cuttings of the weak side-shoots may be struck in pots or boxes, and if kept growing for a time they will form small bulbs, that will be useful in the spring, if the variety is scarce. The show, Pompon, and *Cactus* varieties are now in full bloom, and are the most satisfactory of autumn flowers for the garden or for cutting purposes.

PENTSTEMONS for summer and autumn beds or for cutting purposes are invaluable; they stand climatic changes well, and their tall, free-flowering spikes of bloom are very effective. Cuttings of the side shoots should be struck in frames or hand-lights, that they may be protected during the winter. Excellent named varieties are *George Smith*, *Countess of Hopetoun*, *The Lady*, *Miss Arnot*, *A. Fowler*, *President Carnot*, and *Fairy*.

CALCEOLARIAS.—Cuttings should be taken from the green soft growth, and pricked out about 3 inches apart into frames, using well-drained sandy soil. Shade the glass with a little thin whitewash for a time. The frames should be kept rather close and moist, in order to keep the cuttings plump and fresh. With the exception of the variety *amplexicaulis*, *Calceolarias* have not done very well this season, and many people lost their plants in the

frames during the severe frost, through insufficient attention in regard to protection. They should be kept as cool as possible, excepting that frost should not touch them; a good thick turf-pit is the best place for them.

ANTIRRHINUMS for keeping through the winter should be struck from cuttings and kept in frames, in the same way as *Calceolarias*. In some districts during mild winters they stand very well in the open, but they must not be depended on in this way. Some fine beds of these have been seen this season of the named varieties.

THE ORCHID HOUSES.

By W. H. WHITE, Orchid Grower, Burford, Dorset.

ODONTOGLOSSUMS.—No Orchids are more worthy of general cultivation than the New Grenadan *Odontoglossums*. Most of them are easily managed, and yet sometimes they give more trouble than any other class; for when they once lapse into bad condition, it requires extra care and considerable time to restore them to health. One of the principal causes of failure is over-liberality in regard to water at the root; other bad causes are brought about by keeping the atmosphere of the house always in a saturated condition. The atmosphere should be allowed to become comparatively dry for a few hours during the middle of each day, so as to enable the plants to throw off any excessive moisture that may have accumulated about them, which otherwise will prevent sound growth. *Odontoglossums*, if watered like so many semi-aquatic plants, will assuredly lose many roots, and generally deteriorate. When watering, go carefully over the plants, and thoroughly water those only which are dry. Especially must this treatment be insisted upon during the autumn and winter months in the case of such Guatemalan and Mexican varieties as *O. nebulosum*, *O. Uro-Skinneri*, *O. Bictonense*, *O. grande*, *O. Inaleayii*, *O. hautilabium*, *O. pulchellum*, *O. Rossii*, *O. Cervantesii*, *O. maculatum*, *O. cordatum*, *O. Krameri*, *O. Oerstedii*, *O. Humeanum*, *O. aspersum*, *O. Reichenheimii*, *O. Galeottianum*, &c. Every amateur should make himself acquainted with the natural conditions and the different elevations under which the many species of *Odontoglossums* grow, as this information will greatly assist him in fulfilling their requirements under artificial cultivation. Where a representative collection of *Odontoglossums* is grown, there will be some that require potting at different seasons of the year; but there is no better time than the present for repotting the majority of the plants, especially varieties of *O. crispum*, *O. Pescatorei*, *O. trimumphæ*, *O. Hallii*, *O. Harryanum*, *O. luteo-purpureum*, *O. navium*, *O. polyanthum*, *O. nevadense*, *O. excellens*, and *O. gloriosum*. Plants which flowered early in the year are now growing freely, and the new breaks will be making a number of young roots, which, having fresh material to grow in, will become well-established before winter commences. A suitable compost for these plants consists of freshly-gathered sphagnum-moss and good fibry peat in equal proportions, to which may be added a moderate quantity of small broken crocks and charcoal. Too much trouble cannot be taken in preparing the moss, carefully picking out all the rubbish, and examining every particle for small slugs; if this be not done, much injury will result to roots and young flower-spikes. The pots used should be in proportion to the size of the plants, and over-potting must be studiously guarded against. The pots should be quite clean, and be three parts filled with clean crocks, over which a thin layer of moss should be spread to make the drainage secure. Pot the plants moderately firm, keeping the base of the bulbs just above the rim of the pot, and when the operation is completed, prick - in a few heads of living sphagnum over the surface. In going through the collection no doubt some plants will be found in bad health. These should be turned out of their pots, the roots well washed, and all decayed parts cut away. Then put the plants into pots just large enough to contain their roots. For a few weeks after repotting, it is advisable to afford water sparingly, giving just sufficient to induce the sphagnum to grow. Syringe well between the pots morning and evening, and admit as much fresh air as possible, especially when the outside temperature is about 50°. Freshly-imported *Odontoglossums* are, generally speaking, easy to establish, which is partly due to the care taken by the collectors to gather them in the proper season, and to their careful packing of the plants. Each piece should be potted separately in as small a pot as can conveniently be used, filling up the pot almost

entirely with crocks, and using a thin layer of peat and moss on the surface, packed tight enough to steady the plant. After the first growth is formed, and new growth commences, they should be transferred to larger pots.

FRUITS UNDER GLASS.

By RICHARD PARKER, *Gardener, Goodwood, Chichester.*

LATE GRAPES.—The fine weather of the past three weeks has proved very beneficial to late Grapes, permitting plenty of ventilation to be put on daily, and rendering but little fire-heat necessary. It is not wise, however, to dispense with fire-heat altogether, or the temperature of the house may fall too low towards morning, which will cause moisture to settle on the berries. Until the fruit is thoroughly matured, and the atmosphere of the vinery can be kept quite dry, a slight circulation of hot-water should be turned on the last thing at night, and at the same time a little air may be left on at the top of the house. By this means a more even temperature will be maintained, and this will greatly help to finish the berries perfectly. The bunches should be looked over at short intervals, and any crowded or bad berries removed, doing the work with care, so as not to destroy the appearance of the bunch. Keep lateral growth in check, that a free circulation of air between the main leaves and bunches may be obtained. Any watering that is necessary, should be done in the morning and during bright weather, so that the house may become dry again before evening. If the present hot weather continue, it will be necessary to damp the house down several times during the day; but in cases where the bunches are nearly ripe, the last damping should be done quite an hour before the house is closed, to avoid any steam collecting.

MID-SEASON VINES.—Plenty of ventilation and a dry atmosphere must be maintained in vineries where ripe fruit is still hanging, and a watchful eye must be kept for mice and wasps. Should any of the bunches show signs of shanking, cut the crop at once, and take steps to examine the roots, and if necessary, renew the borders without delay. Such work can be done much better at this season than in the spring, when so many other matters claim attention, and it is a great advantage to the Vines, as fresh roots form again quickly and no check is given to next season's crop of fruit. Young rods that have been trained between old Vines with a view to replacing the latter, should be exposed as much as possible to the sun, to ensure the wood being thoroughly ripened, particularly so if the growth made is very strong, or some difficulty will be experienced to induce the eyes to "break" evenly next spring. It is not necessary to cut out the old Vines altogether the first season, but so many of the spurs can be sawn off at the bottom of the Vines as will allow room for the young ones to carry four or six bunches of fruit next year. After the second or third year, the old Vines can be cut right out, and the young ones being well established, a season's crop will not be lost.

YOUNG VINES in pots, grown from eyes inserted in February, have made good growth, and may be now turned outside to rest as advised recently for fruiting canes. Water must not be withheld suddenly, but less moisture may be afforded as the foliage becomes yellow. Any lateral growth that may show should be pinched out.

STRAWBERRIES IN POTS.—Where these were placed closely together for convenience after potting, it is now necessary to afford them more room. Look over the plants at least once a fortnight, and pinch out runners and remove side-growths, so that only one crown may form. Keep the plants free from weeds, and water regularly. If the pots do not stand on slates or boards, they must be twisted round at least once a week to prevent roots forming in the ashes.

THE KITCHEN GARDEN.

By JOHN LAMBERT, *Gardener, Powis Castle, Welshpool.*

ONIONS—Tripoli Onions sown as advised, being now nicely up, will be benefited by a careful hoeing and cleaning of any weeds that may have appeared since sowing, and a dusting of soot should be given them on the approach of rain. In late districts, Tripoli Onions may yet be growing, but they should now be taken up, dried, cleaned, and put away for present use. In early districts, they are probably all used up. Where Onions

are grown especially for pickling purposes, these may be pulled at once, carefully cleaned, dried, and sent in for use. Such Onions do not improve by keeping for any length of time, and should be pickled as soon as they are properly harvested. The general crop of spring-sown Onions will be nearing the ripening period. Very large Onions grown for show purposes may not be quite so fine in the neck as desired, but a sharp twist close down to the bulb may be given without disturbing the bulb; or better still, if time is not important, tie them tightly round the neck with a piece of matting. In regard to large breadths, the old method of beating them down with a besom is the quickest way, and is fairly effective. Onions for general keeping purposes should not be so thick in the neck as to require this operation. If they are left rather thickly in the lines as advised, they will have smaller necks and smaller bulbs, and among them will be any quantity of picklers that should be harvested by themselves. If the weather appears settled for hot, fine days, the crops of Onions will take no harm if pulled and laid out on the ground for a few days, placing them with the roots towards the sun to ripen. Afterwards dry them in a cool vinery where the foliage is falling, and where the ventilators are open night and day. When they are sorted and stored for winter, it should be in a cool dry store-room or shed, from which frost can be excluded. Roping Onions in long strings I regard as time wasted; but if sufficient tops still adhere to them they may be gathered up quickly into a bundle of a size which can be readily gripped with the hands and given a tie ready for hanging up. Where Onions are required largely late in the spring, all the smaller-sized, fully-ripened bulbs should be reserved for the purpose, as these will be found sound and not inclined to grow like the larger and more fleshy bulbs.

PARSLEY.—The first sowing of Parsley will be getting very crowded in the beds, and should be stripped of all the large outside growths or any yellow leaves from the underside, so that the fresh growths may have plenty of light and air. Plants that stood through last winter here, and did not bolt to seed in the spring, are looking remarkably well. Make successional plantings from the several sowings made through the summer. Look well to that sown or pricked out in frames or pits, as recommended, and see that it does not suffer for want of water or thinning out. Parsley may also be sown or transplanted into deep, narrow boxes, and stood outside. If well established before winter, these will be found of use to place in any house at disposal, and will produce a good growth inside.

PLANTS UNDER GLASS.

By W. H. SMITH, *Gardener, West Dean Park, Chichester.*

EUCCHARIS if required for flowering at Christmas, should now be rested for a time, and if the plants are plunged, they should be lifted and placed on slates or bricks. Less water will be required at the roots, but they should not be allowed to droop. If the plants are syringed twice a day, this will be almost all the water necessary. Give the plants a good cleaning, remove mealy-bug by sponging with soft-soap and water, at the rate of two ounces of soap to one gallon of water. A cooler temperature should be given, and toward the end of October, they may be started into fresh growth by replunging into a bottom heat of about 70°.

BOUARDIAS that were planted-out, should now be taken up and potted into good rich soil. Place them in a cold frame, and keep it rather close and shaded until the roots have entered the fresh soil. Plants that have been grown in pots during the summer, and are full of roots, will require applications of weak manure water two or three times a week. These plants must be taken into the greenhouse or frames before the nights get too cold.

SOLANUMS should be potted up into pots as small as will conveniently contain the roots. Place them in a cold frame and keep close and lightly shaded for a time; when root action has again commenced, admit plenty of air. Plants that were grown in pots will be safe outside until the end of the month.

CALLAS (*Richardia aethiopica*).—These should now be lifted and placed in good-sized pots containing turfy loam, leaf-soil, and plenty of well-decayed cow-manure. When they are potted place them outside again in the shade until towards the end of the month, when they should be taken to the greenhouse. If the flowers are required early, a few must be taken to the greenhouse or conservatory at once and placed in a position where they will receive plenty of light.

CAMPANULA PYRAMIDALIS.—These plants should be potted on into 6 inch pots, which are generally large enough for them to flower in. For potting compost use good turfy loam, leaf-soil, and a few half-inch bones. Place them on ashes outside, and syringe the plants frequently. They may be wintered in cold frames, as a little frost will not harm them.

FREESIAs having now commenced their growth should receive a good soaking with water, and as soon as the roots are full of roots they must be liberally supplied with manure-water. Pot the next batch of bulbs into 48-sized (5 inch) pots, and cover them with a little cocoa-nut fibre. Do not water until growth has commenced. Pot up batches of named Hyacinths, Jonquils, Narcissus, and Tulips as soon as possible after they come to hand, especially if the flowers are required early. A good quantity of *Scilla sibirica* may be placed in large 60's, and they will make a very pretty edging for the conservatory stage. *Lilium Harrietii* and *L. candidum* must also be potted up without delay, or the bulbs will soon shrivel.

THE HARDY FRUIT GARDEN.

By W. POPE, *Gardener, Highclere Castle, Newbury.*

GATHERING FRUIT.—That care and judgment be exercised in the harvesting of fruit is all important, or the labour of months to obtain fruit in the best possible condition as to appearance and quality may be to a great extent thrown away. To secure such results, trees of choice Plums, Peaches, Pears, &c., should be looked over daily at this season, especially in the afternoons of hot days, such as we have experienced lately. It will not be difficult to determine which fruits are really mature and fit either for storing or for use, as the case may be. Taking Plums, for instance: for culinary purposes these need not be quite ripe, and colour is, of course, immaterial; but for dessert, not a fruit should be gathered that is not in the highest degree perfect in ripeness, bloom, and colour. Such fruit will be proportionately appreciated when sent to table. If fruit be left too long on the trees, it is frequently insipid, and almost tasteless. Peaches are never in the best condition when allowed to remain on the trees after they are ripe, or if allowed to fall into nets underneath instead of being gathered. If these are to be packed for a journey, they are best gathered a day or so before they are fully ripe, because they are less liable to damage during travelling. Each fruit should be carefully wrapped in tissue-paper, and firmly embedded in soft, white wood-wool, placing them in single layers in shallow boxes. They may thus be sent long distances in good condition. Nectarines should never be gathered until quite ripe and fit for table.

ROOT-PRUNING BARREN FRUIT-TREES.—Apples, Pears, or Plums, trained as pyramids, that may be growing vigorously, but are practically barren, should now be root-pruned, in order to check such exuberant growth, and induce the formation of fruit-buds. Young trees may have a trench opened all round at a distance of from 2½ to 5 or 6 feet, according to the size of the tree, working well underneath, so as to sever all tap or other large roots. If fresh soil is available, some may be put into the trench, to encourage the growth of fresh fibry roots, finishing off with the old soil, and treading and making all firm. Make each tree at once secure against high winds by three or four lengths of wire, or stout tarred string fastened to strong pegs, or stakes driven securely into the ground at equal distances round the base, a band of some soft substance, such as old packing or hay, being attached to the tree to prevent injury by wire or string. In the case of large or older trees, this root-pruning should be only partially done at one time, the trench being only taken half-round, the remaining half being done the following season if necessary. Where the subsoil is cold and wet means should be taken to induce roots to the surface, by preserving as many as possible and laying them in fresh compost.

AUSTRALIAN LEMONS.—A Covent Garden sale of Lemons, just received from Australia, has attracted attention to the scarcity of this fruit, and the capabilities of the Irrigation Colonies of Mildura and Renmark as Lemon-growing districts. Five hundred cases were disposed of at prices ranging from 9s. 6d. to 14s. 6d. per case, which is regarded as an exceptionally good price at auction, but not fully representing the value of the fruit, and higher prices are confidently expected when the quality becomes known.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER, Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

APPOINTMENTS FOR THE ENSUING WEEK.

SALES.

MONDAY,	SEPT. 16	Sale of Store and Greenhouse Exhibition and Decorative Plants, at the Victoria and Paradise Nurseries, Upper Holloway, by order of Messrs. B. S. Williams & Son, by Protheroe & Morris (two days). Dutch Bulbs, at Protheroe & Morris' Rooms.
TUESDAY,	SEPT. 17	Dutch Bulbs, at Protheroe & Morris' Rooms. Orchids, at Protheroe & Morris' Rooms.
WEDNESDAY,	SEPT. 18	Dutch Bulbs, at Protheroe & Morris' Rooms. Trade Sale of Roses and Plants at the Avenue Nursery, Bexley Heath, Kent, by order of Messrs. P. H. & J. Cooper, by Protheroe & Morris.
THURSDAY,	SEPT. 19	Dutch Bulbs, at Protheroe & Morris' Rooms. Important Annual Sale of Conifers, Euonymus, &c., at the Wood Lane Nurseries, Isleworth, by order of Messrs. C. Lee & Son, by Protheroe & Morris.
FRIDAY,	SEPT. 20	Clearance Sale of Palms and Plants at the Melbourne Nurseries, Bexley Heath, by order of Mr. R. Gölzow, by Protheroe & Morris. Dutch Bulbs, at Protheroe & Morris' Rooms. Orchids, at Protheroe & Morris' Rooms.
SATURDAY,	SEPT. 21	Dutch Bulbs, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—57°1.

The Chiswick Vegetable Show.

As compared with previous conferences and exhibitions at Chiswick, notably those connected with Apples, Roses, Ferns, Conifers, Pinks, Chrysanthemums, and Dahlias, the exhibition of vegetables was considerably inferior, and the information elicited as to vegetables and their culture conspicuous by its absence. The weather this time was all that could be desired, but the attendance was not large.

It must be remembered that this was the first occasion for some years when efforts have really been made by the Royal Horticultural Society to obtain a first-class and thoroughly representative vegetable exhibition. That the number of exhibitors in many of the competitive classes was not equal to the anticipations of many interested in the exhibition was freely admitted, and in this matter there was considerable disappointment. In the matter of originality, too, with the exception of a very interesting exhibition from Sir TREVOR LAWRENCE, there was far too meagre enterprise, and one looked in vain to the exhibits from the largest and best firms for anything new among vegetables, for something that would make an additional variety in our present collections. On the other hand, most of the vegetables exhibited in the competitive classes were of first-class quality; indeed, there was but little produce in the exhibition-tent that could be fairly classed as inferior. Mr. T. WILKINS, gardener to Lady THEODORA GUEST, obtained the first place in the competition for twelve distinct kinds with a collection worthy of the class; and

Mr. WAITE, gr. to Colonel W. P. TALBOT, may also be congratulated on the collection he exhibited in the class for nine distinct kinds. Potatoes were exhibited in moderately good quantity, the quality of the tubers in very many cases being quite satisfactory. The Peronospora pest has made itself visible in most gardens since the drought of the early summer was followed by showers. In the gardens at Chiswick this unpleasant fact could hardly fail to be noticed in the Potato haulms; and in gardens where a skilful and intelligent system of culture has not been adopted against the progress of disease, we fear considerable loss will be experienced among the tubers of late varieties. Naturally, however, there was no evidence of any untoward circumstances affecting the Potato, in the specimens upon the exhibition tables, and in this particular, exhibition produce frequently illustrates in no sense the bulk of the crop outside. The Brassica section of vegetables was by no means lacking in size or quality; and this remark might be equally applied to roots, which we regard as remarkable, bearing in mind the climatic conditions of the greater part of the season. In another place are given full particulars of the produce in each of the classes, and we need not refer to them more in this place. It is only fair to add, however, that the great seed-growers, though failing in the particular already mentioned, nevertheless made a capital display of vegetables of all known sorts, and though the various collections contained no really new vegetable, they illustrated practically the very best varieties and latest improvements in each type; moreover, each was an object-lesson in good cultivation. Should a Vegetable Exhibition by the Royal Horticultural Society become an annual event, and we are strongly of opinion that it should do so, there must be some readjustment and revision of the schedule, in the endeavour to make it more popular with exhibitors, and likely, also, to produce an exhibition that shall present more educational features than did the one under notice. When this has been done, and the event has become recognised as an important one, there is no reason we know of why this exhibition should not become the best illustration of vegetables ever seen in the country.

THE CHISWICK INSPECTING COMMITTEE.—We understand that the following gentlemen formed the committee appointed by the Council, without the knowledge of the Garden Committee, to report on the gardens at Chiswick:—C. E. SHEA (chairman), W. WILKS (Secretary), J. DOUGLAS, H. WILLIAMS, H. SELFE-LEONARD, J. WILLARD, E. HILL, J. JACQUES, and N. A. BARNES. The Chairman, Secretary, and Messrs. J. DOUGLAS and H. WILLIAMS, are members of the Council, and two are also members of the Chiswick Board.

HORTICULTURAL MEETING AT GHENT.—A certificate for cultivation and flowering (*à l'unanimité*) was awarded to M. F. VAN DRIESCHE-LEYS, for *Justicia coccinea*, an annual specimen, having fifty fine racemes of expanded flowers. Certificates of Merit were allotted to M. PYNÆRT VAN GEERT for *Dieffenbachia Fournieri*, with very erect foliage, firm in texture, of a beautiful dark-green hue, all marbled with white; to M. L. POELMAN MAENHOUT for *Vriesea Henrici*, from *V. pallidiflora* × *V. splendens*, a plant not fully in bloom, but already noticeable for its very long floral raceme garnished with fiery-red bracts—this Bromeliad, by reason of the unusual length of its flower-stem, should prove very useful for floral decorations; to M. PYNÆRT VAN GEERT for *Tradescantia Regina*, a species introduced

from Peru by l'Horticulture Internationale; the habit and colour are magnificent, leaves lanceolate, pointed, dark green, streaked and lined with white; to M. ALBERT TOEFFAERT for *Lalio-Cattleya Andreeana*, a new hybrid of *C. bicolor* × *L. elegans*, obtained by M. CH. MARON, who has described it in the *Revue Horticole* for September 1; the flower is well expanded, measuring 7 inches across, the sepals are from $2\frac{3}{4}$ to $3\frac{1}{2}$ inches long, in width from $\frac{1}{2}$ to $\frac{3}{4}$ of an inch, of a delicate violet-rose tint; the petals, of the same colouring as the sepals, and a little broader, are waved along the edges. The lip is of a shape quite new among Cattleyas. It is recurved to the tip of the column, and shows a plane surface slightly curved back and wavy all round, of a deep lilac colour with a white border at the tip; the length is $1\frac{1}{2}$ inches, and the breadth from 1 to $1\frac{1}{2}$ inch, the gynosteme is white, and the edges of the lip which it envelops are also white and open to a breadth of $\frac{3}{4}$ inch. A Certificate was granted to M. L. DE SMET-DEVINER, for *Anisogonia decussata*, a most distinct and still rare Fern; foliage thick, indented, the dark green colour gives it a resemblance to a dwarf *Zamia*; it is a viviparous variety, of much beauty, the petioles of the fronds are covered with buds; a very ornamental species. Mlle. EUGÉNIE GREQUER obtained an award for a collection of cut Cactus Dahlias, among them were the following fine varieties, Charming Bride, Empress of India, Lady Montague, Juarez or Etoile de Diable, Stanley, Salmon Queen, Asia, Madama Burel, and Sir Trevor Lawrence. Certificates for flowering were allotted to M. F. VAN DRIESCHE, for *Gesnera Donkelaeri*, from *G. bicolor* × *Gloxinia rubra*, exhibited with about twenty fine flowers; to M. G. DE SAEGER, for *Grevillea Preislii*, a new plant from Holland, remarkable for flowering almost continuously through the year; the very curious flowers have narrow crooked petals, whose red and yellow colours, they being borne in large quantities, produce a very pretty effect; to M. PYNÆRT, for *Rottlera hamosa*, a new Gesneriad (?) with delicate blue flowers with a large yellow spot, this plant, by hybridisation, would probably produce some interesting new varieties. *Ch. D. B.*

THE BARRON TESTIMONIAL FUND.—A meeting of the General Committee of the above fund was held at the Hotel Windsor on Tuesday afternoon, when there were present Dr. Masters (Chairman), and Messrs. J. H. Veitch, P. Veitch, H. Turner, P. Barr, G. Gordon, R. Dean, J. Laing, H. B. May, W. Y. Baker, H. Herbst, A. W. G. Weeks, G. W. Cummins, J. Cheal, Ranger Johnson, and the Hon. Secretaries, Messrs. W. Marshall and B. Wynne. Mr. H. J. VEITCH accepted the post of Treasurer to the fund. Several letters were read from Messrs. Sutton & Sons and other persons willing to serve on the committee, and promising support. It was resolved to publish the list of subscribers. The amount already promised is £116 15s. A sub-committee was appointed to arrange details.

STIRLING HORTICULTURAL SOCIETY.—The annual exhibition of this Society was held in the Public Hall on the 5th inst. There were over 1000 entries, the increase in the entries over last year being chiefly in the fruit section. The various exhibits of Grapes, Peaches, Apricots, Plums, &c., were of high cultural merit. Pot plants made a fine display. The best collection of plants arranged on tables for effect was from Mr. Lunt, Keir Gardens; and the 2nd prize was taken by Mr. D. Airdrie, Larbert House. The winners of the extra prize for four bunches of Grapes and the Clovenfords prize for our bunches of Grapes, were Mr. W. Rutherford, Airthrey Castle, and Mr. T. Lunt, Keir, respectively. Cut flowers and vegetables, notwithstanding the season, made a good display, the 1st place for an extra prize for the best basket of vegetables falling to Mr. McNeill, Gargunock House. Other principal prize-takers were Mr. J. Carmichael, Tonch; Mr. J. Waldie, Dollarbeg; Mr. W. W. Ritchie, Polmaise; Mr. A. Ferguson, Woodville; and Mr. J. King, Blairdrummond.

AUSTRALIAN FLOWERS.—The Orient s.-s. *Ophir* has brought from Sydney a bouquet of Australian Lilies enclosed within a block of ice. They have been sent to the Agent-General for New South Wales, with the request that he will ask her Majesty's gracious acceptance of them.

CARDIFF EXHIBITION, 1896.—Cardiff is laying itself out for an exhibition on a large scale in 1896. As might be expected in a district so intimately connected with the coal and iron industries, the mining

a fasciated stem bearing fifty-four normal flowers, exhibiting the bright red usually seen in the variety, and one pure white flower in which no trace of colour is to be seen. In fact, it is a flower of *L. speciosum* album among a number of the red variety.

NOMENCLATURE OF GARDEN PLANTS.—The following are the recommendations made by a committee of the society of American florists at the annual meeting held at Pittsburg, Pa., from Aug. 20 to 23. 1. the priority of name shall be recognised as

author for the same; 7, the nomenclature committee shall, in all cases, before passing judgment finally on alleged synonymous plants, correspond with all the parties directly interested so as to get all the testimony possible bearing on the same; 8, exceptions to the report of the nomenclature committee shall be made to the secretary within sixty days after the reading of the report. Such appeals shall be indicated in the report of the society by an asterisk, and be referred to the committee for reconsideration the following day,

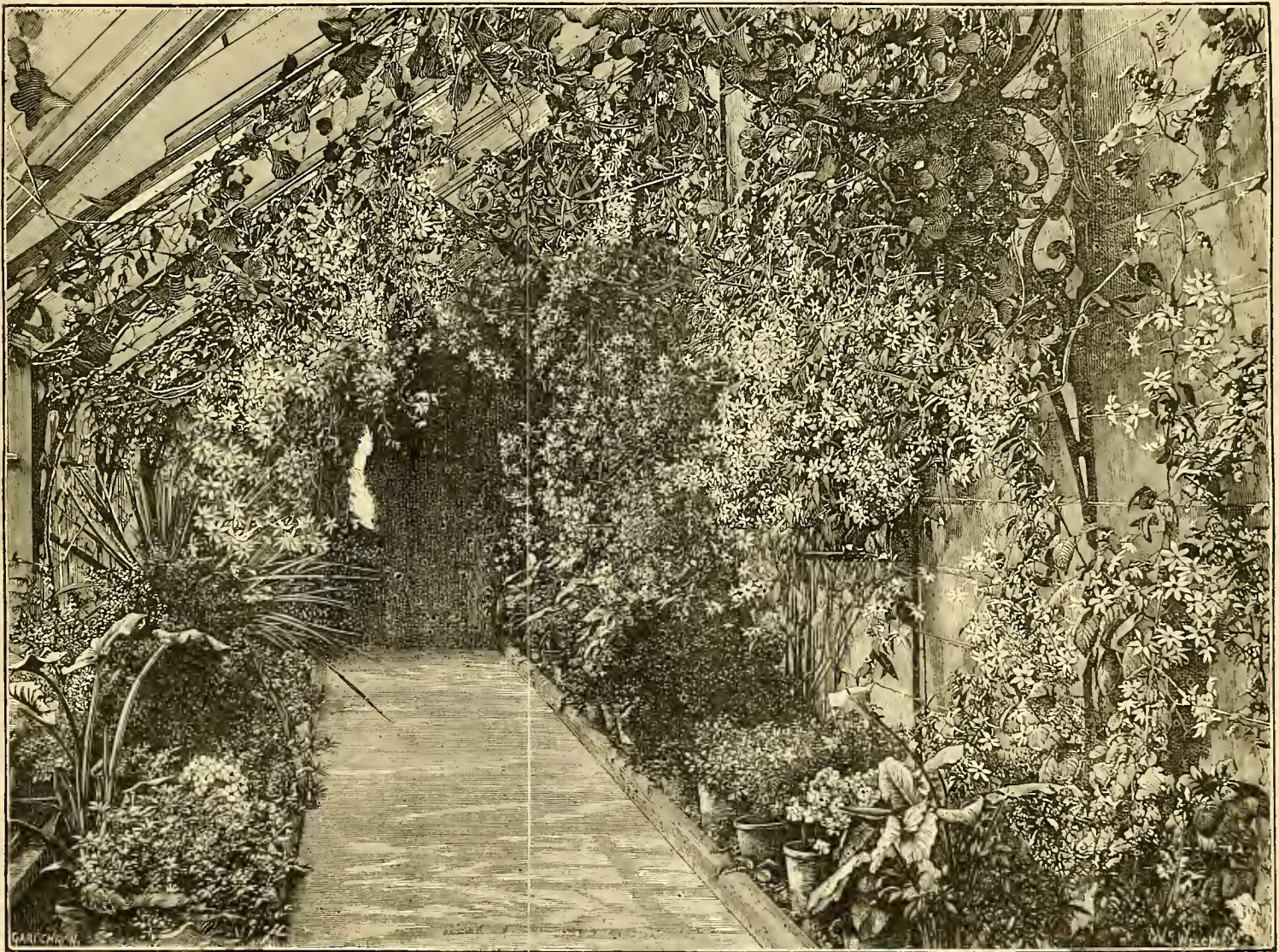


FIG. 51.—CLEMATIS INDIVISA LOBATA, IN THE CONSERVATORY CORRIDOR AT FALKLAND PARK. (SEE P. 303.)

and engineering sections will be very prominent. Maritime interests will be well represented, as would be natural at a port where shipments of coal, coke, and patent fuel in 1894 amounted to 15,316,165 tons. Other sections of the exhibition will embrace the latest developments in electricity, in scientific instruments, &c; while agriculture, horticulture, sports and pastimes will not be overlooked, the latter probably including a water show on a big scale. Representative men of all classes have the affair in hand, but Lord WINDSOR is president, Her Majesty the QUEEN, patron, and the Prince of WALES will be asked to open the exhibition.

A FASCIATED LILIUM SPECIOSUM.—In Mr. McARTHUR'S nursery, Maida Vale, W., there is, at present, a plant of *Lilium speciosum rubrum*, with

belonging to the originator or introducer of a variety; 2, the names from foreign countries shall be recognised and used except those in Japanese, and to be translated; 3, the purchaser of a new variety from an originator can by mutual consent between them, change the name, provided the variety has never been disseminated; 4, when the originator has sold, or consented to such change of name, he has the privilege of using such name again; 5, in registering a name, it must be accompanied, wherever possible, by a specimen of the plant or flower, or a complete description of the same; 6, the finding of the secretary of the Chrysanthemum, Rose, and kindred societies shall be considered as authority in cases of complaint or appeal, and in reported cases of plants wrongly named, not coming under the head of the above societies, this committee shall give the

A MANURE HEAP BURNT.—Considerable excitement was caused at South Ealing on Sunday afternoon the 1st inst., by the sudden breaking out of fire in a large heap of manure of about seventy loads in the market grounds of Mr. ROBINS, in Gunnersbury Lane. The Hounslow branch of the District Railway runs through the grounds, the railway being crossed by an archway. It was on this arch, but at a distance of 20 yards from the railway, that the heap, consisting of ordinary stable-dung carted from London, had been placed, and it is believed the fire originated from spontaneous combustion. The heap was about 7 yards in length, 4 yards high, and correspondingly broad, and when the fire was at its fiercest the heat was intense. Eventually the fire-engines were brought to play upon it, and the flames were subdued, though by the frequent breakings into

flame, there was no doubt a large body of fire within, and water was poured on to it throughout Sunday night. It is understood Mr. ROBINS' loss is covered by insurance.

THE SOCIETY OF AMERICAN FLORISTS has just held its annual meeting at Pittsburg with great success. We have nothing like this great society in this country, although such a one might be inaugurated without much difficulty. Next year the meeting is to be held at Cleveland, Ohio, under the presidency of WILLIAM SCOTT, a florist in Buffalo. Mr. SCOTT is a son of ALEXANDER SCOTT, gardener to Sir GEORGE STAUNTON, at Leigh Park.

STOCK-TAKING: AUGUST.—The figures representing the trade of England during the past month—imports and exports—are of a satisfactory character. With two exceptions, imports are all in favour of "our side"—the excess in value over the same month last year being £2,972,784—the deficit for the eight months past, compared with the same period last year being represented by £1,030,524. Our export trade shows a ready response to this, and it is worthy of remark—if it be only repetition—that those whose trade with us helps to increase our balance, themselves find their home trade and trade prospects all the better for the improved figures. Taking into account the social condition of nations, our Trade and Navigation Returns, say, for the past month and eight months, offer a problem, the solution of which cannot but prove of value to such as can demonstrate the values submitted by the officials of the Board of Trade. Take the following excerpts from the "summary" table of imports for the month of August:—

IMPORTS.	1894.	1895.	Difference.
Total value of imports	£ 31,635,521	£ 34,611,305	+2,972,784
(A.) Articles of food and drink—duty free	11,908,426	12,514,364	+605,938
(B.) Articles of food and drink—dutiable	1,801,632	2,306,484	+504,852
Raw materials for textile manufactures	2,418,420	2,834,508	+416,088
Raw materials for sundry industries and manufactures ...	4,512,350	5,030,190	+517,840
(A.) Miscellaneous articles	1,132,003	1,215,758	+83,755
(B.) Parcel Post	71,779	73,130	+1,351

It is worthy of notice that some journals are now taking stock of what the foreigner supplies us with in the shape of "food"—almost as if the figures constituted the record of a new discovery; and so we here reproduce our usual excerpts from the general figures relating to the imports of fruits, roots, and vegetables:—

IMPORTS.	1894.	1895.	Difference.
Fruits, raw:—			
Apples bush.	338,310	192,520	-145,790
Cherries "	522	2,128	+1,606
Plums "	422,868	187,389	-235,479
Pears "	457,100	195,552	-261,548
Grapes "	117,213	151,183	+33,970
Unenumerated "	244,678	224,338	-20,340
Onions "	389,408	534,712	+145,304
Potatoes cwt.	51,463	97,314	+45,851
Vegetables, raw, unenumerated value	£ 146,596	£ 170,860	+24,264

The lessons conveyed by these figures have so often been stated or "black-boarded," that further notice would be superfluous. Just here, it may not be uninteresting to give a few items concerning our imports from "little Guernsey"—an island possessing many features of interest for our home growers of fruit, flowers, vegetables, &c. It appears that with about 36,000 inhabitants, there are not fewer than 1,500 persons who grow crops for exportation—sending

away hundreds of thousands of packages yearly, and returning a gross income of more than £500,000. The chief crops are indoor crops of Tomatoes, Grapes, French Beans, Melons, and flowers; of outdoor crops, there are early Potatoes, Broccoli, and flowers. Of these productions, Tomatoes are the most important. In our last Stock-taking, deserved prominence was given to light railways as one of the remedies for the relief of agricultural depression; it is interesting to notice now that there is some prospect of the commencement of the proposed Chipstead Valley line, the "bill to enable" having been passed, and the Board of Trade having been communicated with for power to construct the line, with certain modifications. The cost of the line is about £60,000, or £10,000 per mile—we heartily wish the scheme success. Road locomotion is also interesting the Institute of Engineers, who invite papers in competition for prizes on the subject of motors, electricity, mineral oils, compressed gas, &c.; and it may not be inopportune to draw attention to the experiments made some thirty years since in the manufacture of gas from all sorts of vegetable refuse. These are carried on in London, and may still be remembered by some of our interested readers; the Great Eastern Railway Company are now using a modification of this system. On the whole, the subject of light railways and road locomotion as adapted to the wants of tillers of the soil seems to have taken good hold. The subject of

EXPORTS

for the past month is a very interesting one. Here the figures show an increase of £1,900,255, the figures being for August, 1894, £18,581,240, as against £20,481,495 for the month just closed. All items show an increase with the exception of animals (living) £10,813, and of £10,694 in machinery and mill-work. The excess in value of exports for the past eight months of the year is £3,295,246—that is, £147,158,497, against £143,863,251 in the corresponding eight months of 1894. In all this we see an incentive to activity in the home trade, which means an increase of employment and prosperity among the workers.

"THE BOTANICAL MAGAZINE."—The plants figured in the September number are the following:—

Helianthus debilis, Nuttall.—This is the same plant as figured by us, 1895, i., p. 167, f. 24, as *H. debilis* var. *cucumerifolius*. Sir JOSEPH HOOKER annotea *H. præcox* also with this species. It is an annual plant, which does well in beds in the summer; t. 7432.

Rumex hymenosepalus, Torrey.—This is the Canada plant, which is used for tanning purposes, the root being the part used. It is a native of New Mexico and Arizona; t. 7433.

Cleyera Fortunei, Hook. f., in *Gard. Chron.*, 1895, i., p. 10; t. 7434.

Atraphaxis Muschketowi, Krassnov.—A hardy Polygonaceous shrub, with glabrous, lanceolate leaves, and terminal many-flowered racemes of small pinkish flowers. It is a native of the Altai Mountains, t. 7435.

Richardia Rehmanni, N. E. Br. See *Gard. Chron.*, 1893, ii., 564, sub nom. R. Lehmanni; t. 7436.

EDINBURGH.—A splendid show was held in the Waverley Market on September 11. There were over 2,100 entries, about half of them in the fruit classes, but we are unable to give a detailed report in our present issue.

CHESHUNT, WORMLEY, AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.—The fortnightly meeting was held on Thursday, in St. Mary's Hall, Cheshunt, Mr. GEORGE PAUL presided. Over 300 members were present to hear Mr. JAMES DOUGLAS, of Great Gearys, Ilford, give an excellent lecture on "The Carnation." Mr. DOUGLAS gave a thorough description of the Carnation, of its origin, and of the progress the plant has made up to the present time. He then dealt with its propa-

gation by seeds, layering and cutting, the most suitable soil, the flowering period, and closed with some remarks upon the classification of Carnations and Picotees. During a short discussion, Mr. GEORGE PAUL alluded to the practice of dressing the blooms. Mr. W. L. YATES referred to the gout disease attacking "Mrs. Reynolds' Hole," and the fungoid disease upon the Malmaison section, two diseases for which there is no remedy known. Mr. DOUGLAS, having replied to questions put to him, Mr. JOSEPH ROCHFORD proposed a hearty vote of thanks to him for his interesting and instructive paper, which was carried unanimously. Mr. THOMAS ROCHFORD was thanked for sending decorative plants to adorn the hall. The next meeting will be held on Thursday, September 19, in the Tarnford Coffee Room, when Mr. J. FEARS, of Hertford, will deliver a lecture on Dahlias.

CITY CORPORATION MARKETS.—It has been thought for some time past that "something was about to be done" with the vegetable and fish markets attached to the Central Market in West Smithfield, and the other day it was announced by the daily Press that both of these were to be abolished. Some outsiders had come to the conclusion that the Corporation had been offered a price for both sites and the buildings thereupon sufficient to recoup the capital expended. One market report says:—"From the City head-quarters I have received information that no decision whatever has been come to respecting the two markets, though the matter has been under discussion by the committee—probably not for the first time in the past two years." It would be a pity, in the interest of the public, that anything save "improvement" should interfere with the markets in question.

A VEGETARIAN LUNCHEON.—At the Vegetable Show on Tuesday last, at Chiswick, a novel and interesting, we can scarcely say satisfactory, feature was the luncheon. We append the menu, which may be of interest:—

MENU.

2s. 6d. a head.

ENTREES.

- Vienna Pie and Beetroot.
- Mushroom and Potato Patty, Green Peas and Mint Sauce.
- Haricot and Egg Pie with Salad.
- Lentil Sausage Roll.
- Melton Mowbray Pie and Pickled Walnuts.
- Savory Patty and Mixed Pickles.

SALADS.

- Tomato Salad and Mayonnaise Sauce.
- Mixed Salad and Egg.
- Cucumber, Beetroot, Lettuce, Watercress, Radishes, Celery and Tomatos.

CHEESE.

- Cheddar, Gorgonzola, and Stilton.

SWEETS.

- Red Currant and Apple Pie.
- Apricot Tartlet and Cream.
- Damson Tart.
- Custard Tartlets.
- Blanc Mange and Fruit.
- Jellies.
- Boiled Cup Custards.

FRUITS.

- Stewed Apricots.
 - " Pineapple.
 - " Pinus.
 - " Bartlett Pears.
 - " Black Currants and Raspberries.
 - Fresh Fruits, various.
- } With Cream.

SUNDRIES.

- Egg and Tomato Sandwiches.
- Cheese Sandwiches.
- Rolls, Biscuits, Butter, Cherry Cake, Sultana Cake, and Seed Cake.

BEVERAGES.

- Tea, Coffee, Chocolate, Lime Juice, and Soda. Home-made Lemonade, Egg and Milk, Milk, and Kops Ale.

ICES.

- Neapolitan.

THE KENT CHAMPION BELT COMPETITION.—The Challenge Belt offered by Messrs. H. CANNELL & SONS, of Swanley, to the Amateur or Cottage Garden Association in Kent, who can show the best exhibit of vegetables, has this season been won by the Milton Society from the Society at Rodmersham, who have held it during the past year.

CLEMATIS.

AMONG climbers, none are more useful or more beautiful than the species of Clematis. This week we give figures of two of the most useful. The one, *C. indivisa* var. *lobata*, is a New Zealand species with evergreen foliage (see fig. 54, p. 301). It is admirably adapted for conservatory decoration or for cut flowers. It makes an excellent plant for covering pillars, or for any other purpose for which greenhouse climbers are required. But the uses of this charming silvery-white flowered plant do not end with its utility

C. montana is hardy, and has deciduous foliage. Nothing can be more beautiful as a trailer to cover the fronts of houses (see fig. 55). A country village we passed through last spring had almost every house completely draped with this plant, and the profusion of white starry blooms formed a floral picture, the magnificence of which it would be hard to excel. It does much better when allowed to ramble at its own discretion than when cut back or formally trained. The illustration we give is of a plant covering the porch of the residence of G. Ratcliff Steel, Esq., at Bexley.

accuracy of which I can vouch for. The cut shows the original bush, which is nine years old from seed. The plant is over 9 feet high, but was much higher before the fruiting-canes were cut back. Its fruits are large, and of a dull purple colour. Mr. T. J. Thompson, the owner of the plant, commenced gathering the fruit this season on July 8, and gathered continuously (Sundays excepted) until August 12, a period of five weeks. Mr. Thompson, who resides at the village of Oneida, N.Y., sold his fruit as fast as picked to a gentleman, who distributed it to the neighbouring towns and villages, receiving as commission 1 cent = one half-penny per quart for handling. Think of this percentage, you fruit growers of Kent; do you get such conscientious middle-men as this one? The fruit has netted the grower nine and ten cents per quart ($4\frac{1}{2}d.$ and $5d.$), and something like 40,000 quarts have been sold this season. The original plant in 1893 bore twenty-eight quarts of fruit, certainly a large crop for one plant, however large. *John Charlton, Rochester, N.Y., U.S.A.*

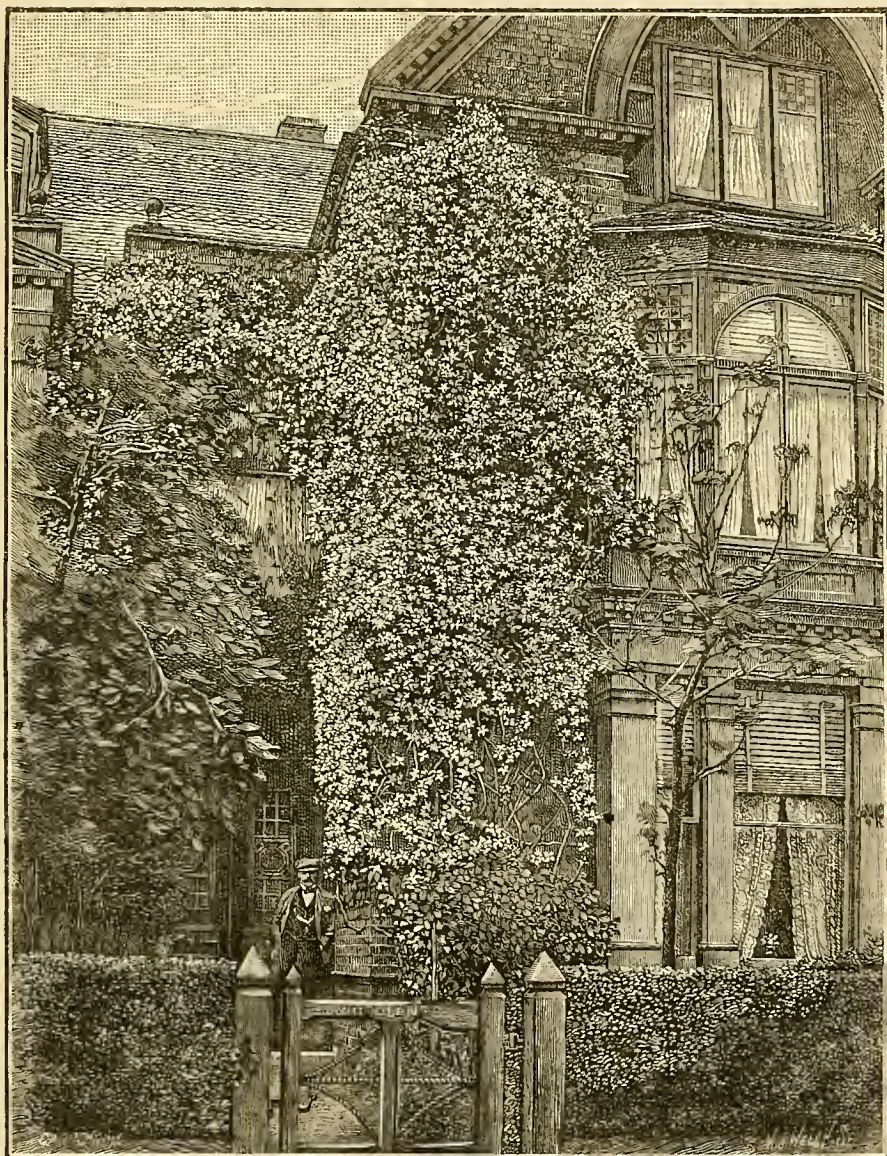


FIG. 55.—CLEMATIS MONTANA, HARDY CREEPER, ON THE RESIDENCE OF G. RATCLIFF STEEL, ESQ.

WHITE WARRINGTON GOOSEBERRY.—Not uncommon in private gardens near Aberdeen; and at least two of the leading nurserymen there have it in stock. *Dell.*

THE BEST SUMMER DRINK.—It is not sufficiently known, that of all the varieties of beverages, which include ginger-beer, lemonade, Nettle-beer, &c., there is none equal to that made from the poorest and worst of the windfall Apples, and it can be made at a cost of about one half-penny per quart. Boil the Apples in water to a pulp, any quantity, from 1 to 2 lb. per gallon; add sugar to taste, ferment with yeast in the usual way, and bottle. It is ready the day after bottling, but does not remain at its best for many days, and for this reason small brewings are preferable. Use the Apples which are worthless for any other purpose; the experiment may be made at a cost of twopence, and once tried, it will become a permanent practice. Where honey is plentiful, it is preferable to sugar; but the fermentation with this is very active, and strong bottles must be used. *Thos. Fletcher, Grappenhall, Cheshire.*

WISTARIA CHINENSIS.—I cannot write with authority of any other species or variety. But having seen and handled some fine specimens of the above, I desire to thank "W. J. B." for his very informing article (pp. 237, 238). We have no hardy climber of equal usefulness and merit, and it is so perfectly hardy as seldom to be injured by such frosts as we had in February of this year. In fact, it seems rather to like frost than otherwise. I have never seen the Wistaria more heavily laden with blossom than this year. During the season I have seen some plants clothing an area of 400 square feet or more, one mass of bloom, the only trace of the bitter cold of February being that the foliage was lighter and more scant than usual. These symptoms of punishment, however, passed away as the summer advanced, and now, early in September, the plants generally as verdant as usual, and even more thickly furnished with autumn bloom, which has been abnormally plentiful on most of the larger plants all through August. In not a few gardens the second bloom is more valued than the first. It lasts longer, the racemes are shorter, more slender, and frequently intermixed with leaves and graceful branchlets, choice admirable material for indoor furnishing, as well as for chaste effect over houses or in landscape. Neither does the second blooming which seems quite natural to all the finer specimens in the open air appear to injure or weaken the stamina of Wistarias, or sensibly diminish the profusion of the first bloom. If it did the latter, the second harvest of beauty should still be welcomed. For if the Wistaria has a fault it is that the first blooms cannot be fully seen for the crush. For telling points on walls and arches the length and beauty of the racemes have been much enhanced by a timely thinning of the crowded flower-buds. In addition to the normal type, *W. sinensis*, I have tried the white, the double, and the variegated-leaved varieties of the same. The latter is what gardeners call miffy, and seldom grows well. Following the rule of so many variegated plants, the more variegation the less growth, the more green the more. There is such a pleasing variety and play of colour in the normal leaves and branchlets of the *Wistaria sinensis*, that the plant could hardly be improved by the assumption of silver or golden variations or variegations. Possibly the plant thinks so also, and for this or other less simple reasons, calls a halt to growth when arrayed in new livery,

as a climber, beautiful though it be when so employed, as will be seen by reference to our illustrations. One of the best uses to which we have seen the plant put was as a decorative subject for the table. They were grown in 6 or 8-inch pots, and were kept well cut back to hard wood, which was trained round sticks to form a bushy head. When so grown, they are beautiful objects for the table, or for indoor and conservatory decoration, the profusion of white flowers carried well out from the bright green foliage having a charming effect. Then they may be used for growing in baskets for hanging in lofty conservatories. For this purpose it requires to be treated the same as if grown in pots, the length of the stems being restricted, but as many of them as possible encouraged to droop over the basket.

HOME CORRESPONDENCE.

THE BLACK RASPBERRY.—In your issue of July 20 you allude to the Black Raspberry, or Black Caps, as we call them here. The improved varieties are grown by hundreds of acres all over the northern United States. The fruit is dried in vast quantities when the price runs low, and in its dried state it meets with a great demand in sections of this country, such as mining or mountainous districts, where ordinary fruits cannot be grown. Every housekeeper here appreciates them for canning, and uses from 1 to 3 bushels for this purpose, and he must be an epicure indeed, who could not enjoy its rich, full flavour in pies, or as canned fruit at the tea-table. I enclose you particulars of a newly-introduced variety. The cut was made from a photograph, the

The white variety seldom or never grows, like the so-called blue or purple. This seems singular, but so it is. Had the leaves been white, or always paler than the common form, we might naturally have expected a more weakly growth, and fewer flowers, from the reduction of the supply of chlorophyll. But we hardly look to the flowers as greatly adding to or deducting from the vital source of vigour and life. Then, again, where the leaves of white *Wistarias* are paler than the purple, it must not always be assumed that they are so in virtue of their white flowers; for, as already stated, there is a wide play of colour on the leaves of purple-coloured *Wistarias*. The weaker the plants, from whatever cause, the paler their leaves. Hence, it appears as if lack of strength were as potent a bleacher as lack of colour in the blooms. From whatever cause, the white variety of *Wistaria sinensis* never, so far as my experience goes, covers anything approaching the same area as the common coloured sort. Has any reader of the *Gardeners' Chronicle* ever seen a white *Wistaria* in England covering an area of 200 feet, or double *Wistarias* of any colour rivalling the single one in vigour or amount of growth? With the single advantage of preserving the bloom longer, the doubling of the blooms of *Wistaria* is a doubtful benefit, and robs them not a little of their grace and beauty. Permit me to say in conclusion, that the Scotch *Laburnum* is the best pair and prop for the *Wistaria sinensis*; these two planted in good soils giving a most artistic account of themselves on lawns or in landscapes. The only objection to such matchings for effect is the disparity of life between the two. For while in our climate the common *Wistaria* will live for centuries, the *Laburnum* is comparatively short-lived. It will live much longer, however, and bear up the additional burden of its beautiful companion all the better if the seed-pods of the *Laburnum* are picked off soon after the flowers fade. *D. T. Fish.*

THE FRENCH CLIMBING BEAN.—"H. E.," at p. 272, states:—"It is a pity the Fruit Committee, &c., should have raised the question as to whether Messrs. Veitch & Sons or Messrs. Sutton & Sons have the prior claim to the name of this Bean." I beg to state the committee have done nothing of the sort; the committee decided that both were identical—that much was within its powers to determine. As to the rightful name, the committee have nothing to do. That may be or may not be a matter for the Council to determine; but the Fruit Committee neither raised, nor considered it had claim to raise, such a question. *A. Dean.*

THE R. H. S. AND MR. BARRON.—The treatment (good or bad) which Mr. Barron has received from the Council of the R. H. S. is the leading topic of discussion just now at every flower show, or other place where horticulturists meet, and the expressions of disgust at the way in which the "retirement" of Mr. Barron has been initiated, and is apparently to be accomplished, are neither few nor complimentary. As a Fellow of the Society of some years standing, and a steady supporter of the good work it has done in recent years since Chiswick began to be renovated, and the valuable experimental and "testing" work carried on there with such remarkable diligence, skill, and success, I regret exceedingly that the fair name of the Society should be mixed up with such an unpopular deed as the Council has committed. The plausible letter issued by the Council last week, and now going the round of the papers, has only made matters worse, if that is possible! It explains none of the points which Fellows, and the gardening fraternity, are most particularly anxious to know, and for all the good it is likely to do, it might as well been left unwritten, or at least unprinted. What we want to know, without any ambiguity, is (1.) Who initiated the retirement of Mr. Barron, and for what reason? (2.) Who were the "committee" of experts who inspected Chiswick Garden and the work carried on there, and what was the nature of their report? and (3.) What benefit the Council think the society will derive from the transaction should their ends be accomplished? A plain answer to these questions, without further beating about the bush, will prove far more valuable to the Fellows and supporters of the society than any such suave epistle as we have been treated to by the Council. *Scotland, September 11, 1895.*

— The correspondence in connection with this circumstance in recent issues has drifted into an attempt to draw comparisons of the work done at Chiswick and that of private gardens, and, according to your correspondent, "Head," with respect to

magnitude, importance, and the necessary qualifications for control and direction, the private garden comes out an easy first. There are but few gardeners, now-a-days, so ill-informed as not to know that the great dissimilarity of the work, both in subject and detail, at once prevents any fair comparison being made, and the attempt to do so, fairly or unfairly, only shows ignorance; indeed, to me the whole tenor of "Head's" letter is so obviously one-sided as to give one the impression that he is a man with an "axe to grind." What is the regular routine work of a private garden, to a gardener any way, in comparison with the every-varying, ever-widening, systematic and scientific operations—I nearly said fads—of an experimental garden, as Chiswick is now recognised to be? Hundreds of these experimental trials, &c., are yearly made and carried out with the greatest exactitude, and the whole recorded and tabulated for future reference. Irrespective of all this, there is also, I am sorry to admit, an immense amount of routine work to be done, sufficient to tax the abilities of many of our best gardeners. Under the system upon which Chiswick was started and is carried on, this routine work could not be dispensed with, but we are now within a measured distance when at least one-half can well be avoided for the future, to the advantage of the gardens and to all those interested in their welfare. The Council has now determined to introduce radical changes in the administration and organisation of Chiswick Gardens and its work, and this announcement will surely be hailed with the keenest satisfaction by every true horticulturist in the country—this much we gather from the letter from the council, see p. 270. But why, may I ask, was this letter so long delayed? Had they "in the early part of this year," when these changes were determined upon, published the fact of their intended introduction, much discussion and no little harsh feeling would have been avoided, and one almost feels that their tardy recognition and admission of Mr. Barron's devoted services was only made in consequence. However, all's well that ends well, and so long as the gardening public know that the new arrangements have been carried out in a spirit of friendship, and of this we have the assurance both of the Council and Mr. Barron, all will be satisfied. In conclusion, then, let us hope that the reorganisation of Chiswick may be on the very broadest lines for the advancement of horticulture. In its administration heretofore Chiswick has been too conservative—too exclusive. There are some countries from whose book we should not hesitate to take a leaf, and that of France furnishes us with a model for what Chiswick should become—a national school of horticulture, with a curriculum equal, at least, to that of Versailles. The nucleus of such a school already exists, although admittedly of small extent; but in these days of cheap land this should prove but a minor obstacle, to be overcome at will, with many possible future advantages. Such a school should be recognised and subsidized by the State, for in no other country are there so many outlets for really clever scientific men, in positions which at present are mostly filled by foreigners. One more word, and this with respect to the salary the Council is offering to Mr. Barron's successor. As the possibilities of Chiswick for good are almost infinite, £200 per annum without a house is an insufficient salary for a thoroughly qualified man, and as the days of mediocrity are past in men, so they should be in salaries. They will therefore do well to increase this to £300 per annum, or £250 and a house. *Introspector, England.*

— As a Fellow of the Royal Horticultural Society of London, I have read "with surprise and regret" the half-hearted and ambiguous apology published by the Secretary by order of the Council. As an explanation it is lamentably weak, and obscures the main point by introducing questions of detail, about which most of us are agreed. The Council were perfectly within their rights in desiring to remove Mr. Barron or any other of the paid officials of the Society; but the methods adopted were so undignified, and so unconstitutional, as to have excited much distrust, and to have caused serious apprehensions to arise as to the future proper conduct of the Society's business. Not only has the Chiswick Board been ignored, and so far insulted, but all true British gardeners and business men believe that some amount of injustice has been meted out to Mr. Barron himself, after his long and honourable services on behalf of the Society. Something very much of the nature of a secret conspiracy appears to have been adopted, and as one result, an adverse report seems

to have been drawn up and signed by the following members of Council and others, viz.:—C. E. Shea (Chairman), W. Wilks (paid Secretary), H. Selfe Leonard, James Douglas, Harry Williams, J. Willard, E. Hill, J. Jaques, and N. A. Barnes. The Council, in tendering "a frank expression of regret" to the Garden Board for having ignored their very existence, seem to forget that something more is due to Fellows of the Society, and to gardeners generally, who are now asking all sorts of questions about these unbusiness-like proceedings. The Council have really done one of two things—they have either been honest, and courteous, and above-board in retiring Mr. Barron, or they have been underhanded and indiscreet, even if not actually discourteous, to an old and loyal official, and also, through him, to gardeners generally. We wish to know the truth, the whole truth, and nothing but the truth of this miserable affair. It is a principle that is involved, and not in any way a merely personal matter. Where is the report that was drawn up and signed by those, whose names we have given above? If it is not forthcoming, confidence in the society, and its council and secretary will be most seriously shaken. Let the council direct the secretary to lay the whole thing bare; if they have done the right thing in the best manner, they have nothing to fear, but if there has been anything discourteous, or of the nature of private intrigue, then let us judge on the direct evidence—not to produce or publish the report and correspondence—at once, will only defer the trouble until the society's annual meeting. Surely the Royal Horticultural Society of England has no need of a higger-magger policy—the society must be like Cæsar's wife—and to risk its power for good, by not allaying the discontent now raised, would be suicidal in the extreme. *F. R. H. S. Ireland.*

"RUST" IN BEGONIAS.—Having charge of an extensive collection of Begonias, I have found considerable injury caused by the so-called "rust" mentioned in your last issue by Mr. W. W. Sheath at p. 268. Like him, I have heard it attributed to a fungus and to excessive moisture in the houses. Neither of these reasons appeared to me to be satisfactory, and a close examination of injured plants has revealed the presence of large numbers of white insects, barely visible to the naked eye. I believe these to be the cause of the mischief, and have found frequent fumigations to be the only effectual remedy. I agree with Mr. Sheath that too high a temperature in spring is favourable to the rapid spread of this terrible pest. Unfortunately, it is not confined to Begonias, as Achimenes, Eranthemums, and other plants frequently suffer in the same manner. *W. K.*

THE BERMUDE LILY.—Between 1878 and 1888 the enquiry for bulbs of *Lilium longidorsum* from merchants who trade with Bermuda, was so great, that it taxed the resources of both Holland and Japan to supply the needs of the Island. Can someone tell us if the produce of these heavy annual consignments ever left its shores bearing the same name? Mr. Ball, of Chelsea, was, I believe, the first London house to make *Lilium Harrisii* known here, and directly our large market growers took to it, several bulb firms obtained it extensively, and the demand has been maintained until the present time. This year, however, a smart American plantsman has initiated a syndicate in Bermuda, and the combination is strong enough to control about ninety per cent. of the past season's crop. If they are successful, a nice haul will be landed in dollars, mostly from this country. When it is borne in mind that Bermuda is a British possession, it seems remarkable that such things should be. *Seedsmen.*

THE CHISWICK TRIALS.—In reading an account at p. 234 of the amount of time and space devoted to the trials of flowers and vegetables at Chiswick, one is tempted to ask if it is at all needful for such a garden to engage in such work, especially seeing that the trials are practically of no use to gardeners generally, or to the trade. It is a well-known fact that gardeners stick to a few well-known varieties, proved by themselves or their neighbours; and if you pick up promiscuously any nurseryman's catalogue—say, Sutton's—you will see that it is not the Chiswick trials they rely upon, but the trials in private gardens and press notices, as proved on nearly every page. Many gardeners receive far more applications to test garden novelties, manures, insecticides, &c., than they can entertain. What sense or reason is there in encumbering Chiswick with the labour of proving the heights, colours, time

of flowering, &c., of 500 Phloxes, and a proportionate number of common garden vegetables and plants that are hardly ever heard of afterwards? There only two varieties of Phloxes in cultivation, and about two dozen of these embrace the best. I saw them all set out in a small patch in Dobbie's nursery at Rothessay the other day. Are there not plenty of subjects of far more permanent interest and importance in gardening to prove than seedmen's novelties, and which would cost about as much time as it would do to write the labels for 500 Phloxes alone? It has often occurred to me that there are many long-disputed matters of culture, &c., in horticulture that an experimental garden might set at rest by a very little patient experiment carried out conscientiously, in a philosophic and scientific spirit. For example, the kind of soil, texture, and depth, &c., for a Vine border is a question still unsettled and wrangled over, notwithstanding Chiswick opportunities. The "turf fibre" theory is the most popular still, but it has never been demonstrated that such a border is any better (if as good) than one made of good garden soil judiciously enriched. Yet the turf border has cost, in hundreds, if not thousands of gardens, probably 70 per cent. more in cash than as good a border of common soil would have cost, and I am strongly of opinion that a large portion of that 70 per cent. has been lost—sacrificed to "rule of thumb"—and that Lindley was right forty years ago, if not more, when he said that a "finely divided soil" was the best for Vines, so long as it was permeable. Numbers of other problems, involving much time and expense, might be suggested that an experimental garden might concern itself with, leaving the least important, not to say frivolous, matters alone. But to carry out such experiments successfully it requires a mind open to conviction, and with a Darwinian bent of investigation. I would further suggest that if, as is said, some of the glass-houses are "white elephants" on the Society's hands, and Grapes hardly do more than pay expense, it is not necessary to waste fuel at a high price on them. There is work which they could be devoted to in the culture of other kinds of fruits and trees that prefer a cool structure all the year round, and with these numbers of useful tests could be made that require little trouble. *Head.*

PRIZES AND POINT VALUES.—It is so generally held that the award of prizes at flower shows to exhibits according to their respective values is the right and proper thing to do, that it seems odd the principle is not generally adopted. Two things, however, will tell against the adoption: first, ordinary practice which regulates prizes arbitrarily and without real regard to the relative merits of the exhibits to each other; and second, the *laissez faire* principle which so strongly dominates flower show management, and sanctions the continuance of an old system as the best, simply because it is an old and stereotyped practice. At the annual bank holiday show, held at Carshalton, Surrey, Mr. A. H. Smee very kindly originated, and there is now continued, a special class for nine vegetables, open to all subscribers in the district, the prizes being a lump sum of five pounds, which, if the competition be large enough, is divided into six. The collections are all strictly pointed, numbers of marks given being rigidly in accordance with quality. At the recent show there were eight entries in the class, and when all were judged, it was found that the first six stood as follows, 61, 57, 55, 49, 49, and 46 points, the gradations in quality being in no case very wide. As a result, the five pounds was apportioned into six prizes, thus, 19s. 4d., 17s. 11d., 17s. 4d., 15s. 6d., 15s. 6d., and 14s. 5d., these sums bearing an exact relation to the point-value of the exhibits. Had the money been apportioned under the ordinary rule, £2, £1 5s., 15s., 10s., 6s., 4s., the first collection would have been awarded 20s. more, and the sixth 11s. 6d. less. *A. D.*

JUDGING AT FLOWER SHOWS.—I notice in your answers to correspondents in your last issue an answer to a question on "Judging at Flower-shows." Kindly allow me to say, I imagine you have been misled on the subject. Instead of a group of plants in pots, the schedule provided for a group of plants for effect, which I contend alters the case altogether. Each group was given a space of 10 feet by 6 feet, or its equivalent (a circle), the centre of which was the tent-pole, which, of course, had nothing to do really with the group, but in two cases the poles were furnished so as to give the groups a more finished appearance. I think the pole could have been furnished with anything—say, cut Bamboos, Ivy, moss, &c.—or left entirely bare, without disqualifying the exhibit. *Judge.*

CUCUMBER LOCKIE'S PERFECTION.—There are two houses of this Cucumber in the St. Neot's branch nursery of Messrs. Wood & Ingram, of Huntingdon, the plants having been put out in the end of May. One house is 100 feet by 15 feet, the smaller 20 feet by 15 feet, and the plants are in boxes formed of planks 1 foot in depth by some 2 feet in width. The plants stand 4 feet apart in the boxes, and both houses being span-roofed, they are trained up the inside; the depth of soil in which they are growing is about 9 inches. What strikes the visitor is the admirable condition of the plants, and the wonderful crop of fruit they have produced. It is not too much to say that a record for productiveness is established; the crop is enormous, and every fruit is true to shape, showing the fine quality seen in those, the raiser, Mr. Thomas Lockie, has been in the habit of exhibiting. Mr. W. Ratchelous, the foreman at the St. Neot's nursery, stated the plants were in good yellow loam enriched with manure, that a little of Beeson's plant-manure was placed in the soil, and some of the manure with a little soot laid on the surface once a week and watered-in. It does seem as if no variety of Cucumber could be more productive, and no Cucumber be better adapted for market and exhibition purposes. *R. D.*

VENIDIUM CALENDULACEUM.—I have been looking in vain for the year in which this charming subject was introduced. Its flower-seed lists it is generally classed as an annual, and treated in that way it is a delightful garden plant during the summer months. Sown seeds sown in March in a cold frame, or better still in a gentle bottom heat, will give plants which, if they have ordinary care, will flower in July, and if not allowed to seed will bloom for a considerable time. Then a sowing should be made in May for late summer and autumn-blooming; and like the *Gazania* it is seen at its best late. The flowers are golden-yellow, with a dark brown disc, and it may be appropriately likened to a glorified pot Marigold. One of its chief features is its freedom of bloom. I find it does best when planted out in a sunny spot, but it should not want for water. In the somewhat firm sandy loam of the Bedford seed grounds it roots freely, and the plants grow into large size. A few years ago an extraordinary seedling re-introduced it, and offered it at a high price per packet, and I have often wondered if he realised a fortune by doing so. It well deserves to be more generally grown. *R. D.*

HEUCHERA SANGUINEA AND HYBRID.—Complaints are frequently made that this plant does not flower freely, but nothing could be more satisfactory than its conduct in my garden. It must, however, be renewed frequently from cuttings or seed, which ripens plentifully; and exposed situations, swept by cold winds in winter, must be avoided. Whilst giving it the full advantage of the mid-day sun, it should be screened by a wall or hedge on the north side. In such situations it flowers abundantly, and never more abundantly than last spring, in spite of the severe winter. I have a variety of a deeper and brighter red than the type, but it is difficult to improve the pure and distinct colour of the flower as first distributed. Last year a hybrid seedling appeared spontaneously in my garden, more robust than the seed-parent, with flesh-coloured flowers, of which a second crop is now out in abundance. I take it to have resulted from *H. sanguinea* × *H. cylindrica*. I think I saw the same in flower last June at Kew. *C. Wolley Dod.*

LARGE PEACHES.—Some Sea Eagle Peaches, of unusual size and finish, have been lately gathered in the gardens at Ketton Hall, Stamford. The crop was a medium one, and the fruits averaged about 1 lb. each. The largest weighed 17, 18, and 19½ oz. respectively. The tree is planted in a cool-house in the natural soil. The crops of Peaches and Nectarines in the earlier houses were also very good, being heavy and well finished, and averaging from 14 to 16 oz. in weight. Owing to recent changes at Ketton, Mr. Drabble is debarred from bringing these splendid fruit to any exhibition. *A Grower.*

GLADIOLUS SHAHZADA.—This is one of Messrs. Kelway & Son's new introductions, and it is remarkable for its deep dark crimson colour flushed with purple, and its rich purple markings in the throat, and for the stoutness and fine form of the individual flowers. Two very fine spikes of it were exhibited at the recent flower show at Taunton, and its marked individuality of colour caused it to stand out from the rest of the flowers in the stand. Extreme caution is now necessary in awarding

Certificates of Merit to new varieties of Gladioli, but of the excellence of this one there could be no doubt. *R. D.*

FOOD REQUIREMENTS OF THE CHRYSANTHEMUM.—Referring to the article upon the above subject of your correspondent, M. P. Andersen, which appeared in the issue of August 17, p. 181, and the reply of W. Dykes in September 7, p. 272, I beg to state that I agree with Mr. Dykes that the compost and manurial mixture of Mr. Andersen was decidedly deficient in nitrogen. The rate at which the mixture was used is stated to be one part in 400 of soil, whereas the quantity recommended by me, and of a more concentrated manure, was one part to 250 parts of soil, while that suggested by Mr. Dykes was still larger. Your correspondent will also find that I recommended after the potting that the Chrysanthemum plants be watered every three weeks up to the time of flowering with a manurial solution ¼ oz. of the mixture to each gallon of water. Mr. Andersen made the mistake of mixing basic slag and sulphate of ammonia together; hence, not only was the nitrogen of the manure lost as a gas, but the evolution of free ammonia doubtless had a tendency to injure the growing plants. Starvation and injury thus went hand in hand during the early part of the experiment. Again, the mixture used was lacking in soluble phosphate, owing to the fact that the phosphate in basic slag becomes available only very slowly, therefore, when this substance takes the place of superphosphate, twice as much must be employed. Mr. Andersen tells us that his compost appeared to suit the plants much better after some months than at first, showing pretty clearly that the evolution of free ammonia from the soil was injurious to the plants, and also that the phosphate only began to act after the main growth of the Chrysanthemums had been made. Two very interesting facts have become clear in the experiments at Rothamsted, which have an important bearing upon the relative value of soluble and insoluble phosphate of lime; one is, that phosphate of lime, if not taken up at once by the growing plant, becomes fixed in the soil, and is only recovered by growing plants over long periods of time. The other is, that the capacity of cultivated plants to take up phosphate of lime existing in the soil, differs in a very remarkable degree. As one illustration, we may select an experiment with Swedish Turnips. There were two plots of land, one receiving 3 cwt. superphosphate of lime per acre, and the other 6 cwt. per acre of basic slag (ground fine). The roots receiving the superphosphate grew much faster at the beginning than those which had the basic slag. But the roots with the basic slag continued to grow later into the season, and eventually gave about equal weight of crop with those receiving superphosphate. It is evident, therefore, that 1 part of phosphate of lime in the form of superphosphate is equal to 2 parts of the phosphate in the form of basic slag. Also that the Swedish Turnips were not able to take up the phosphoric acid of the basic slag until towards the end of the season. It is quite clear that the absence of a soluble phosphate of lime in the early stages of plant growth and insufficient nitrogen was the cause of failure in Mr. Andersen's Chrysanthemum experiments. *J. J. Willis, Harpenden.*

APOGAMIC FERNS.—Mr. E. J. Lowe, in his reference to my article on the above subject, assumes that apogamic Ferns being destitute of archegonia, cannot yield varieties through their spores, a conclusion he deduces from my quotations from De Bary's papers on apogamy in the *Botanische Zeitung*, and my own remarks thereon. De Bary, however, makes no such assertion, and my remarks were directed solely to the impossibility of effecting crosses, and in that way combining varietal forms in the fashion for which Mr. E. J. Lowe has rendered himself famous among British Fern-cultivators. Within the last few days he has sent me a number of fronds of the crested male Fern to demonstrate variation in its progeny, a fact to which I had already alluded in my paper as indicating exceptions which De Bary failed to find. I also said "we have no reason to assume apogamy is a bar to variation any more than other bud-forming phenomena," which to my mind covers the whole ground of Mr. Lowe's contention. Assuming, as we must do, that the spore when shed contains the varietal potency which is eventually seen in its own (i.e., not crossed) progeny, we are justified in expecting as much variation from apogamic buds as from normal sexual ones fertilised by antheridia on same prothallus; and to

what an extent this self-variation may be carried, I demonstrated some years since at Chiswick by exhibiting a number of most diverse plumose *Athyria*, passing through all grades from plain to grandiceps cristate forms, and yet the result of a sowing from one and the same plant. These for reasons then given at length and generally accepted, certainly owed none of their diversity to crossing, although it was little inferior in range to Mr. Lowe's exhibits, shown to demonstrate the complex effects of multiple parentage. In my plants, however, the variety ran only in three directions, viz., delicacy of dissection, development of folioseness, and extent of terminal crissation, while his, as might be expected from their hybrid origin, showed diversity of all sorts. It is a very curious biological fact, that the crested male Fern is exceptionally easy to raise from spores, and comes up as a stray in profusion among other sowings, demonstrating, in conjunction with its robust habit of growth, that its non-sexual mode of reproduction is in its favour, and seemingly might be a perpetual factor without any detriment to the continuance of that special branch of the species. *Chas. T. Druery, F.L.S.*

NEW INVENTIONS.

A NEW BUDDING-KNIFE.

THIS new knife differs from all others in make. It is well known to all who practise budding that the hand of the workman has to execute various manoeuvres before the bud can be inserted in the T cut. The chief difficulty lies in raising the bark. For this operation it was formerly necessary to turn the knife in the hand. The new budding-knife, invented by the head-gardener of one of the largest nurseries in Germany, Mr. Kaehler, and by Mr. Grunewald, of Tempelhof, near Berlin, enables all the operations to be made without turning the knife. The process now is as follows: the bud is cut by the long straight part of the knife. By the same part the obverse cut is made. Then the lower point of the triangular apex is laid against this obverse cut, and the lengthwise cut is made by a waving motion. By turning the knife to right and left the bark is separated. Care should be taken that during this action the upper point of the apex remains in the same position. The bud may be inserted while the knife is raising the bark. By this knife (fig. 56) during ten minutes, seventy-five good buds of *Acer*, *Syringa*, *Plums*, *Cherries*, *Cydonia*, &c., were made before a committee of gardeners. *U. D.*

WEST'S IMPROVED PATENT ORCHID BASKET.

IN the new Orchid-basket (see fig. 57), the inventor has made an effort to secure a more thorough watering of the contents than is possible by the same means in the case of the ordinary basket made of square teak rods. The upper inside edges of the otherwise square rods are bevelled off with a view to throwing the water towards the centre of the basket. There are also two extra bevelled rods with flanges inserted between the two top bars, and these make the four sides comparatively level with each other, and therefore a better receptacle for water. It is claimed that following the adoption of this new basket, the rather tedious process of dipping baskets containing Orchids will be quite unnecessary, as each plant can be equally well saturated by means of a syringe or watering-can.

COLONIAL NOTES.

HONG KONG.

BARTHEA CHINENSIS is an erect-growing little Melastomaceous shrub, attaining a height of about 3 ft., and the only representative of the genus. It makes its home on the north side of the island at an elevation of about 1,400 feet, and in the immediate vicinity of *Aristolochia longifolia*, *Gordonia anomala*, *Rhododendron squamatum*, *Woodwardia Harlandi*, and many other plants. It is an exceedingly pretty thing when in flower, and on account of this, there is every

probability that it will be exterminated in Hong Kong in a very few years. Another thing which militates against its chance of existence, is that it grows just outside a European's private residence. The Chinese servants are sent out to gather flowers, and, of course, they cut the first they come across, which means *Barthea chinensis*, when in flower. If they were to cut flowers in a proper manner, there would be no harm done, but these vandals cut the whole shrub down when they get the chance. The flowers are over 2 inches across, white suffused with pink in colour, and are borne on the ends of the branches

long, and about $\frac{3}{4}$ inch broad, plicated, and somewhat grass-like in appearance. The rhizomes vary in size from that of a goose-quill to a man's little finger. The plants which I found were growing on the south side of the island in a comparatively dry situation, not many feet above sea level, whilst other collectors have found it in marshy spots on the top of one of our high hills.

Aristolochia longifolia is a rare Hong Kong plant, and is found growing in the clefts of rocks in rather shady situations. The leaves are 6 to 8 inches long, 1 to $1\frac{1}{2}$ inches wide, and lanceolate in shape.



FIG. 56.—A NEW BUDDING-KNIFE.

generally in threes. The leaves are lanceolate in shape, $2\frac{1}{2}$ to $3\frac{1}{2}$ inches long, three-nerved, and on petioles $\frac{1}{2}$ inch in length. The calyx tube is sharply four-angled and $\frac{1}{2}$ inch long, having subulate lobes 2 lines long. The corolla consists of four petals nearly 1 inch in length, and over $\frac{1}{2}$ inch in breadth. The plant flowers in March.

Lagerstromia Fordii was first found by Mr. Ford a few years ago on Lantau Island. In August last, I found it for the first time in Hong Kong, on the south side of the island, growing near the sea. There was only one plant of it, and this was about 10 feet high, thriving in very little soil on the top of a rock. It is not such a showy species as some of the other *Lagerstromias*, but nevertheless, is a plant well worth cultivating. The flowers are produced in panicles 3 or 4 inches long, at the end of the branches. The calyx is about 3 lines long,

The veins are very conspicuous on the under surface, but less so on the upper. The stems and leaves are rusty tomentose when young, but the upper side of the leaves becomes glabrous when old. The flowers are produced in April on the old wood near the roots. The inner or upper side of the perianth is dark purple, the throat being creamy-yellow with a few purple spots on it. The mouth of the perianth is fully 2 inches across, and the tube $3\frac{1}{2}$ inches long, bent in the shape of a hook. The outside of the flower is marked with purple veins and articulations, and densely covered with hairs, the general colour of the outside being greenish. When the flowers are fully developed, a very disagreeable odour is emitted from them, similar to that of other species of the genus. A plant which I found had upwards of a dozen flowers on it, and its growths were about 10 feet long. *W. J. Tutcher.*

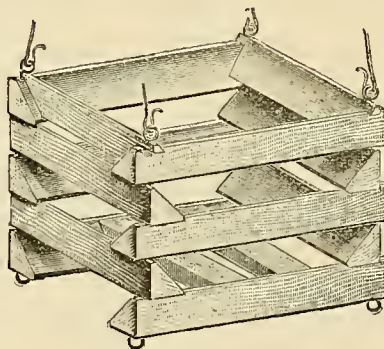


FIG. 57.—A NEW STYLE ORCHID-BASKET.

downy white on the outside, and the tube furrowed. The petals are white, the limbs being about 2 lines across, orbicular in shape, and crimped on long thin claws. The leaves are lanceolate, 3 to 4 inches long, and 1 to $1\frac{1}{2}$ inches wide, on petioles of a quarter of an inch. When ripe, the capsules are dark brown in colour, oval in shape, and about $\frac{5}{8}$ inch in length.

Pachystoma chinense, when seen growing amongst long grass, is a pretty little Orchid when in flower, although it is destitute of leaves at the time. It produces its scapes ranging from 9 inches to 2 feet high, and bearing from six to twelve flowers in April. Each flower is subtended by a light brown lanceolate bract, $\frac{3}{4}$ inch long. The sepals are nearly 1 inch long, and $\frac{1}{2}$ inch wide, narrow oblong in shape, and of a light lilac colour. The petals are the same length and colour as the sepals, but only $\frac{1}{2}$ inch in width. The lip is three-lobed, caccate at the base, and crested in the centre. The middle lobe is either light green or yellow, the lateral lobes being of the same colour as the sepals and petals. The scapes are sheathed in light brown-coloured bracts their whole length. After the flowers have died away, the leaves appear. These are about 2 feet

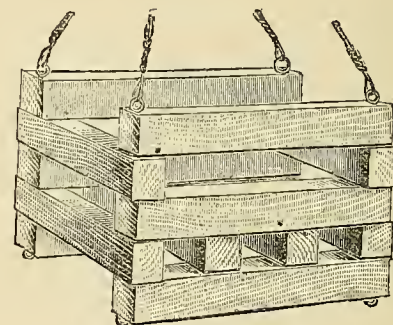


FIG. 58.—AN OLD STYLE ORCHID-BASKET.

HONG KONG BOTANIC GARDENS.

The annual report on the Botanical and Afforestation Department of Hong Kong (by the Superintendent, Charles Ford, F.L.S.) for the year 1894 is now before us. The climatic and other difficulties of the season under review, not merely proved excessively difficult to cope with, but, in spite of all the efforts of the staff, caused serious and lasting injuries to the gardens. Immunity from storms for many years past had been evident in the beauty of the plants; in 1894 a series of typhoons, and a sudden and prolonged drought, did mischief, which all the precautions taken were powerless to completely counteract.

A still more serious evil was the plague of caterpillars which was prevalent during May and June. The species (*Eutricha punctata*) multiplied so numerously, that an organised and very extensive raid was made against it, over a thousand people being at one time employed in collecting the caterpillars, and bringing them to certain police-stations, the authorities at which were empowered to pay for them by weight. Over 36 tons of caterpillars in all were collected, and the price paid for them was 4,889.95 dols.

This expense was not the only loss suffered, since, in spite of all pains taken to collect and destroy the pest, considerable damage was done before it was completely eradicated, since, while affecting nearly all the Pines in the colony, it was especially numerous in certain localities, where many plants were made leafless, and (growing on poor soil) eventually died from it.

Although less satisfactory than those of former years, this report is so far encouraging in that the difficulties mentioned in it are now surmounted, so that, granted a few favourable seasons, the gardens will, in condition and financial position, soon regain their former standpoint.

SOCIETIES.

ROYAL HORTICULTURAL.

SEPTEMBER 5.—A meeting of the Fruit and Vegetable Committee was held at Chiswick on the above date.

Present: Mr. J. Wright, in the chair; and Messrs. G. Norman, J. A. Laing, G. Wythes, W. Farr, W. Cummins, A. Dean, and A. F. Barron, Secretary.

The subjects to be examined were a large collection of some 78 varieties of Potatoes, chiefly new, 75 diverse varieties of Brassica, and some American Tomatoes. The Potatoes were found to be of very diverse character—some early and ripe, others very late and robust. Disease was found rapidly decimating the leafage in all varieties, and in some others, owing, no doubt, largely to the excessively porous nature of the soil, to be much affected with disease. Some, again, especially those of the Magnum Bonum type, of which there still seem to be so many seedlings raised, had become, through super-tuberation, very ungainly, whilst some others were very large. It was noticeable that round-tubered varieties generally had grown out less than kidney forms. Ten sorts of great cropping capacity, and of excellent appearance, were selected for cooking, and later these, very admirably served in their coats, were tasted, and the following received three marks:—Cockerel's Seedling, pebble-shaped, white, medium grower, tubers having a mealy Regent-like quality; Syn House Prolific, late, strong grower, oval, capital quality; Birmingham, late, tubers round, white, handsome—excellent; Sutton's Triumph, now pretty well known, round, strong grower—very good; and Pride of Tonbridge (Webber), flattish-round, rough skin, white—also good.

Cabbages.—The whole of the large trial of Brassica is from a sowing of seed made May 19. Two of the earlier varieties were dealt with at a previous visit. On this occasion, after inspecting the entire group carefully, the committee resolved to select the best from types, and the old Dwarf Early York, as a summer Cabbage; Sutton's Little Gem, a capital stock, greener and better than Little Pixie; Leeds Market, the best of the larger section, specially good for market field culture; Winnigstadt, a very green pointed-heart variety, that always stands drought wonderfully well; and St. John's Day, the tenderest eating, for it eats like a Colewort, are the best. Of all the dwarfier forms of flat or Drumhead Cabbages, each had three marks. This latter is a specially valuable Cabbage from summer-sowings to turn-in during autumn and winter. Of the two forms of Red Cabbage, the old large and the newer Dwarf Early Blood-red, the committee regarded the latter as far the best, and gave three marks to the Erfurt Blood-red (Banary) and Sutton's Blood-red, as the best stock. A capital stock of the Dwarf Green Curled Savoy Cabbage also had three marks. The comparative absence of uniformity in many of the stocks was noticed, showing that the greatest care is needed in seed-growing to keep Cabbage stocks perfectly true.

The Tomato plants in pots, chiefly of American strains, did not exhibit any advance over varieties previously certificated, and well known in commerce. It is worthy of note, too, in relation to home-raised varieties, that many highly lauded elsewhere, when tried at Chiswick seem to be very much of a muchness indeed with other varieties.

SEPTEMBER 10.—On Tuesday last a vegetable exhibition by the Royal Horticultural Society, which was arranged to take place at Chiswick, was held after efforts to promote such an exhibition under other auspices had failed. The weather was decidedly more pleasant than on other occasions at Chiswick, and the show of vegetables from the point of view of quality was satisfactory, even if the number of competitors was rather smaller than looked for. As the gardens themselves were looking well, and there were excellent collections of Dahlias, fruit, and other things, the visit to Chiswick was an enjoyable one. For further remarks on this exhibition, see p. 300.

Floral Committee.

Present: W. Marshall, Esq., in the chair; and Messrs. Chas. E. Pearson, Chas. Jeffries, J. H. Fitt, R. Dean, W. Bain, Geo. Stevens, George Gordon, Jno. Laing, Jas. Walker, Robt. Owen, Harry Turner, J. Jennings, Geo. Paul, Jno. Frazer, H. Herbat, J. T. Bennett Poë, Ed. Mawley, and J. D. Pawle.

Messrs. BARR & SON, King Street, Covent Garden, exhibited a miscellaneous collection of hardy flowers, containing the very best of the species now in flower, perennial and annual Asters, Violas, Tigridias, Lilliums in variety, perennial Sunflowers, Pyrethrus, and a collection of varieties of Phloxes were conspicuous. Amongst the varieties of Phloxes, an Award of Merit was recommended to Leonora da Vinci, a capital variety, with large white flowers, having rose centre, bright-looking and very pretty. Messrs. BARR & SON had also a collection of plants of bedding Antirrhinum in many colours, and plants of a dwarf strain, growing about 10 inches high, very compact and free-flowering. A pretty white variety, about 15 inches high, extremely floriferous, should also be mentioned, it is called Queen of the North (Silver Flora Medal).

Some garden Roses in miscellaneous variety were from Messrs. WM. PAUL & SONS, Waltham Cross Nurseries, Herts. The blooms, cut with long stems and foliage, and tied in bunches, were exhibited in an attractive manner. The Duke of York, winter-flowering Chios Rose, was well exhibited, and with W. A. Richardson and Marie Van Houtte, form a very excellent trio in this section of Roses. Queen Mab is a new China variety for next season, in colour very distinct, of different shades of Apricot, very pretty in the bud, and likely to become popular (Silver Flora Medal).

A new perennial Sunflower called Stoke Park Favourite, was exhibited by Mr. J. HUGHES, Stoke Park Gardens, Guildford. The plants are said to grow 5 to 6 feet high, of good branching habit. The blooms are produced on long stems, and are suitable for furnishing vases, &c. The flower is an extra bright one, of medium size (Award of Merit).

Messrs. ROBT. VEITCH & SON, Exeter, had a few bunches of *Nemesia strumosa*. Mr. WALTER SALMON, Ivy Cottages, Elder Road, West Norwood, exhibited a collection of tall French Marigolds and some double flowers of *Zinnia elegans*, beside a general collection of hardy flowers, including *Asters* in variety, *Violas*, *Salpiglossis*, *Dianthus*, *Dahlias*, *Phloxes*, and other things (Silver Banksian Medal).

Miss HUDSON, Gunnersbury House Gardens, was awarded a Silver Banksian Medal for a decorative exhibit of Dahlias, and a similar medal was obtained by Mr. A. WATERER, Knap Hill Nursery, near Woking, who exhibited some specimens of the effective blue Spruce, *Picea pungens argentea*.

DAHLIAS.

The collections of Dahlias filled a considerable portion of one of the tents with their brilliance. Mr. T. S. WARE, Hale Farm Nurseries, Tottenham, had a large bank, having a raised background of panels of Cactus and decorative varieties, fronted with bunches of bright Pompons. Of true Cactus varieties, there were excellent examples of *Delicata*, *Cannell's Gem*, Mrs. A. Beck, new, pale orange-scarlet, fine Cactus shape; *Gloriosa*, Miss V. Morgan, Bertha Mawley, Matchless, Mrs. Francis Fell, white, with slight pale yellowish-green centre—a decided acquisition to the white forms if it will maintain this character; *Lady Penzance*, Robt. Cannell, Countess of Gosford, and Earl of Pembroke. Of decorative varieties, the best were Harry Freeman, John H. Roach, Empress of India, Viscountess Folkestone, Lady Montague, Obsan, Maid of Kent, a very pretty fancy variety; *Kynerith*, R. Maher, and Countess of Pembroke. Of Pompon varieties, there were charming bunches of *Emily Hopper*, yellow; *Arthur West*, Tommy Keith, *Virginalis*, Stanley Ford, *Sunshine*, Mary Kirk, *Hector*, *Winifred*, and *Florence Woodland*, &c. (Silver-gilt Banksian Medal).

A very excellent collection of 144 blooms of show and fancy Dahlias came from Mr. S. MORTIMER, Swiss Nursery, Farnham. Some leading flowers, characterised by high quality, were seen in Mr. Gladstone, Mrs. Morgan, *Buttercup*, *Colonist*—one of the most distinct and constant, *Duchess of Albany*, *Sunset* (fancy), *George Barnes* (fancy), *Jno. Walker*, *Novelty*, Mrs. J. Downia (self, very fine), and *Henry Eckford*, as a fine crimson self. Mr. MORTIMER also had a dozen bunches of Cactus and decorative varieties, chief among them being *Delicata*, *Lady Penzance*, *Bertha Mawley*, *Mayor Haskins*, &c. (Silver Flora Medal). Then there was a good collection of show Cactus, Pompon, and single Dahlias, from Messrs. J. CHEAL & SONS, Crawley, about four dozen blooms of the show types, and charming bunches of the following singles, *Victoria*, *Phyllis*, *May Sharpe*, *Miss C. Morland*, small, bright orange-scarlet, very good; *Evelyn*, *Dearest*, very chaste; *Lowfield Beauty*, *Miss Roberts*, a charming soft yellow; *Miss Ashley*, amber shaded with delicate rose, and having a crimson ring round the eye; and *Miss Glascock*, a very good selection of single varieties for exhibition purposes. There were twenty-four bunches of Pompons also, the choicest were *Rosebud*, pale ground, broadly tipped with rosy-purple (Award of Merit); *Arthur West*, *Ceres*, *Phoebe*, *George Bruckman*, *Sunshine*, *Lilian*, *Lorna Doona*, *Emily Hopper*, *Martial*, *Mabel*, *Grace*, *Revenge*, *Tommy Keith*, and *Darkness*. Of Cactus varieties, Mrs. Wilson Noble, salmon-red, an excellent Cactus type, very bright and fine (Award of Merit); Mrs. Gordon Sloane, dark salmon-red, good Cactus; Earl of Pembroke, *Lady Penzance*, *Mayor Haskins*, *Harmony*, *Delicata*, *Ernest Glass*, and *Gloriosa* (Silver Flora Medal).

Mr. C. TURNER, Royal Nursery, Slough, had a handsome bunch of his large, bright, pale-yellow decorative Mrs. Turner *Endymion*, bright scarlet, a good Cactus; and fifteen blooms of *Beatrice*, bright rosy-pink with a slight flushing of mauve, very distinct, constant and attractive; and some bunches of charming Pompons, mainly new, viz., *Ganymeda*, already described (Award of Merit); *Claribel*, pale ground, suffused with purple and tipped with white, very distinct (Award of Merit); *Madeline*, yellow ground, tipped with dark crise (Award of Merit); *Zoe*, yellow, tipped with white, very pretty (Award of Merit); *Pearl*, white; *Ruy Blas*, *Jason*, *maroon*; and *Veitchii*, crimson, very bright and finely formed.

Mr. J. T. WEST, Cornwallis, Brentwood, had some fine new Cactus varieties, such as *Miss Annie Jones*, brilliant scarlet, one of the brightest of the true Cactus type (Award of Merit); *Miss Nightingale*, bright deep orange-scarlet, very effective, true Cactus (Award of Merit); *Minnie*, delicate pink lower petals, the centre white, a decorative variety; *Barnett Tabrum*, bright red with slight dark shading, fine Cactus shape; *Emily French*, pale salmon-red, a very good type; *Mabel*, delicate salmon basal petals, flushed with rose, yellow centre, true Cactus, a model in point of shape; and *Miss Ethel*, bright reddish-cerise, very attractive, but not a good Cactus type.

Mr. W. BATCHELOR, Harefield Park, Uxbridge, had decorative *Willie Batchelor*, bright pale scarlet, with white flame and tip, small and very pretty (Award of Merit); and single, Mrs. Gore Langton, rather large, but very distinct, cerise-crimson, with a maroon ring round the eye (Award of Merit).

Mr. C. TURNER also had new show *Dahlia Marjorie*, amber ground, suffused with salmon, the reverse of the petals slightly purple, very promising; *Barbara*, a deep crimson self; *Shotesham Hero*, tipped with bright purple; *Rosamond*, pale ground with bright rosy-purple tip; and *Dante*, a small maroon-crimson self, good shape.

Mr. G. ST. PIERRE HARRIS, Orpington, had *Yellow Globe*, a very promising yellow self, of fine petal and great depth; *Hero*, an orange-red self; and *Mabel*, fancy, pale ground, flaked, splashed and striped with crimson.

Orchid Committee.

Present: Harry J. Veitch, Esq., in the Chair; and Messrs. Jas. O'Brien (Secretary), Jas. Douglas, H. J. Chapman, and H. M. Pollett.

Chiswick seems to have but little attraction for Orchid growers. On the present occasion there were but few entries. The small group of hybrid Orchids staged by Messrs. JAS. VEITCH & SONS, Royal Exotic Nursery, Chelsea, was the only important exhibit, but it contained some remarkably fine things. Of these, the magnificent *Laelio-Cattleya* × *Clonia* *superba* (L.-C. × *elegans* Turneri ♂, C. Warscewiczii ♀), may be ranked among the best results of the hybridist's skill, its flowers being large, finely formed, and of a rich and glowing colour. In form it resembled *C. Warscewiczii*, but the lip was more openly displayed at the base. The petals were very broad, and, like the whole flower, of good firm substance; the sepals and petals soft rosy-lilac, with an indescribably beautiful closely-set veining of crimson-purple; the broad labellum is of a glowing magenta-purple hue, the outside of the side-lobes lilac, with purple veining—a most beautiful flower, viewed from any aspect, and well worthy of the First-class Certificate awarded. Another fine novelty was *Laelio-Cattleya* × *Ennomia* (C. Gaskelliana ♂, L. *pumila* Dayana ♀), a plant of neat dwarf habit and large flowers of the *C. labiata* type; sepals and petals of a delicate light rose colour; the base of the lip orange, the front lobe light velvety-purple with slight lilac margin (Award of Merit). In the same group were *Laelio-Cattleya* × *Parysatis* (L. *pumila* ♂, C. *Bowringiana* ♀), a pretty plant, with the habit of *L. pumila*, but much stouter, and flowers equal in size, and resembling in form those of *L. pumila* *prestantis*, flowers rosy-lilac, with light purple front to the lip (Award of Merit); *Cypripedium* × *Carnusium*, Veitch's variety (*Haynaldianum* ♂, *Spicerianum* ♀), a very singular and beautiful variety, with its distinguishing features, so far as they have been tested, a much dwarfier inflorescence, and darker and more richly-coloured flowers than the type, and having the lower sepals disjointed and divergent right and left, a feature which has so far proved constant, and which gives the flower a very striking appearance. The upper sepal is white, suffused with purple the base green, with chocolate spots; lower sepals yellowish, with emerald-green lines; the rest of the flower greenish yellow, with purple-brown tinge (Award of Merit). *Cypripedium* × *Metis* (*philippinense* ♂, *villosum* Boxalli ♀), with shining yellow flowers flushed with chocolate, the large yellow hairy staminode being very singular; and *Laelio-Cattleya* × *Nysa* *purpurea*, a worthy hybrid of the L.-C. × *exoniensis* class, and which was so finely shown in several varieties by Messrs. Veitch at the corresponding show at Chiswick last year. *Cypripedium* *Charlesworthii*, with double labellum, was also shown. Messrs. Jas. Veitch & Son were the first introducers of *C. Charlesworthii*, but their plants being small, they were not the first to flower it.

F. W. MOORE, Esq., Royal Botanic Gardens, Glasnevin, Dublin, sent the pretty *Maxillaria striata*, with flowers of good size. The sepals yellow, striped with purple, the lower ones reflexed; petals similarly coloured, but narrower and curved back at the tips; lip cream-white with purple veining, and white apex (Botanical Certificate).

HY. SHAW, Esq., Stamford House, Ashton-under-Lyne (gr., Mr. J. Cliffe), sent *Cypripedium* × *Whitelynnum* (*Boxalli atratum* × *Lawrenceanum*), whose flowers much resemble a dark form of *C. Boxalli*, but the leaves are tessellated, and indicate that a cross has been effected.

A. H. SMEE, Esq., The Orange, Wallington (gr., Mr. Cummins), showed a three-flowered inflorescence of a pretty light form of *Cattleya* × *Hardyana*; and A. H. MILTON, Esq., Castleton House, White Ladies Road, Clifton (gr., Mr. A. Murrell), showed *Odontoglossum Inlesleyi splendens* and *Oncidium Jonesianum*.

Fruit Committee.

Present: Philip Crowley, Esq., in the chair; and Messrs. W. Wilks, Geo. Banyard, G. W. Cummins, H. Balderson, J. Wright, J. W. Bates, P. C. M. Veitch, W. Farr, G. H. Sage, Robt. Fife, Jas. H. Veitch, Wm. Pope, Jas. Cheal, T. Francis Rivers, Geo. Wythes, Geo. Reynolds, and Alex. Dean.

THE COMPETITIVE VEGETABLES.

These were all found in a large tent, ample room being thus provided. Generally, the quality was excellent, that of the best collections first-rate. More competition might have been looked for, but the prizes were perhaps none too attractive. Still, with the present year's experience, if the show be followed up yearly, there can be no doubt, with a revised schedule, it will grow into exceeding popularity, and become the great vegetable exhibition of the kingdom.

Collections.—Those in the class for twelve kinds naturally included the best samples, and brought the leading exhibitors. The 1st prize was taken by Mr. T. WILKINS, gr. to Lady THEODORA GUEST, Inwood Gardens, Henstridge, with generally very fine samples. They comprised Autumn Giant Cauliflower, superb Leeks, gigantic white Celery, rather large Intermediate Carrots, good Perfection Tomatoes, Autocrat Peas, Ne Plus Ultra Runner Beans, fine Goldfinger Potatoes, large but rather spotted Ailsa Craig Onions, beautiful Snowball Turnips, and Globe Artichokes. Mr. BOWERMAN, gr. to C. HOARE, Esq., Hackwood Park, Basingstoke, was a very close 2nd, having also good Cauliflowers, grand Ailsa Craig Onions, splendid Perfection Tomatoes, good Celery, Satisfaction Potatoes, rather too large; good Beet, Prizewinner Runner Beans, good Carrots, Peas, &c. Mr. MAIRS, gr. to Mr. J. SHELLEY, Crediton, was 3rd. The whole of the prizes in this class were given by Messrs. SUTTON & SONS, Reading, and were the only special ones offered.

Exhibitors in the class for nine kinds were excluded from the larger one. Here Mr. C. J. Waite, gr. to the Hon. Col. TALBOT, Glenhurst, Esher, was a good 1st, having excellent Cauliflowers, good Carrots, Perfection Tomatoes, Prize-winner Runner Beans, Snowball Turnips, Exhibition Onions, Satisfaction Potatoes, &c.; Mr. EMPSON, gr. to Mrs. WINGFIELD, Amptill, Beds, was 2nd; and Mr. BASILE, gr. to the Rev. O. L. POWELL, Weybridge, 3rd.

In the class for six kinds, a fresh lot of exhibitors competed, the best being Mr. Kneller, gr. to G. PORTAL, Esq., Malshanger, Basingstoke; Mr. LLOYD, Merton Lodge, Chiswick, coming 2nd; and Mr. G. NORTH, Buckingham, was 3rd.

Taking the classes now in schedule order, there were eight lots of three Cauliflowers. Mr. EMPSON coming 1st with perfect heads; Mr. W. POPE, gr. to the Earl of CARNARVON, Highclere Castle, Newbury, 2nd, with very solid ones; and Mr. MAIRS was 3rd.

Only two competed for Kale heads, Mr. Wythes, gr. to Earl PERCY, Syon House, Brentford; and Mr. PENTNEY, Isleworth, taking the prizes.

There was good competition with dishes of Brussels Sprouts, Mr. BOWERMAN coming 1st with Sutton's Dwarf Gem; Mr. POPE 2nd with Exhibition, larger.

Mr. EMPSON had the only dish of Spinach, good round Flanders. There were thirteen pairs of Marrows; with one exception all good. Mr. MAIRS was 1st, with very pretty smallish long white; Mr. E. LYE, gr. to M^s. KINGSMILL, Sydmonton Court, Newbury, being 2nd, with others, very handsome, and a trifle larger. Cucumbers were fairly good, Mr. LYE having the best pair with Matchless; Mr. WAITE coming 2nd with Progress, and Mr. EMPSON 3rd with Model. Scorzocera in bundles was not an attractive class. Mr. PENTNEY had the best roots, and Mr. WAITE had the best sorts of Salsify.

Of Runner Beans nearly all were of the scarlet type, Mr. LYE being 1st with beautiful Prizewinner; Mr. BOWERMAN coming 2nd with the same variety. With dwarf French Beans Mr. BOWERMAN was 1st, having handsome Canadian Wonder; Mr. H. W. WARD, gr. to the Earl of RADNOR, Longford Castle, Salisbury, being 2nd with the same. Broad Beans were too much out of season, but there was a capital dish of Mammoth Long Pod from Mr. LYE; and Mr. BOWERMAN was 2nd with the same; Mr. WAITE coming 3rd.

Peas were fairly good for the time of year. Mr. W. PALMER, Andover, being 1st with Duke of Albany; Mr. WARD coming next with good Anticipation; and Mr. WYTHES was 3rd with Autocrat. Messrs. WILKINS and COOKSON had the best of the Artichokes in that order. Mr. WYTHES was the only exhibitor of Caroons. Something like the old show form was seen in the superb samples of Potatoes shown by Mr. POPE, who had three beautiful dishes of Kidneys in Magnet, Matchless, and White Kidney; Mr. BOWERMAN was 2nd with Snowdrop, Cole's Favourite, and Prizetaker; Mr. WHITE coming 3rd. The best single dish of Kidneys came from Mr. LYE, who had fine Chancellor; Mr. NORTH coming 2nd with Breeze. The best three dishes of Rounds were from Mr. POPE, also beautiful samples of Satisfaction, Perfection, and Nonsuch, medium and perfect; Mr. MAIRS came next with The Dean, Pink's Perfection, and Windsor Castle; Mr. NORTH was 3rd. With one dish of Rounds Mr. NORTH was a good 1st with handsome Windsor Castle; Mr. LYE coming 2nd with Satisfaction. This latter exhibitor had the best six Leeks, clear, white and good; Mr. MAIRS coming 2nd; and Mr. POPE 3rd.

Mr. WAITE was well 1st with three dishes of Onions, having fine Ailsa Craig, Exhibition, and Cocoa Nut; Mr. MAIRS coming 2nd, and Mr. WARD 3rd. The best three bunches of Turnips were from Mr. NORTH, Mr. OSMAN SUTTON coming 2nd; whilst with a single bunch Mr. WAITE was 1st, and Mr. LYE 2nd, both with very handsome Snowball. Mr. WYTHES was the only exhibitor of Celeric, but the sample was excellent.

With three varieties of Carrots, Mr. NORTH was 1st, having very long, thin, tapering Long Surrey, good Intermediate, and Model; Mr. POPE was 2nd, with good samples; and Mr. EMPSON 3rd. With single variety, Mr. MAIRS was 1st, having very handsome Intermediate; Mr. WILKINS coming in 2nd, and Mr. BOWERMAN 3rd, with the same variety. Mr. LYE had the best six Parsnips, Mr. WAITE coming 2nd, both very handsome lots. The latter had good Horseradish, Mr. WYTHES coming 2nd. Mr. Webster, gr. to E. J.

PRESTON, Esq., Beckenham, had the best and very handsome Beet in Veitch's Blood Red, a perfect stock; Mr. WAITE coming 2nd. This exhibitor was 1st with two varieties of Endive, and Mr. PENTNEY was 2nd, both having Batavian and Green Curled. Mr. LYE came 1st with two varieties of Lettuces, both Cos; Mr. WAITE coming 2nd. Celery was good, Mr. WILKINS having the best with Solid White and Sulham Prize, Mr. WAITE being 2nd.

A collection of salads enabled Mr. WYTHES to win 1st place easily, as his capital collection was set up artistically in a large plot, having plants of ripe fruit of Tomatoes bent over the top. Lettuces, Endives, Cucumbers, Celery, Beet, &c., made up the collection. Mr. WAITE was 2nd, and Mr. SALMON, West Norwood, 3rd. Mr. SALMON was 1st with a collection of eighteen bunches of Herbs in variety; Mr. WAITE being 2nd. The consolation class for any other vegetable, still brought Mr. WAITE to the front with a superb dish of Perfection Tomatoes; Mr. BASILE came 2nd with huge firm Red Cabbages; and Mr. ALBERT, of Chiswick, was 3rd with Tomatos, Corncobs, Kohl Rabi, huge Pumpkins, &c., made up other variety here.

MISCELLANEOUS.

There were numerous honorary exhibits. Foremost was a very large, varied, and interesting collection of vegetables, sent by Mr. O. THOMAS, from the Queen's Gardens, Frogmore. It would be idle to say that these samples compared favourably with what were in the competitions; but the collection was a remarkably varied one, and comprised every description of vegetables in season, as also Salads. The whole was artistically grouped and represented in the collecting and arranging a great amount of labour. A Silver-gilt Knightian Medal was awarded.

A not less meritorious collection came from Barford Lodge, Dorking, set up by Mr. Bain, gr. to Sir TREVOR LAWRENCE, president of the society. This comprised Herbs and Salads, Gourds and Tomatos, Beans and Capsicums, Potatoes and Carrots, huge Aubergines, tiny Kohl Rabi, growing Mustard and Cress, &c. A Silver-gilt Knightian Medal was awarded. This exhibit, to which we must refer again, was the most original and instructive in the whole show.

Mr. EMPSON had a large and excellent collection of Carrots (Vote of Thanks). Mr. WOODHEAD, Isleworth, had nice red and white Cabbages, Turnips, and Brussels Sprouts. Mr. W. PALMER showed Tomato Palmer's Triumph, like Conference. Mr. H. W. WARD had Carter's Heartwell Cabbage, Model Curled Lettuce, and Giant Cos do. Messrs. FELLOWS & RYDER, Orpington, showed twenty-one dishes of their handsome Tomato Duke of York, the fruits of medium size and perfect form (Silver Banksian Medal); and from the Society's gardens came examples of the varieties of Cabbages and Potatoes, mentioned in our report of the meeting of the Fruit Committee at Chiswick on Thursday last, and all of which received three marks for general excellence. Awards of Merit were recommended to these.

A collection of seven varieties of Peas in so many dishes was shown by Messrs. DE BROTSCHELD, Gannorsbury House, Acton, gr. Mr. Jas. Halson, Sutton's Prolific, Sutton's A1, William I., Veitch's Chelonian, Sutton's Reading Giant, Sutton's Exonian, and Veitch's Autocrat. The last-named was sown on May 13, Reading Giant and Chelonian on June 5, and the others on July 11. All the latter were ready to pick, but not very full.

Two Cucumbers, called Frogmore Prolific, were shown by Her Majesty the QUEEN (gr. Mr. O. Thomas). These are medium-sized, dark green fruits, obtained from Lockie's Perfection x Rochford.

Mr. T. Wilkins, gr. to Lady THEODORA GUEST, Inwood House, Henstridge, sent a few fruits of Mango for exhibition.

A dish of Swedish Apples [Akers] was shown by Messrs. GEO. BUNYARD & Co., Maidstone. The fruits are very solid, the colour similar to a Peach, but faintly streaked. Messrs. BUNYARD & Co. also had a dish of fine fruits of Lady Sudeley Apples.

A seedling Plum, named Gordon Castle, was exhibited by Mr. CHAS. WEBSTER, Gordon Castle Gardens, Banff.

Fruits of the Alpine Strawberry Quatre-saisons, Rouge Ameliorée that obtained an Award of Merit on August 13 last, were exhibited by Mr. HUDSON, Gannorsbury House Gardens, Acton, W.

A capital Melon was exhibited by Mr. H. W. WARD, gr. to the Earl of RADNOR, Longford Castle, Salisbury. The variety is known as the Earl's Favourite, is a good size, straw-coloured, prominently netted, green-flesh of very good flavour (First-class Certificate). Two Melons were also staged by Mr. J. W. MILLER, gr. to Lord FOLEY, Ruxley Lodge, Esher. One of these was named Archie Henderson, a large fruit, thickly and coarsely netted, and green-fleshed. The other was La Favourite, also green-flesh.

From the Royal Gardens, Windsor, Mr. O. THOMAS exhibited stem of Tomato, Frogmore Golden, with fruits, a large good-looking variety; and Mr. A. J. WARD, Richmond, showed a lot of first-class Tomatoes, Chemin Rouge, which had been grown upon a Richmond allotment (Bronze Banksian Medal).

A pleasant-looking Apple named Marshall's Seedling, was exhibited by Messrs. TROS. RIVERS & SOX, Sawbridgeworth; and A. H. SNEY, Esq., The Grange, Wallingford, showed two fruits of an exceptionally solid culinary Apple named Rem-borough, large size, green, but slightly coloured with deep eye (Award of Merit).

Mr. Wythes, gardener to Earl PERCY, Syon House, Brentford, exhibited haulm of a dwarf very prolific French bean, named Northumberland Prolific (Award of Merit). Two nice-looking red-fleshed Melons were shown by Mr. J. Corbett, gardener to the Marquis of NORMANBY. A dozen plants of the Cabbage Lettuce, named Sutton's Favourite, exhibited by Mr. HUDSON from Gannorsbury House Garden, were culturally

Commended by the committee. Some fruits of a Tomato named Bart's Surprise, from Mr. F. M. BURR, Red House, Worthing, were rather small long fruits of little solidity. A dish of very well-grown fruits of Pear Souvenir du Congrès, exhibited from the Royal Horticultural Gardens, were culturally Commended.

Messrs. S. SPOONER & SONS, Hounslow, Middlesex, contributed a very commendable collection of fruit, none of which was other than good in quality. We noticed a nice lot of Duchess Favourite, a good, well-known September Apple something like Quarrenden in appearance, but higher-coloured, even, and rather larger; Lord Suffield, Stone's Apple, Worcester Pearmain, Yellow Ingestre, Councillor, and many others; also a dish of Hesse Pears, and a few sorts of Plums (Silver Knightian Medal).

Messrs. J. CHEAL & SONS, Lowfield Nursery, Crawley, showed excellent specimens of a very ornamental scarlet Crab, as well as fruits of Transcendent, Golden Siberian, and Dartmouth Crabs. A rare lot of Tomato stems in many varieties laden with heavy crops from the open air were the means of obtaining for the Earl of CARNARVON the committee's thanks.

As is usual on such occasions as this, Messrs. SUTTON & SONS, Reading, staged a representative collection of vegetables illustrative of high culture and careful selection, and a Silver-gilt Knightian Medal was awarded the exhibit. Ailsa Craig Onions, 70 of which were said to weigh 2 cwt., and several varieties of Carrots which were very fine; but why it is necessary to show that the Carrots have penetrated to a depth of 3 feet 10 inches is not evident. However, that is the length of one of the roots shown, though of course for practical purposes only about 12 inches was of any use. The Exhibition variety, which is a cross between Long Surrey and Intermediate Carrots, was very noteworthy. Windsor Castle Potato and Little Gem Cabbage were also deserving all praise. Tomatos and other vegetables were well represented.

A collection of vegetables remarkable for high cultural merit was the exhibit from Messrs. R. VEITCH & SON, Exeter. Their Monarch Leeks, Model Carrots, Flying Dutchman Tomato, and the different varieties of Onions, Carrots, Cauliflowers, Radishes, and other things, reflected very great credit on the Exeter firm, and a Silver Knightian Medal was awarded.

Messrs. H. CANNELL & SONS, Swanley, Kent, were not behind, but exhibited a large collection of vegetables from their farm near Swanley. A Silver Knightian Medal was awarded this collection, in which there were excellent samples of Onions, Leeks, Beet, Carrots, Brussels Sprouts, Artichokes, Marrows, &c.

Messrs. JAS. VEITCH & SONS, Royal Exotic Nursery, Chelsea, in their remarkable collection, had splendid specimens of their Green Curled Endive, Broad-leaved Batavian Endive, and White Curled Endive. Their Savoys, Cabbage, Seakale, Beet and Carrots, too, were of capital quality; Kohl Rabi, both green and purple kinds; Salsify, Turnips, Radishes, Runner Beans, and Tomatoes, were all of good character and choice selection. Messrs. Veitch were deservedly awarded a Silver-gilt Knightian Medal.

Mr. Geo. Wythes, gr. to Earl PERCY, Syon House, received a similar Medal for a very large collection of vegetables to be shown from a private garden, and representative of almost all kinds now in season.

Messrs. DOBBIE & Co., Rothesay, Scotland, had a commendable collection of vegetables, and their Parsley, Dobbie's Selected, deserves mention; it is one of the very finest curled selections we have seen. Parsnips, Celery, and other things were included in this exhibit (Bronze Banksian Medal).

Messrs. BARR & SON, King Street, Covent Garden, exhibited a number of varieties of Tomatoes cultivated in the open, most of them of the Perfection type; also a nice lot of dwarf Kale, both green and purple (Silver Banksian Medal).

Messrs. SUTTON & SONS, Reading, exhibited a Scarlet-runner Bean called A1, apparently a wonderful bearer, with good fleshy pods of rich green colour (Award of Merit).

Lecture on Garden Manures.

There was considerable interest manifested in the lecture given by Mr. W. G. Watson, the subject of which was "Garden Manures." In the absence of the author, the paper was read by the Assistant-Secretary (Mr. J. Weather), and the chairmanship was undertaken by A. W. Sutton, Esq.

In commencing the subject, Mr. Watson very properly dealt first with the most common form of manure and also the most easily procurable, viz., that furnished by stables or farm-yards. It was remarked that stable or farm-yard manure was exceedingly variable in its quality. It would vary in this particular, according to the age and condition of the animals, upon what kind of straw was used, and, further, upon the quantity of straw that was mixed with the real manure. Manure from young growing animals was less strong than older ones, and animals that were worked very hard would also give manure of medium strength only. In either case there would be more nutrition abstracted from the food by the animals than in the case of fully-grown animals only partially worked. Medicine given to animals would be sure to affect the quality of the manure. All the straw over and above the quantity requisite to absorb the urine would, in the same proportion, weaken its character. Stable-manure contained almost all the elements required by crops, organic and inorganic. As a general manure, it was a most perfect one. If, however, nothing be supplied to the land other than this manure, the same land will in time be lacking in lime and nitrogen, two elements which in large degree become absorbed from the food by the animals for the formation of bone and flesh.

Valuable hints were given as to the treatment of this kind of manure, and the heap-method explained. It was insisted that in order to keep off the rain, manure should be stacked in covered places. Urine being the very best part of the manure should not be allowed to trickle away, but should run into an underground tank, from which occasionally it could be pumped and thrown over the mass of decaying manure, which would prevent excessive fermentation, and the consequent loss of ammonia. The temperature and the centre of the heap should never rise beyond 150°, nor be allowed at any time to steam. In either case there will be a loss of ammonia. A strong odour would likewise indicate loss from this cause. The degree of usefulness possessed by the excrement from different animals was explained thus: the manure from cows contained a small amount of nitrogen, and large percentage of water. Horses' excrement was richer in nitrogen, and contained less water; it had also the advantage of being easily distributed, and was soon available as plant food. Sheep-dung had a still higher percentage of nitrogen, and a less degree of water, being also easily soluble. Pig manure varied considerably, according to the food they consumed, &c. The reasons for applying fresh dung to stiff soils, and thoroughly decomposed manure to light and dry soils, was next explained, and the necessity of giving soil of the latter nature manure which was at once soluble and available to the plants was emphasised. Unless this was done, the manure was wasted through the soil, before the crops had benefited from its application.

Bones were now employed in very much finer condition than formerly. It had been found that the finer the bones were ground, the sooner were they available to plant-life, and the more valuable were they as manure. Bone-meal is now very much used.

Superphosphate of Lime.—Mr. Watson then explained the character of this valuable manure, by saying that were bones treated with sulphuric acid, certain gases would become volatile, and the remaining compound would be that known as superphosphate of lime. This superphosphate was now manufactured by other means, and a considerable amount is used. Bone-meal was better for dry and hot soils than the superphosphate.

Nitrate of Soda: Phosphatic Slag.—The phosphatic slag, a mineral manure, was good for peaty soils, and considerable benefit might be expected to follow its application on land in the Fen district. Nitrate of soda was obtained in large quantities from South America. Its action was quicker than that of any other nitrogenous manure. The quality of this manure is very variable. It is more easily washed from the soil than any other, and it is therefore not a complete manure, but should be used only as an immediate stimulant.

Guano—This was described as the dried excrement of birds. It used to contain about 16 to 18 per cent. of ammonia, but through the excessive adulteration now practised, it falls frequently to 11 per cent., and sometimes 9 to 10 per cent. The Texas Guano is the excrement of the native bats, and realises high prices. Guano is adulterated with sand, clay, powdered brick, gypsum, &c.

Lime was next alluded to, and its well-known action upon soils explained. The application of lime hastens nitrification, and is very useful in old gardens where a quantity of vegetable humus is present.

Potash is absolutely indispensable to plants, and without it no chlorophyll can be formed. It is applied frequently as kainit, but has the reputation of creating a tendency to parasitic fungi when used in large quantities.

Sea-weed was used in lands near the shore, and in preparing it, the weed was frequently mixed with coarse manure or gas lime. About 10 to 15 tons per acre was the quantity recommended.

Fish, salt, and woollen rags, are all used as garden and agricultural manures under certain circumstances. The fish is carted together and covered with earth. When decomposed, it is used at about the rate of 1½ tons to the acre. Salt acts organically upon the soil, in addition to being a manure. Its application is useful in ridding the soil of certain insect pests. Woollen rags are much used in Kent as manure for hops.

Blood and Soot were also alluded to, and their uses explained. If economy be practised in regard to manures, it was necessary to first find by analysis what was deficient in the soil, and then supply that only. Some soils were deficient only in one element, and did not require a general or perfect manure. The storage of manure is an important item economically. The gardener who allows the urine to escape from his stable manure, and afterwards buys chemical preparations, may be said to buy what he throws away.

A few hints were then given by Mr. WATSON on the subject of making experiments in regard to land manure and crops.

NATIONAL CHRYSANTHEMUM.

SEPTEMBER 3, 4, AND 5.—On Tuesday last was opened, under the auspices of the National Society, an early exhibition of Chrysanthemums in the Royal Aquarium. Fortunately, perhaps, from the visitors' point of view, the early shows are held in conjunction with exhibitions of Dahlias and Gladioli under the same management. At the September show there is usually but a small collection of Chrysanthemums to be seen, and the occasion under notice was certainly no exception to the rule. But little success appears to reward the attempt to prolong the season of the large-flowering Chrysanthemum, by obtaining varieties that will bloom well before autumn is commenced. Probably most people will

not see any cause for regret in this circumstance, being of opinion that the Chrysanthemum is essentially an autumn flower, that it is best appreciated at that period, and that if it be desirable that the flowering period be prolonged, it should be by the means of late varieties rather than early ones.

CHRYSANTHEMUMS.

The class for twenty-four bunches of Chrysanthemums, in not fewer than eighteen varieties, was won by Mr. ERIC F. SUCH, The Nurseries, Maidenhead. The "hunches" consisted of a number of sprays in each variety, dibbled into pots filled with cocoa-nut fibre, in a similar manner to that in which cuttings are put in—an arrangement not quite as pleasing as the ordinary tied bunches.

The twelve blooms of Madame C. Desgranges, from Mr. J. WRIGHT, 87, Denmark Road, Camberwell, were of good quality, and it was remarked that the 2nd prize collection came from almost the same locality—Clapham.

In the stand of twelve blooms of any large-flowering varieties, excepting M. C. Desgranges, we noticed that E. Molyneux, E. Dean, and Louise were prominent. The last-named new variety is a very useful one for early work. The exhibitor of the best lot was

Miss DEBENHAM, St. Peter's, St. Albans, who let place for twelve Pompons, but the class was not remarkable. The best six bunches of any yellow varieties, excepting M. C. Desgranges, included Mrs. Burrell, G. Wermig, and Mrs. Hartshorn. The collection was shown by Mr. W. C. Pagram, gr. to J. COURTENAY, Esq., The Whim, Weybridge.

For early work the following six varieties should be useful, as they were shown in the successful stand for that number of distinct varieties, excluding M. C. Desgranges—Miss Anna Hartshorn, E. Dean, Louise, E. Molyneux, W. H. Lincoln, and Madame Edward Rey. The exhibitor was Mr. Chas. Cox, gr. to J. TROTTER, Esq., Brickendon Grange, Hertford.

There were few groups of Chrysanthemum plants staged. We noticed one from Mr. NORMAN DAVIS, Camberwell, composed chiefly of plants of the white-flowered Lady Fitzwigram, and some Ferns.

Mr. H. J. JONES, Ryecroft Nursery, Lewisham, had a fair-sized group of tuberous-rooted Begonias, Ferns, Lilium lancifolium album, and a few Chrysanthemums, the whole being very attractive.

DAHLIAS.

These were plentiful, and the quality good. Amongst the principal exhibitors were Mr. CHAS. TURNER, Royal Nurseries, Slough, who was 1st for forty-eight blooms; Mr. JNO. WALKER, Thame, Oxon, 1st for thirty-six blooms; Mr. GEO. HUMPHRIES, The Nurseries, Chippenham, won for twenty-four blooms; J. CHEAL & SONS, Lowfield Nurseries, Crawley, 1st for eighteen distinct bunches, &c.; and J. BURRELL & Co., Cambridge, 1st for twelve bunches of Pompons and others.

Collections of blooms were also shown by the trade, including a very large one from Mr. THOS. S. WARE, Hale Farm Nurseries, near Tottenham; others from Messrs. J. CHEAL & SONS, Messrs. DOBBIE & Co., Rothesay, &c.

GLADIOLI.

The collection of these that won 1st place, was one from Messrs. J. BURRELL & Co., who staged a good display, but arranged them in too stiff a manner.

Miscellaneous Exhibits included nice collections of fruit from S. SPOONER & SONS, Hounslow, and J. CHEAL & SONS; hardy flowers, fruit, &c., from Messrs. J. LAING & SONS, Forest Hill Nurseries; Sweet Peas, from the Brockhampton Nurseries (W. E. Tidy, manager), &c.

SEPTEMBER 3.—There were a few Chrysanthemums submitted before the Floral Committee on the above date.

Mr. JOHN ROBERTS, nurseryman, Shepperton, brought a small white-flowered sport from Madame Desgranges, of Pompon size and shape, very free and useful for cutting from, which the committee wished to see again. It is named *Amande*, and Mr. ROBERTS stated the flowers find a ready sale in the market. From Mr. H. J. JONES, Ryecroft Nursery, Lewisham, came two early-flowering varieties, viz., *Madame Caruvarise*, bluish; and yellow Pompon *Amie Conderchet*, which the committee commended in each case.

A First-class Certificate was awarded to the white semi-double form of *Anemone japonica* named *Whirlwind*, the blossoms pure and semi-double, from Mr. PRITCHARD, nurseryman, Christchurch. The same award was made to Messrs. J. LAING & SON, Staadest Nurseries, Forest Hill, for *Linaria italica*, a charming free-flowering white species; and to Apple Red Bietingheimer, a fine fruit much tinted with red, and partaking of the form and size of *Warner's King*. From Mr. R. OWEN, nurseryman, Maidenhead, came four varieties of early-flowering Japanese Chrysanthemums, and a Vote of Thanks was awarded. Improved cups and tubes for Chrysanthemum blooms were shown by Dr. WALKER, Wimbledon, and Mr. THOS. JENNER, Rochester.

A committee of Dahlia experts made the following awards: To Cactus Dahlia Mrs. A. Beck, bright salmon-red, a true Cactus variety, with some novelty of colour. Single Dahlias *Hetty Dean* and *Pompon Flora*, deep yellow, were very attractive. These were from Mr. T. S. WARE, Hale Farm Nursery, Tottenham. A First-class Certificate of Merit was awarded to Mr. J. T. WEST, Cornwallis, Breatwood, for Cactus Dahlia *Valkyrie*, crimson centre, shading to rosy-mauve and lush, very distinct, a fine Cactus type; also to Cactus Dahlia *Fusilier*, pale bright scarlet, very distinct and attractive, from Messrs. KEYNES, WILLIAMS & Co., nurserymen, Salisbury; also to Messrs. J. CHEAL & SONS, nur-

eryman, Crawley, for Cactus Dahlia Mrs. Wilson Noble, salmon-rose, a very distinct and pleasing flower. Also to the following varieties of Pompon Dahlias from Mr. CHARLES TURNER, Royal Nursery, Slough, viz., *Douglas*, very dark maroon, of fine shape; *Fabio*, yellow, heavily tipped with bright red; *Nerissa*, soft rosy pink, very pleasing; and *Ganymede*, salmon, flushed with delicate mauve on the petal edges.

Some attractive varieties of the single Cactus Dahlia were shown by Messrs. DOBBIE & Co., nurserymen, Rothesay, but they failed to find favour with the committee.

Three very fine forms of Hybrid Gladioli were submitted for approval by Messrs. J. BURRELL & Co., nurserymen, Cambridge, and First-class Certificates of Merit were awarded to each, viz., *Terea*, a pale pink, flaked slightly with dark reddish-purple; *Sunray*, delicate pink, with slight flakes of crimson; and *Blushing Morn*, delicate flesh, with a tinting of pink—a charming variety.

NATIONAL DAHLIA.

SEPTEMBER 6, 7.—What with the Royal Aquarium show on the 3rd, and the above exhibition of the National Society at the Crystal Palace three days later, the Dahlia growers had a busy week. The show and fancy varieties were finer at Westminster, for the heat and closeness of the atmosphere appeared to have told upon them towards the end of the week, and the flowers were smaller, and less finished. The Cactus and decorative varieties were superb, however, and the singles and Pompon varieties very fine.

Show Dahlias.—At the Crystal Palace, Mr. C. TURNER, Royal Nursery, Slough, was an easy winner for sixty blooms, distinct, the following being in fine character:—John Hickling, a very fine yellow self; George Rawlings, John Standish, an old flower, yet still a fine exhibition variety; Gloire de Lyon, Warrior, W. Powell, another fine yellow self; Harry Turner, Willie Garratt, Mrs. Gladstone, the best bloom of his variety in the show; Arthur Rawlings, Florence, Duchess of York, a charming tipped flower; Grand Sultan, Alice Emily, Burgundy, Mahel Tranter, a very pleasing soft primrose-yellow self; Mrs. Saunders, one of the best fancies, yellow, tipped with white; Diadem, John Walker, the finest white self; Mand Fellows, a charming light flower; R. T. Rawlings, and Shottesham Hero, heavily tipped with rosy-purple, very good. Mr. JOHN WALKER, nurseryman, Thame, Oxon, was a good 2nd; and Messrs. KEYNES, WILLIAMS & Co., Salisbury, 3rd.

With forty-eight blooms, Mr. TURNER was again placed 1st, a few of the finest flowers in the stand being Warrior, Alice Emily, Hope, George Rawlings, R. T. Rawlings, James Vick, Shottesham Hero, John Bennett, Mathew Campbell, Pleasance, very bright; and Mrs. Gladstone, Mr. J. WALKER was again 2nd; and Messrs. KEYNES & Co., 3rd.

With thirty-six blooms, Mr. GEORGE HUMPHRIES, nurseryman, Cheltenham, came to the fore, having well-developed blooms of *Comedian*, Self, Duke of Fife, Willie Keith, Miss Cannell, William Powell, Harry Turner, Duchess of Albany, John Walker, R. T. Rawlings, Mrs. Mortimer, and Queen of the Belgians; Mr. J. T. WEST, Cornwallis, Breatwood, was 2nd; and Messrs. J. SALTMARSH & SONS, nurserymen, Chelmsford, 3rd.

With twenty-four varieties, Messrs. SALTMARSH & SONS were 1st, with a very good stand, their leading flowers being *Colonist*, J. Hickling, A. Rawlings, R. T. Rawlings, John Walker, Prince of Denmark, William Rawlings, and Alice Emily; Mr. J. T. WEST, who was 2nd, had the following very good, W. Powell, John Walker, Harry Turner, Queen of the Belgians, Shirley Hibberd, Miss Cannell, John Hickling, and Mrs. Gladstone; Mr. G. HUMPHRIES was 3rd.

With twelve blooms, Messrs. J. CHEAL & SONS, Lowfield Nursery, was 1st, the stand containing good examples of Mrs. Gladstone, W. Rawlings, Arthur Cock, George Rawlings, R. T. Rawlings, and John Walker; Mr. ARTHUR, Florist, Romford, was 2nd.

In the *amateurs' division* for twenty-four blooms, Mr. THOMAS HOBBS, Lower Easton, Bristol, who has been showing remarkably well this season, was 1st, with capital blooms of Henry Glasscock, Duchess of Albany, John Henshaw, Alice Emily, Hartie King, Prince of Denmark, Harry Turner, T. W. Girdlestone, Geo. Rawlings, Mrs. Gladstone, and Willie Keith; Mr. L. FEWKES, Castle Bromwich, Birmingham, was 2nd; and Mr. T. ANSTISS, Brill, 3rd.

With twelve blooms, exclusive of fancies, Mr. A. Starling, gr. to H. H. RAPHAEL, Esq., Havering, was 1st, his leading flowers being John Walker, Wm. Rawlings, J. T. West, James Vick, R. T. Rawlings, *Colonist*, and T. W. Girdlestone; Mr. J. GURNEY FOWLER, South Woodford, was 2nd. With six blooms the 1st prize fell to Mr. E. JEFFERIES, Langley, Chippenham; Mr. J. GILBERT, Freshwater, Isle of Wight, was 2nd.

Fancy Dahlias.—Mr. T. ANSTISS, Brill, had the best twelve blooms, *Dandy*, Prince Henry, Mrs. Saunders, and Matthew Campbell being very good; Mr. S. COOPER, Chippenham, was 2nd. For six blooms, Mr. A. STARLING was 1st, and Mr. E. JEFFERIES 2nd.

In the open classes for Dahlias in colours, the best six blooms of any dark variety was Willie Keith, from Mr. C. TURNER; Mr. S. MORTIMER, Farnham, was 2nd with James Cocker. Several other varieties were shown. The best light, not yellow, were those of John Walker from Mr. WALKER; Mr. S. MORTIMER was 2nd with Mrs. Gladstone. There were other exhibitors, but these two varieties only were shown. The best six blooms of a yellow came from Mr. WALKER, who had W. Powell; Mr. MORTIMER was 2nd with John Hickling.

R. T. Bawlings and Buttercup were also shown. The best-tipped Dahlia was Mrs. Saunders, six excellent blooms being shown by Mr. M. V. SEALE, Sevenoaks; Mr. MORTIMER came 2nd with Mrs. N. Hills. Mr. G. HUMPHRIES had the best six blooms of a striped Dahlia, showing Frank Pearce in very fine character; Mr. J. WALKER was 2nd with Matthew Campbell. The best-edged Dahlia was Miss Cannell, from Mr. J. WALKER; Mr. J. T. WEST coming 2nd with his namesake.

Cactus Dahlias.—In order that only true forms of the Cactus type should be shown in this class, a list is published in the schedule of prizes of those eligible for exhibition in this class. With eighteen varieties in bunches of six blooms, Messrs. J. CHEAL & SONS were 1st, having superb examples of Mrs. Wilson Noble (new), very fine; Harmony, Earl of Pembroke, Delicata, Lady Penzance, Matchless, May Pictor, Bertha Mawley, Countess of Gosford, Mrs. Gordon Sloane (new), and Purple Prince. Messrs. KEYNES & Co. were 2nd, having different from the foregoing:—Fusilier (new), very fine; Mrs. Barnes, very pretty; Grenadier, and Royal George. 3rd, Mr. C. TURNER. With twelve bunches, Messrs. J. BURRELL & Co., nurserymen, Cambridge, were 1st, having Gloriosa, Countess of Gosford, Earl of Pembroke, Mrs. Pearl, Delicata, Lady Penzance, Mayor Haskins, Robert Cannell, and Mary Hillier. Mr. J. T. WEST, was 2nd, having fine bunches of Miss A. Nightingale (new), Miss Annie Jones (new), Mary Hillier, Gloriosa, Matchless, and Delicata.

Decorative Dahlias.—In the class for twelve bunches, no Cactus variety could be shown, but Mr. C. TURNER had to be disqualified through inadvertently staging a Cactus form. Messrs. J. CHEAL & SONS had the best twelve bunches, the most striking varieties being Arthur Cheal, Chancellor Swayne, Mrs. Hawkins, Harry Freeman, Maid of Kent, Amphion, and Lady Primrose. Mr. M. V. SEALE was 2nd, having of good varieties distinct from the foregoing, Baron Schroder, Marchioness of Bute, and Sir Roger.

Pompon Dahlias.—There were very few shown, Mr. C. TURNER taking the 1st prize for a collection of small-sized flowers, beautifully fresh and bright, including Nerissa, Fabio, Bacchus, Ganymede, Douglas, Purity, Geo. Brinckman, Buy Blas, Jessica, Crystabella, Eric, Amber, and Iola, edged with bright purple; 2nd, Messrs. KEYNES & Co., their best varieties being Madge, Tommy Keith, Irene, Arthur West, Lilian, Janet, and Model.

With twelve bunches, Messrs. J. BURRELL & Co. were 1st; and Mr. J. T. WEST 2nd.

Single Dahlias.—These still hold their own, and they were shown in very fine condition in twenty-four bunches. Messrs. J. CHEAL & SONS were placed 1st, the most distinct being Miss Hanshaw, Guillema, M. C. C., Formosa, Miss Glasscock, Miss Roberts, Victoria, Phyllis, Marion Hood, and Northern Star; 2nd, Mr. SEALE, who had in good character, distinct from the foregoing, Mrs. Parrot, Miss Jeffries, Duchess of Albany, W. C. Harvey, Eclipse, and Evelyn. There was no entry in the class for twelve bunches.

Cactus and Decorative Dahlias.—With twelve bunches, Mr. J. STREDWICK, St. Leonards, was 1st, having very good bunches of Gloriosa, Delicata, Countess of Gosford, Bertha Mawley, Harmony, Juarez, and Lady Penzance; Mr. E. Brown, gr. to M. W. MORRIS, Esq., Horley, was 2nd. With six bunches, three blooms of each, Mr. E. MAWLEY, Berkhamsted, was 1st; and Mr. S. COOPER 2nd. With six varieties of Cactus only, Mr. J. STREDWICK was 1st; and Mr. E. BROWN 2nd.

Messrs. H. CANNELL & SONS offered prizes for four bunches of Cactus Dahlias sent out by themselves, Mr. W. MIST being the only exhibitor, and took the 1st prize.

Pompon Dahlias, Amateurs.—With six varieties in bunches, Mr. J. T. HUDSON, Gunnersbury, was 1st with some excellent flowers; Mr. J. STREDWICK taking the 2nd prize. With six bunches, six blooms in each, Mr. S. COOPER came 1st, and Mr. G. WYATT, Twickenham, 2nd.

Single Dahlias, Amateurs.—In the class for six bunches, ten blooms of each, Mr. T. W. GIRDLESTONE, Sunningdale, was 1st, with Kitty, Sobrette, Golden Locks, Dearest, Prince of Wales, and a seedling; Mr. C. OSMAN, Sutton, was 2nd. With six bunches, six blooms in each, Mr. E. MAWLEY was 1st, and Mr. W. PARROTT, Sevenoaks, 2nd. With twelve varieties of single fancy Dahlias, Messrs. J. CHEAL & SONS were the only exhibitors, and they had Phyllis, Mrs. Harris, Fred Leslie, Alice Searle, Mrs. Wyrthes, Miss Glasscock, May Sharpe, Dearest, and James Scobie in excellent form.

Seedling Dahlias.—Certificates of Merit were awarded to the following: Show Dahlia Yellow Globe, bright yellow, with amber centre, six fine blooms of excellent quality being shown (G. HARRIS, Orpington); Cactus, Beatrice, bright pinkish-lilac, true Cactus, very distinct and attractive (C. TURNER, Slough); Cactus, Henry Stredwick, dull crimson, flushed with maroon, becoming brighter with age, true Cactus (J. STREDWICK, St. Leonards); Cactus, Mrs. Monnt, brilliant scarlet, with slight dark shading, true Cactus; Mrs. Wilson Noble, salmon-rose, very distinct, and extra fine, a true Cactus (J. CHEAL & SONS); Cactus, Miss Annie Jones, bright pale scarlet, a true form; and Miss A. Nightingale, salmon-red, deepening in colour, very distinct, true Cactus (J. T. WEST, Brentwood); Mrs. A. Beck, bright pale orange-red, a fine true type (T. S. WARE); Fusilier, soft salmon-red, distinct and true; Grenadier, pale scarlet, very fine, and effective; and Royal George, lively salmon-lilac and rose, true Cactus, very distinct (KEYNES, WILLIAMS & Co., Salisbury). To Pompons, Douglas, bright deep maroon, small, fine shape; Nerissa, soft rosy-pink, very pleasing, small; and Ganymede, salmon, flushed on the edge of the petals with delicate mauve (C. TURNER). Pompons, Rosebud, pale ground, heavily tipped with crimson-purple, fine shape, very pretty (J. CHEAL & SONS). Single, Sobrette, pale ground flaked and pencilled with crimson and maroon, quite distinct, fine form (T. W. GIRDLESTONE); and single,

Beauty's Eye, soft pink, with a ring of orange-crimson round a golden centre (E. MAWLEY). The foregoing awards were made by a large committee of Dahlia experts.

Of miscellaneous exhibits there were a large number, Messrs. J. LAING & SONS, Forest Hill leading the way with a group of Camellias and one of Glorinas, the latter from seeds sown in spring, all showing high quality. Mr. M. PRITCHARD, nurseryman, Christchurch, had a collection of hardy cut flowers; Messrs. DOBBIE & Co., seedsmen, Rothesay and Orpington, had cut Dahlias of various types, including a collection of the single Cactus types; Messrs. H. CANNELL & SONS, Swanley, a collection of bunches of Cactus and decorative Dahlias; Messrs. CHEAL & SONS, several stands of the same; Mr. T. S. WARE, Tottenham, a large collection of Dahlias, forming an important feature; and Messrs. J. PEED & SONS, Lower Norwood, Dahlias and cut hardy flowers.

GLASGOW HORTICULTURAL.

It was admitted on all hands that the excellence of the exhibits generally at the recent show was equal to anything that has been seen in the West of Scotland previously; the enthusiasm of the citizens has been aroused somewhat by the attention now given to horticulture in the case of parks and botanic gardens. The nurserymen and florists did much to make the display a good one.

Enclosing the orchestra was a great display of fine-foliage and flowering-plants, staged by Messrs. AUSTIN & McATULIN, who also had two tables with choice selections on each.

Messrs. THYNE made their usual exhibits of Crotons, Dracaenas, and Palms, and other suitable plants, including numerous Lilies interspersed in the exhibit, which enhanced its appearance.

A table of choice plants came from Mr. DEWAR, the Curator of the Botanic Garden, who throws great energy into the work of the exhibitions. His table was rich with Marantas, Begonias, Aloacasias, Alloplectus Lynchii, Zingibers, and other species.

The tables furnished by gardeners in competition were all arranged with taste, but variety was to some extent wanting. Crotons, though of the finest colour, should not be included in a group without any regard to proportion. Mr. HUGH MCGULEY, gardener, Langside, was 1st.

Orchids were few in number, but the plants were good and well-flowered. Mr. D. WILSON, gr., Westmount, was 1st for three plants. Odontoglossum Pescatorei had one spike of large size, with flowers finely developed. Mr. GEO. WESTON, Pollockshields, was 2nd. The competition for one Orchid only was engaged in by three exhibitors. Ferns were not so numerous as at some former exhibitions, but the excellence of the plants was remarkable. The Gleichenias of Mr. JOHN MITCHELL were excellent.

CUT FLOWERS.

Passing to the adjoining hall, a grand display of cut flowers was seen. Much labour had been expended by the exhibitors in protecting their flowers from the drenching rains. Mr. FORBES, nurseryman, Hawick, had a display of spikes of Hollyhocks, Antirrhinums, &c., and Carnations in quantity.

Gladolus were as fine as we have seen them in Scotland, Mr. SMITH's 1st prize stand was remarkable for cleanliness, size, and fine form. Mr. M. CAMPBELL, nurseryman, Blantyre, had a large and choice selection of Carnations, Cannas, &c. His bunches of Carnation Valkyrie were much admired. Cannas rich in colour were Madame Soubeyrand, Lutea splendens, Explorator Crampel, and Madame Crozy. Mr. CAMPBELL had also a capital collection of Dahlias.

In another hall Mr. CURTISSTON had a display of herbaceous plants, Liliuns, Phloxes, Helianthus in variety, Tritomas, Coreopsis lanceolata (one of the best flowers on this gorgeous table, 26 feet long), Ranisies in quantity, and their new Violas, Mrs. R. K. Mitchell, William Haig, and Sweetness, were well exhibited. Mr. SWELLIE'S Pansies, in such variety, made a great show; Viola sprays filled long tables. Messrs. DOBBIE & Co., of Rothesay, staged a large exhibit, embracing great variety. Cannas were very attractive; Queen Charlotte, Madame Crozy, and Premier de Neice are very pretty varieties; Cactus Dahlias, including such attractive varieties as Sir Walter Scott, Dandy Dimont, and Pirate, were beautiful and distinct. This exhibit was backed with a selection of Fuchsias in pots. A selection of Celery, red and white Leeks, and Onions was also shown by Messrs. DOBBIE.

Asters, Sweet Peas, Marigolds were passed, and then we paused to see the fine exhibits of Roses. Messrs. COCKER & SONS, Aberdeen, had a 1st prize lot, which at any season would be considered first-rate; Captain Hayward, Caroline Testout, Mrs. J. Laing, Gustave Piganean, Alice Brunner, Louis van Houtte, and Prince Arthur were amongst the finest blooms. Mr. CROLL, Dundee, had a good collection, being 2nd.

FRUIT.

There was the usual excitement over the exhibits of fruit. The display of Grapes was equal to that of former years. Black Hamburgs were remarkably fine in colour and size of berry, as well as in bunch. Mr. MENZIES, Dunipace Gardens, was again 1st, a position which he has held for three seasons past; Mr. WHITE, the Castle, Largs, was a good 2nd.

In a class for any Grape other than Black Hamburg, Mr. THOMSON, gr. at Wheatlands, had a pair of grand bunches of Muscat Hamburg, which excelled the Alicantes, Madresfield Court, and others; Muscat of Alexandria was largely represented. Mr. KIDD was 1st with fine examples from Carberry Towers; Mr. McCONOCHIE, Cameron House, was a good 2nd. In the class of four bunches Mr. LESLIE, Pitcullen, Perth, was

1st, his Madresfield Court, Muscats, Alicantes, and Gros Maroc being of great merit; Mr. McCONOCHIE was a close 2nd.

The collections of fruit were good. Mr. D. MURRAY, Culzean, was 1st for thirteen dishes, all of much excellence, a good smooth Cayenne Pineapple, capital Noblesse Peaches, Elrage and Pineapple Nectarines, were among the best fruits which this exhibitor ever tabled; we have seen finer Grapes from Culzean. Mr. McBEAN, Craighends, was 2nd, his Grapes being his best dishes.

In the class for six sorts, Mr. LESLIE, Perth, was 1st, his Peaches were remarkably fine; Muscat and Black Hamburg Grapes good; Mr. HALLIDAY was 2nd. Melons were numerous and were judged uncut. Peaches were finely coloured, and Mr. McBEAN's six fruits were large, and had 1st prize. Plums and outside fruit generally was not of more than average in quality. Apples of the larger kitchen sorts were very fine and more highly coloured than we should have expected. Mr. SMITH, Roselea, had two dozen splendid Apples.

VEGETABLES were excellent. Mr. McBEAN had 1st prize for thirteen sorts, which were of the highest merit, and the Veitch Memorial Prize was also awarded him. The 2nd prize went to Mr. BROWN, gr., Houston, for a collection little inferior to McBEAN'S. In the class for six sorts, Mr. McBEAN was 1st, and Mr. BROWN, 2nd, for Messrs. SUTTON'S prizes. Celery, Onions, Leeks, Carrots, and the fifty pots of Parsley, were of finest quality. Altogether, the exhibition was satisfactory to all.

The judging of baskets of flower bouquets, sprays, crosses, &c., which was done by ladies, require much patience and knowledge, as the numbers and variety were bewildering.

A novelty in economics was the exhibit of teakwood pots, Orchid stakes, &c., from Mr. JOHNSTON, Paisley. The darkness of the Standrey Halls is much against the appearance of such a grand display.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.				RAINFALL.		BRIGHT SUN.			
	ACCUMULATED.				Inch.	Ins.	Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1895.		
	Above (+) or below (—) the Mean for the week ending September 7.	Above 42° for the Week.	Below 42° for the Week.	Above 42° difference from Mean since January 1, 1895.					Below 42° difference from Mean since January 1, 1895.	
					Mo. (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1895.	Total Fall since Jan. 1, 1895.	Percentage of possible Duration for the Week.		Percentage of possible Duration since Jan. 1, 1895.
Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.	Ins.					
0	2 +	89	0	+ 223	+ 262	2 +	159	30.2	28	30
1	3 +	124	0	+ 223	+ 414	5 —	130	19.8	44	35
2	4 +	103	0	+ 163	+ 276	1 —	130	19.4	40	34
3	5 +	145	0	+ 116	+ 283	0 aver	111	16.8	62	41
4	4 +	134	0	+ 120	+ 372	3 —	105	15.9	43	37
5	4 +	146	0	+ 47	+ 333	0 aver	100	14.5	63	41
6	2 +	103	0	+ 93	+ 384	5 —	136	23.0	41	33
7	2 +	121	0	+ 120	+ 303	5 +	119	20.4	35	36
8	3 +	131	0	+ 55	+ 337	4 —	108	20.5	43	43
9	3 +	111	0	+ 31	+ 265	5 —	149	22.5	40	31
10	1 +	110	0	— 35	+ 195	3 —	126	24.0	40	34
* 4	4 +	158	0	+ 89	+ 243	7 —	122	16.4	63	51

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

- 0, Scotland, N. Principal Wheat-producing Districts—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S.
- Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; * Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending September 7, is furnished from the Meteorological Office:—

"The weather continued very fine and dry generally over the greater part of England until the night of the 6th, when severe thunderstorms, accompanied by heavy rain and hail, were experienced over our southern and eastern counties. In most parts of Ireland, Scotland, and the north-west of England the conditions were again unsettled, frequent rain alternating with fine, bright intervals.

"The temperature exceeded the mean in all districts, the

excess being as much as 4° or 5° over eastern, southern, and central England. The highest of the maxima, which were recorded on rather irregular dates, varied from 85° in 'England, E.,' 84° in the 'Midland Counties,' and 83° in 'England, S.,' to 72° in 'Ireland, S.,' and 71° in 'Scotland, N. and W.'

The lowest of the minima were registered at the beginning of the week over England, but towards its close over Ireland and Scotland; they ranged from 34° to 35° in Scotland, from 40° to 42° in Ireland, and from 38° to 46° over England; in the 'Channel Islands' the lowest reading was 51°.

The rainfall was less than the mean in most districts, but just equalled it in 'England, E. and S.,' and exceeded it in 'Scotland, N.' and 'England, N.W.' At all our most southern and south-eastern stations, the only rain occurred during the thunderstorm noted above, when large amounts were reported in many places.

The bright sunshine exceeded the mean in all districts excepting 'Scotland, N.' The percentage of the possible duration ranged from 63 in 'England, S.' and the 'Channel Islands,' and 62 in 'England, E.,' to 40 in 'England, N.E.' and over Ireland, 35 in 'England, N.W.,' and 28 in 'Scotland, N.'

MARKETS.

COVENT GARDEN, September 12.

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

OUT FLOWERS.—AVERAGE WHOLESALE PRICES.

Table with columns for flower types (Arums, Asters, Bouvardias, Carnations, Chrysanthemums, etc.) and their prices in s. d. s. d. format.

FRUIT.—AVERAGE WHOLESALE PRICES.

Table with columns for fruit types (Apples, Damsons, Figs, Filberts, Grapes, etc.) and their prices in s. d. s. d. format.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

Table with columns for plant types (Adiantum, Aspidistra, Asters, Chrysanthemums, etc.) and their prices in s. d. s. d. format.

VEGETABLES.—AVERAGE WHOLESALE PRICES.

Table with columns for vegetable types (Beans, Cauliflowers, Cucumbers, Marrows, etc.) and their prices in s. d. s. d. format.

POTATOS.

Best samples, good demand at £1 to £4 10s.; ordinary, £3 10s. to £3. Supplier heavy. J. B. Thomas.

FRUITS AND VEGETABLES.

BOROUGH: Sept. 10.—Quotations:—Carrots, 1s. 3d. to 3s. 6d. per dozen bunches; Turnips, 1s. 6d. to 2s. per bag; Onions, 2s. 6d. to 4s. 6d. per bag; Horseradish, 1s. to 1s. 8d. per

bundle; Apples, 1s. 6d. to 4s. per bushel; Pears, 1s. 9d. to 2s. 6d. per bushel; Plums, 2s. to 2s. 6d. per half-sieve.

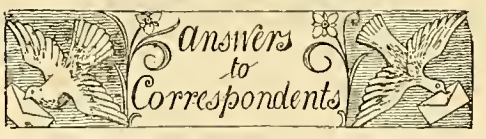
SPITALFIELDS: Sept. 10.—Quotations: Scarlet Beans, 1s. 6d. to 2s. per bushel; Vegetable Marrows, 2s. to 2s. 6d. per tally; Cabbages, 4s. to 5s. per tally; Onions, 3s. to 3s. 6d. per bag; Carrots, 2s. to 2s. 6d. per dozen bunches; Turnips, 2s. 6d. to 3s. per dozen bunches; Horseradish, 1s. per bundle; Apples, Keswick Codlins, 1s. 6d. to 2s. per bushel; do., Councilors, 2s. to 2s. 6d. do.; Luffingtons, 2s. to 2s. 6d. do.

STRATFORD, Sept. 11.—There has been a fair supply of all kinds of fruit and vegetables, but trade has been rather slow:—Cabbages, 2s. to 5s. per tally; Cauliflowers, 1s. to 1s. 6d. per dozen; do., 5s. to 7s. per tally; Turnips, 2s. 6d. to 3s. per dozen bunches; Carrots, household, 2s. to 30s. per ton; 1s. to 1s. 6d. per dozen bunches; Mangrels, 15s. to 18s. per ton; Swedes, 17s. to 20s. do.; Onions, English, 1s. to 1s. 6d. per dozen bunches; do., Dutch, 2s. 6d. to 3s. per bag; do., Ghent, 2s. 6d. to 2s. 9d. per case; do., Port, 4s. 6d. to 5s. 6d. do.; Apples, English, cookers, 1s. to 2s. 6d. per bushel; do., dessert, 2s. to 4s. per bushel; Watercresses, 5s. to 6s. per hamper; Plums, ordinary, 1s. 3d. to 2s. 6d. per half-sieve; do., Victoria, 2s. to 2s. 9d. per half-sieve; Greengages, 4s. to 4s. 6d. per half-sieve; Damsons, 1s. 9d. to 2s. 3d. per half-sieve; Tomatoes, English, 2s. to 3s. per peck; foreign, 1s. 9d. to 2s. per box; Cucumbers, frame, 1s. to 2s. 6d. per dozen; do., field, 4d. to 6d. per dozen; Beans, Scarlet, 1s. 3d. to 2s. per bushel; do., 2s. 6d. to 3s. 6d. per bag; Beetroot, 2s. to 3s. per dozen bunches; Celery, 1s. to 1s. 3d. per roll; Parsley, 1s. to 1s. 6d. per dozen bunches.

FARRINGDON: Sept. 12.—Quotations:—Apples, Manx Codlin, 2s. 6d. to 3s. per bushel; Golden Knobs, 3s. per half-bushel; Pears, Williams, 3s. 6d. to 4s. per half-bushel; Hazel do., 3s. per bushel; Peaches, 6s. per case; Grapes, Spanish, 7s. per barrel, white; 9s. 6d. do. black; Plums, blue, 2s. 6d. per half-bushel; 4s. 6d. per half-bushel; Tomatoes, 3s. per basket of 12 lb.; Cucumbers, 2s. per dozen; Cauliflowers, 1s. 6d. to 2s. per dozen; Cabbages, 1s. 6d. per dozen; Beans, 3s. per bushel; Marrows, 1s. per dozen; Turnips, 3s. per dozen bunches; Carrots, 3s. per dozen bunches; Horseradish, 1s. to 1s. 3d. per bundle; Beetroot, 3s. 6d. per doz. bunches; Onions, 2s. per bag; Mint, Thyme, 3s. per dozen bunches; Sage, 2s. per dozen; Parsley, 3s. do.

HAY.

Averages.—The following are the averages of prices at the principal metropolitan markets during the past week:—Clover, prime, 90s. to 110s.; do., inferior, 50s. to 80s.; hay, best, 60s. to 90s.; do., inferior, 36s. to 60s.; mixture, 70s. to 92s. 6d.; and Straw, 20s. to 35s. per load.



* Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.

* PLANTS, FRUITS, ETC., TO BE NAMED.—Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florist's varieties cannot, as a rule, be named.

APPLES: R. N. Apples are frequently preserved by drying for future use in this country. The methods of doing this have been repeatedly written upon in these pages, and we may refer you to our issue for Dec. 5, 1891, p. 680 and p. 53 of same volume. In the latter page is also figured a very convenient machine for evaporating fresh fruit. It is manufactured by Ph. Mayfarth & Co., Frankfurt, and may be had in suitable sizes for treating small or large quantities. One of these machines was at Chiawick for some time, and the result was very satisfactory. Further references in Gardeners' Chronicle are Sept. 10, 1892, p. 308, and Oct. 22, 1892, p. 497. You might obtain all information in regard to fruit evaporation by writing to Mr. A. Ludwig, F.R.H.S., 16, Mincing Lane, London, E.C.

ASTERS: G. S. Your Aster roots are attacked by grubs allied to those of the Cockchafer, probably those of the Cockchafer itself, R. McL.

BERRIBS: Dummy. Please catch the insect, and we will endeavour to name it for you.

BOOKS: E. F. B. I, The London Market Gardens, by C. W. Shaw, published at 37, Southampton Street, Covent Garden, W.C. This book may not give you all the information you require, but it is the best we can recommend you. 2, Handy Book of Bees, by A. Pettigrew, published by Wm. Blackwood & Sons, Edinburgh and London.

CARNATIONS: A. J. H. Impossible to form an opinion; the flowers were dried to tinder.

EMPLOYMENT IN AMERICA OR THE COLONIES: Gardener. We possess no convenient means by which to transfer young gardeners from situations in England to similar employment in America or the colonies. There are vacancies frequently arising for suitable men in such places, as evidenced by advertisements which appear in this and other Journals. You would do well to advertise, or write to some of the leading nurserymen in the country you wish to remove to.

FICUS ELASTICA: J. E. P., Altrincham. The plants of Ficus elastica were probably grown on bottom-heat or in a very warm house before you got them, and the change has caused the damage to the young growths. When the plants get established with you they will no doubt thrive.

FUCHSIAS: W. R. Flowers quite withered; send them to some grower of these plants.

HAW'S PATENT WATERING-CAN: W. C., Jamaica. These cans may be obtained through most of the horticultural sundriesmen.

MULBERRY LEAVES: E. C. C. D. Not at all uncommon, especially on the stronger growing shoots.

MUMMY PEA: H. Stark nonsense, often exposed in these columns. The Peas are "fasciated," as often happens when plants are grown vigorously. The condition has become hereditary. The plant has been figured in our columns as the Crown Pea.

NAMES OF FRUITS: (see notice under Names of Plants). Croft. 1, Blenheim Orange; 2, Court of Wick; 3, Cellini; 4, Manx Codlin; 5, Golden Noble; 6, Fearn's Pippin; 7, Damelow's Seedling.—J. P. 1, Hawthornden; 2, Ribston Pippin; 3, Emperor Alexander; 4, Cellini; 5, Gloria Mundi; 6, Small's Admirable.—J. A. F. 1, New Hawthornden; 2, Tower of Glamis; 3, Lord Grosvenor; 5, Lord Derby; 6, Damelow's Seedling.—C. E. 1, Gravenstein; 2, 3, not recognised; you should send better specimens.—T. K. Apple Yellow Ingestre. Pears small, and partly decayed. We cannot name such fruit.—H. Humphreys. Pear Beurré Clairgeau.—A. J. B. Peaches all bruised beyond recognition during transit.—F. Y. The Grapes sent are undoubtedly Black Hamburgs, but not yet quite ripe; other fruit next week.

NAMES OF PLANTS: Correspondents not answered in this issue are requested to consult the next number.—Bloomfield. 1, Chrysanthemum lacustre; 3, Tradescantia virginica; 4, Agathe celestis; 5, Montbretia crocosmiflora; 7, Kerria japonica; 8, Leycesteria formosa; 9, Asphodelus luteus. Two had no labels, one Solidago canadensis, the other Alstromeria psittacina.—S. W. O. H. Clethra arborea.—Northleigh. Catalpa pulcherrima.—E. R. 1, Spiraea Douglasi; 2, Asclepias incarnata; 3, Dracocephalum virginianum; 4, Centaurea macrocephala; 5, Kerria japonica variegata; 6, Periploca græca.—C. A. Datura Stramonium, Thorn Apple.—C. W. 1, Spiraea Thunbergii; 2, Eonymus radicans; 3, Retinospora squarrosa; 4, Eucalyptus pugnans var.; 5, Olearia Haasti; 6, Skimmia japonica.—Mrs. H. Hieracium aurantiacum.—G. H. S. 1, Codonopsis ovata (see fig. 59); 2, Scutellaria, probably S. columba; 3



FIG. 59.—CODONOPSIS OVATA: FLOWERS PALE BLUE, FETID.

Hieracium aurantiacum; 4, probably Psammisia Hookeriana, allied to Vaccinium; 5, Genista tinctoria; 6, Astrantia major; 7, Darenta Plamierii.—H. F. Leads. Zygopetalum Mackayii.

NECTARINE ON PEACH-TREE: *James Vert.* Such a circumstance does not commonly occur, but instances have again and again been recorded. We have observed one case this season ourselves in the nursery of Mr. Walker at Ham Common, where both fruits were to be seen on the same shoot. We were afterwards informed by Mr. Walker that the fruit had fallen during stoning. In the *Gardeners' Chronicle* for July 13 last, we figured a composite fruit with well-defined sections of Peach and Nectarine, and this we think is even more remarkable than the other case. It goes to prove that there is no real or botanical difference between the fruits, and the one may revert to the other upon occasion, but at present we have no knowledge as to the precise circumstances that tend to this reversion.

"NICHOLSON'S DICTIONARY": *N. C.* It would be a very large book indeed that contained the name of every plant. Mr. Nicholson's Dictionary professes only to include the names of plants that are worth cultivating in gardens, and a very liberal idea has been followed in regard to such. *Senecio viscosus* and *Chenopodium polysperum* are British plants—weeds, if we may use the term, and descriptions of them may be found in Bentham and Hooker's *British Flora*. *Nicotiana rustica* is a good name, and is mentioned in the *Treasury of Botany*, and later in *Index Kewensis*, the standard work on horticultural nomenclature.

PACKING GRAPES: *Old Packer.* In our opinion the method you describe is not a good one. There should be much less material about the fruit, no tying at the ends, and the bunches should not be laid on top of each other, as it would appear from your description they are placed, in the case you speak of. Many excellent systems of packing Grapes for railway transit have been described and figured in these columns. See reference given to a correspondent in our last issue.

PLUMS: *R. N. H.* The Silver-leaf disease—the cause is not known. There is no fungus.

ROOTS: *J. McL., Ireland.* Dynamite, or gunpowder, but preferably the former, is frequently used in order to blow up the roots of large trees, which have been felled, and by such means a great saving in labour is made. If you have had no previous experience in such an operation, however, we cannot advise you to employ these explosives, unless you obtain the assistance of some one who thoroughly understands their use.

SOILS: *K. M. G.* We do not undertake to analyse soils, but you would probably obtain the analysis of a sample by sending it to Dr. Dyer, Great Tower Street, London, E.C. The fee will be from one to two guineas.

VINERY INFESTED WITH INSECT PESTS: *T. O.* From the description you give of the leaves it is likely that most of the injury results from red-spider, but if thrips and scale are very numerous also, there will be considerable difficulty experienced in saving the appearance of the Gros Colmar Grapes. You might try the sulphur cure in order to get rid of the spider, adopting the usual method of heating the hot-water pipes very hot at night, and dabbing them over with sulphur, at the same time keeping the house closed during the operation. As the Grapes are colouring, you must be careful in any process that it be not overdone. Sponge the foliage frequently, and if time is not available to go over all the foliage, sponge around each bunch of fruit, and when the crop has been gathered, more drastic methods can be adopted.

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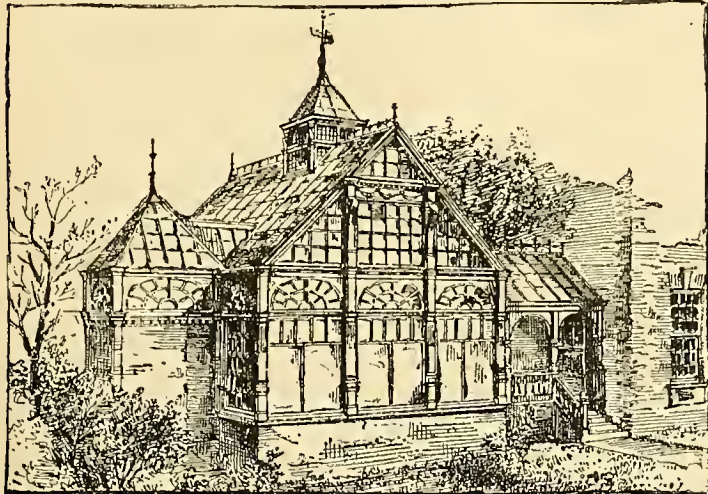
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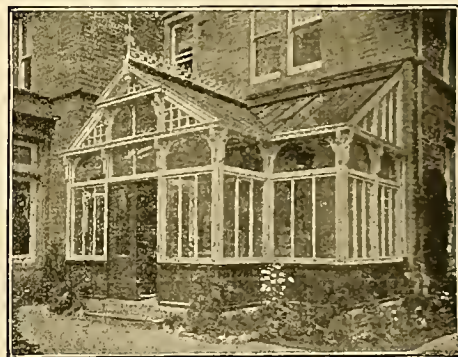
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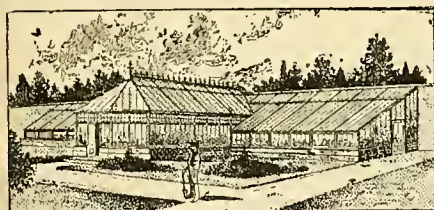
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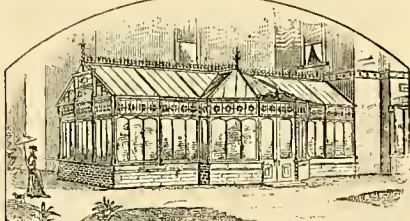
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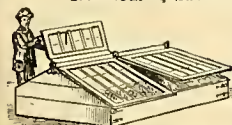
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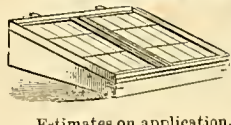


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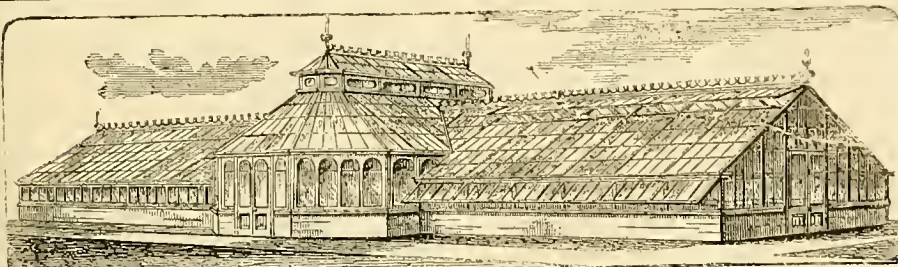
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Page, £8; Half Page, £4 10s.; Column, £3.

GARDENERS AND OTHERS WANTING SITUATIONS.
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Advertisements for the current week MUST reach the Office by first post, Thursday morning.

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements,
41, WELLINGTON STREET, STRAND, W.C.

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CATALOGUES RECEIVED.

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A. W. P. PIKE, Windsor Place, Cardiff—Carnations and Picotees.
J. CHEAL & SONS, Lowfield Nursery, Crawley, Sussex—Trees and Shrubs, Fruit-trees, &c.
WM. SAMPTON & Co., 8 and 10, Portland Street, Kilmarnock—Bulbs, Trees and Shrubs, Roses, &c.
TOM B. DOBBS & Co., 32, Queen Square, Wolverhampton—Bulbs, &c.
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HOGG & ROBERTSON, 22, Mary Street, Dublin—Bulbs, &c.
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WANTED, at ONCE, strong, steady, willing young MAN, for Kitchen and Flower Garden. Both and Potatoes. Particulars, with wages expected, to JAMES HORNER, Myton, Helperby, York.

WANTED a young MAN, quick at Potting and tying, and willing to make himself generally useful. State age, &c. and wages required to—J. J. CAMFERMAN, Swan Lane Nursery, Whetstone.

WANTED, a young man as IMPROVER.—Used to inside work. Wages to commence 15s. per week.—Apply, W. and J. BROWN, The Nurseries, Peterboro'.

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B. S. WILLIAMS AND SON beg to intimate that they have at present in their Nursery and upon their Register some excellent Men, competent either to fill the situation of HEAD GARDENER, BALLIFF, FOREMAN, or JOURNEYMAN. Ladies and Gentlemen requiring any of the above will please send full particulars, when the best selections for the different capacities will be made.—Victoria and Paradise Nurseries, Upper Holloway, N.

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GARDENER (SINGLE-HANDED).—Age 24; six years' experience in good places, in Flowers, Fruit, Kitchen Garden, Pleasure Grounds, &c. Four years' good character.—F. N., 2, Morton Villas, Enfield Highway, Middx.

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GARDENER (UNDER), in good private establishment.—Age 21; has had seven years' experience Inside and Out.—J. GODDARD, Bishopsgate, Englefield Green, Egham, Surrey.

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JOURNEYMAN (INSIDE).—Age 22; eight years' experience. Two years in present situation. Good references.—P. WAPSHOTT, The Gardens, Taplow Court, Maidenhead, Berks.

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IMPROVER.—W. QUARRY, Gardener, Mears Ashby Hall, can with confidence recommend Andrew Jolley, age 18, as above; three years' experience; bothy preferred.—ANDREW JOLLEY, Mears Ashby, Northampton.

IMPROVER.—A young Man requires situation in Gentleman's Garden; Inside, or Inside and Out. Good references.—C. FRANKLIN, 52, Kilbura Park Road, Kilbura, London, N.W.

IMPROVER.—Youth (age 17) seeks situation in a Gentleman's Garden as above. Has had five months' experience in Garden.—DOUGLAS BUTLER, Yew Tree Cottage, Crookham Common, Newbury.

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TO HEAD GARDENERS.—I can thoroughly recommend a strong, active, willing young man (age 20), inside and out.—MCKINNON, Ruperra Castle, Newport, Mon.

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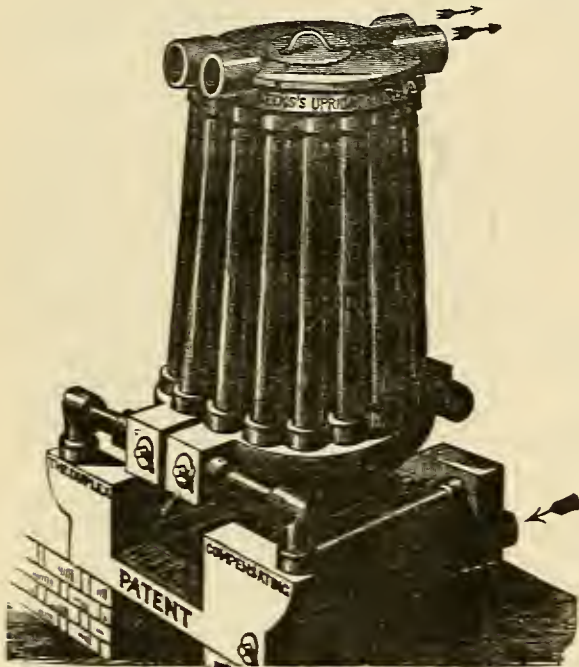
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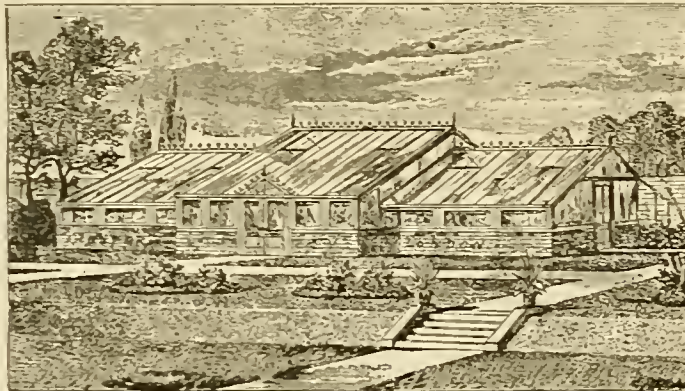
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NOTICE TO ADVERTISERS.

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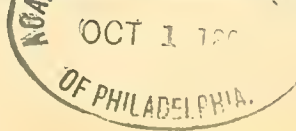
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October 16.—At the NURSERY, PUTNEY, by order of Messrs. Mahood & Son.
October 18.—At the LOUGHBOROUGH PARK NURSERIES, Brixton, by order of Messrs. Poosford & Sons (one day).
October 21, 22, 23, 24, 25, 26.—At the NURSERIES, BAGSHOT, by order of Mr. Chas. Noble (six days).
October 23.—At the PERRY HILL NURSERIES, OLIFFE, near ROCHESTER, Ninth Annual Unreserved Sale of Fruit Trees, by order of Mr. W. Horne.
October 24 and 25.—At the GOLDSMITH'S PARK NURSERIES, GROOMBRIDGE, near TUNBRIDGE WELLS, by order of the Exors. of the late Mr. E. Hollamby (two days).
October 29 and 30.—At the HALE FARM NURSERIES, TOTENHAM, Great Annual Sale, by order of Mr. T. S. Ware (two days).
October 29, 30, and 31.—At the HORSELL NURSERIES, WOKING STATION, by order of Messrs. H. & C. Cobbett (three days).

Dates not fixed.

At the SANE WELMER NURSERIES, SOUTHSEA, by order of Mr. T. J. Short (one day).

At the CART HOUSE LANE NURSERIES, WOKING STATION, by order of Mr. R. Collyer.

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HORTICULTURAL DIRECTORY.

THE EDITOR will be glad to receive Corrections and Additions from Gardeners, Nurserymen, Seedsmen, Florists, and others in the Trade, for the 1896 Edition.

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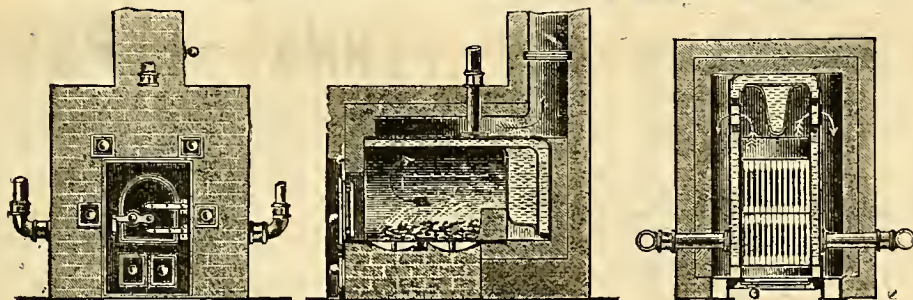
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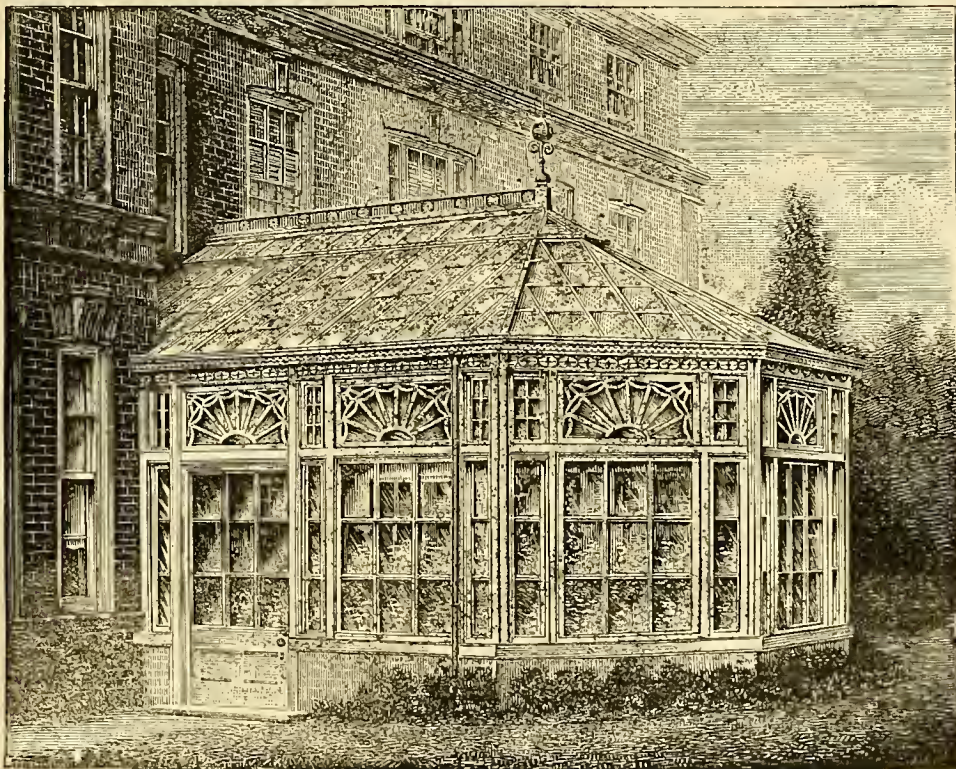
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THE

Gardeners' Chronicle.

SATURDAY, SEPTEMBER 21, 1895.

THE ROSE SEASON OF 1895.

AFTER all, we can say with some degree of confidence, that the past summer has been far from a bad one for Roses. The prospects after the frost broke up were not reassuring; complaints came from all quarters of the heavy loss and damage which had resulted. Some of these were curious, for results were very different in the same districts, and the difference could hardly be traced to soil or position. A warm and dry spring without an exceptionally sharp late frost, furnished the best possible result from the little wood that was spared, and one of the features of the season has been the beauty of the garden or decorative Roses. Many of these are not only less hardy of themselves than others, but their long growths are more fully exposed to the weather. Much of the injury during the frost was caused by the sudden and extreme changes in temperature. At night a frost of about 20° or more frequently occurred, and day by day during a few hours at mid-day the wood was thawed, and upon walls a warm temperature produced by the brightness of the sun. This alternate freezing and thawing was most harmful, and as we chiefly grow our climbers and garden Roses upon walls or in sheltered places, they naturally suffered severely. Under such circumstances, it was surprising to see garden Roses so good as they have been. At the earliest and latest shows they were as good as in any previous season. Some of this may be the result of their more extended culture; still, there is the fact, that at Gloucester and at Derby we saw some truly splendid stands of garden Roses.

Teas and Noisettes, too, notwithstanding the idea (still more prevalent than I could have credited) of their extreme tenderness, have been very good. Undoubtedly, the best of these were seen at Gloucester, although some good blooms were exhibited at the National Rose Society's meeting at Derby. I think the competition at Gloucester, the Crystal Palace, and Derby, as well as the many other Rose exhibitions held in the country, was greater even than usual, while in many cases there were more exhibitors than I expected. But here, in mid-Sussex, we had a worse time than many of my rosarian friends. Upon all of my maiden beds the effects are still seen. Even now many buds and breaks upon standards and half-standards are disappointingly puny. It seems as though the cold had pinched or bound the bark in such a way, that it was unable to swell and allow of a healthy junction and growth of Rose and stock, while in a large number of cases, the dormant bud was killed outright. At pruning-time I did not expect to see so good a Rose season; indeed, it seemed quite impossible under the most favourable conditions of spring and summer. But we have few flowering shrubs that recover so quickly as the Rose. This more especially applies to the Teas

and Noisettes. No doubt many of us, too, were led to give a little extra care and attention to our Roses after the severe ordeal they had gone through.

Growth, especially that of the later breaks, was healthy and clean, there being less maggot and fly than usual; but as the season advanced, I was much troubled by the stem-boring saw-fly and small Rose-chafers. Later still, we had a swarm of small hard bugs, a miniature beetle in appearance, which injured the blooms badly. They were even worse than the large and dark brown thrips sometimes experienced, which are such a nuisance among our lighter-coloured varieties late in the season. A rather prolonged drought then checked growth seriously, just as our first crop of bloom was being realised; but the rain which followed upon the warm ground caused a very speedy change for the better. During this change, mildew, as usual, appeared. I have had many enquiries of late for a recipe for mildew outdoors. Many remedies have been tried, but none seems to me to be effective unless under glass. Nor can we expect to succeed so long as the main causes are beyond our control. We can do something, however, by choosing sites that are not naturally draughty; and by avoiding the other extreme, namely, a close and sultry atmosphere at midday, with a great change at night, as is experienced in Rose gardens that are much enclosed. More especially is this extreme noticeable in the late summer and autumn, when we are always more affected with mildew than at other times. Then, again, we should not plant that victim of mildew—Her Majesty—among other Roses. Innocente Pirola and Souvenir de Paul Neyron are also very subject to attacks, and it seems a mistake to place them among a general collection, which in many cases would have got the better of a slight attack if such contagious company were not present.

Writing of Her Majesty reminds me that this variety was the Rose of 1895. We generally find one or more Roses standing out conspicuously among the rest, and Her Majesty has done so during the past summer. It won the medal as being the best Hybrid Perpetual in the whole exhibition at the Crystal Palace, taking this honour both in the nurserymen's and amateurs' divisions. We had one more Rose take two of these silver medals during 1895, once at the Palace and again at Derby. This was Comtesse de Nadaillac, but upon neither occasion was there that depth of colour so remarkable in the Comtesse as grown at Oxford. Rarely is there a season when this grand Tea does not carry off one or more silver medals. While we have a few most persistent winners of this honour, such as the Comtesse, Horace Vernet, The Bride, Catherine Mermet, A. K. Williams, and Souvenir d'Elise Vardon, there is frequently some very little-known variety which is capital for a season, and then drops almost out of knowledge in the course of a few seasons. Last year we had Marguerite Bonnet, this season it was Comtesse de Ludre. While there are many grand Roses that one might expect to appear year after year, Comtesse de Nadaillac, Xavier Olibo, and A. K. Williams are the only three that figure among this and last season's twelve Silver Medal Roses of the National Rose Society.

A new feature deserving mention is the giving of a gold medal to be held permanently as a memento of winning the champion challenge trophies in either nurserymen's or amateurs' divisions. A year's possession of the trophy alone, certainly seemed inadequate, and I am glad to see this change. But what are we to do in the case of past winners? For example, Mr. B. R. Cant, who won the trophy this season, and secured the Gold Medal first offered, also won in 1881—82—83—85—86, and '91. It might have been an entirely fresh winner, and in such case he would have held an equally valuable proof of success. If the funds should allow, it would be a graceful act to present a Gold Medal for each past success, or else one to each winner, inscribed with the dates of previous successes! Messrs. Harkness & Sons have won challenge trophies upon nine; Mr. B. R. Cant,

Rev. J. H. Pemberton, five; and Mr. E. B. Lindeell six occasions. These are the most frequent winners, but quite half-a-dozen other growers have held this trophy for more than one season.

The Gold Medal for a new Rose was awarded to Helen Keller at the Derby meeting, and here we certainly saw this variety in better form than at the Crystal Palace. It is a splendid Rose, and good in growth; and some wood which has reached me is ample proof of this. New Roses were an exceptional feature at the metropolitan meeting, and probably the best twelve that have been seen were staged then. No fewer than ten out of the dozen were raised by the exhibitors—a record among new Roses, for we must remember that Ethel Brownlow (one of the Silver Medal Teas of 1895), Margaret Dickson, Earl of Dufferin, and several more grand varieties raised by the same firm were not eligible in this stand.

Of the new Roses, I like Helen Keller, Marchioness of Downshire, Marchioness of Londonderry, Avoca, Marquise Lita, and Mrs. R. G. Sharman Crawford, with a decided preference to the last-named Rose. A sport from Catherine Mermet, called Muriel Grahame, is not yet in commerce, but it will make a capital Rose if we are to judge from the blooms exhibited.

I cannot leave the new Roses without once more directing attention to a new Hybrid Sweet Briar, called Jeannie Deans. There is, perhaps, too close a similarity between some of the lighter shades in this new class of Roses, but no complaint of that kind can be attached to this very bright and semi-double variety.

Returning to the garden, I would like to call attention to the freedom from red-rust among our Hybrid Perpetuals. The true Teas and Noisettes are not troubled with this enemy, nor are several of the Hybrid Teas and the Rogosa varieties. By the way, *Rosa rugosa calocarpa* is most distinct, and I believe will be very popular. Perhaps no Roses are more generally liked than these, when once they have been grown. Always gay from the time leaves are put forth until winter is with us, in bloom, berry, and foliage; thoroughly hardy, good in town or country, and never attacked by mildew or red rust. I should find it a difficult matter to choose a flowering shrub of more reliable and lasting decorative value than these Japanese Roses.

Although I have headed this article the past Rose season, a plentiful supply of bloom is still with us, and as time goes on and we get improved varieties, our seasons get considerably extended. Still, the Rose season proper is undoubtedly past. Teas and Noisettes chiefly figure among our late summer and autumnal Roses—indeed, I have the fourth distinct crop of William Allen Richardson upon an outside wall; and it is the same with many varieties in these classes, and among the best of the hybrid Teas, such as Viscountess Folkestone, Caroline Testout, Gustave Regis, and Marquis of Salisbury.

There is a great improvement in the appearance of Rose-stocks, and our forebodings of spring, when the dry weather threatened little growth, and therefore the risk of a small percentage taking the bud, have now happily been dispelled. Nor have I seen the buds in better condition than at present. Late-planted standard Briars did badly; but those set in during early winter are fairly good. A. P.

NEW OR NOTEWORTHY PLANTS.

MASDEVALLIA LAWRENCEI, Kränzlín.*

This plant is in foliage and size like a small specimen of *Masdevallia tovarensis*, and the flowers, which are $\frac{1}{2}$ to $\frac{3}{4}$ smaller, have also a slight resemblance to this species. They arise from the top of the flower-stalk successively, and not at one

* *Masdevallia Lawrencei*, Krzl.—Scapo triquetrad ad 15 cm. alto alato, squamis bracteiformibus scariosis 3—4 acutis carinatis ovaria longe non aequantibus; cupula floris brevi, sepali dorsalis parte libera triangula in caudam quater longiorem producta, aepalis lateralibus oblongo-lanceolatis acuminatis basi tantum ocellitis caudiculis brevibus, cupula alba instu

time, as in *M. tovarensis*; and an examination shows that the resemblance is merely superficial. The tube of the flower is covered inside with numerous and beautiful spottings, but with a lens of some power these spottings prove to be little warts, with a serrated surface; the lateral sepals are widely separated, and the dorsal one is united with the two others for nearly its whole length. The petals and the lip are rather thick and fleshy, the latter thickened and serrated at the apex. I believe this is the plant which Mr. Rolfe named *Masdevallia guttulata* in *Gard. Chron.* Sept. 6, 1890, ii, p. 267. The name has to be changed because another species, under the name of *M. guttulata*, was published by Professor Reichenbach in 1877; the latter is quite a different plant, and more in the way of *M. ionocharis*, Rchb. f. The only resemblance consists in the small spotting on a white ground. I am indebted to Sir Trevor Lawrence, Bart., for fresh material of this interesting species. F. Kränzlín.

STAPELIA LONGIDENS, N. E. Br. (n. sp.)

This species is a native of Delagoa Bay in South-east Africa, where it was originally discovered by Mrs. Monteiro, who sent flowers of it to Kew in 1883; since then it has been introduced into cultivation by W. H. Tillett, Esq., of Norwich, with whom it first flowered in October, 1892. So far as the appearance of the stems is concerned, it is one of the most remarkable species of the genus known to me, on account of the very long teeth of the stem; the only other species that approaches it in this character is *S. Woodii*, to which it is the most nearly allied, but the teeth are much longer than in that species, and the flowers quite distinct. The following are its characteristics: Stems glabrous, green mottled with purple, $2\frac{1}{2}$ to 6 inches long, 4 to 5 lines thick, obtusely four-angled, the angles with long, ascending, stout teeth, $\frac{1}{2}$ to 1 inch long, and about $\frac{1}{2}$ inch thick at the base, terete, gradually tapering to a fine soft point. Cymes sessile, several-flowered. Pedicels $\frac{3}{4}$ inch long, 1 line thick, glabrous. Sepals 4 lines long, $1\frac{1}{2}$ line broad, lanceolate acuminate; corolla $1\frac{1}{2}$ inch in diameter, quite glabrous, with a campanulate tube $2\frac{1}{2}$ lines deep (the bottom of it raised up so as to form a convex cushion supporting the corona), and horizontally spreading lobes 7—8 lines long, $4\frac{1}{2}$ —5 lines broad, ovate-lanceolate acute, flat; the colour is pale greenish-yellow, spotted all over with dark purple-brown (cream colour spotted with crimson, according to Mrs. Monteiro), the spots very small within the tube, increasing in size towards the tips of the lobes, where they are more or less confluent. Outer corona of 5 short, quadrate, emarginate lobes, deflexed on the basal cushion of the corolla, purple-brown with yellowish side margins; inner corona of 5 simple, lanceolate, acute lobes, inflexed over the apex of the anthers, scarcely gibbous behind, dull yellowish, dusted with purple-brown. Follicles 7 inches long, $\frac{1}{2}$ inch thick, gradually tapering to a beak, glabrous, streaked with purple on a pale ground; seeds 5 lines long, 3 lines broad, ovate or elliptic-ovate, crowned with a tuft of hairs, flat with broadly-winged margins, pale brown. Delagoa Bay. N. E. Brown.

ÆSCHYNANTHUS HILDEBRANDII (see fig. 62, p. 333).

PLANTS and seeds of this new species of *Æschynanthus* were received at Kew in January, 1894, from Mr. H. H. Hildebrand of Fort Stedman, Shan States, Upper Burma, who found it growing at a high altitude in the forests, its short stems forming dense tufts upon the trunks of trees, to which it clings by means of its roots, which creep into the crevices of the bark, finding nourishment there. When in flower it had the appearance of a compact

Inteola tota superficie interna pustulis crebris purpureis supra serratis decorata; petalis brevibus linearibus supra bilobis fere triquetris carnosis albidis; labello oblongo lineari carnosio antice minute serrulato ibi incrassata albedo minutissime purpureo-aspero. Totus flos 2 cm. longus. *Masdevallia guttulata*, Rolfe?

cushion of orange-scarlet. The plants at Kew are grown in a cool, moist house, such as suite Maedevallias, and they have been in flower since the spring. The longest stems are 9 inches long, but usually they are only 6 inches or less, with a few whorls of fleshy tomentose leaves near the top, from which spring the flowers in clusters of from two to six. They are of a rich flame-scarlet colour, with a margin of crimson. So far as is known, this is the only species of *Eschynanthus* that can be cultivated in a cool-house, all the others, of which there are about fifty known, being tropical. It is a suitable companion for *Sarmienta repens*, the pretty little Chilean representative of the order, but it is preferable to that plant—from a cultivator's point of view,

The Tomato Re Umberto, known in Naples under the name of Fiascone, and in France as Merveille d'Italie, furnishes the largest quantity of preserve, which, however, is not of so fine a flavour as that made of other kinds. It is cultivated in gardens near the town.

The variety known under the name of Fiasconcello, corresponding to the Spanish Tomato cirilla, is distinguished by its Plum-shaped deep scarlet fruit. It is a better cropper than the former, its flavour is finer, and its cultivation is constantly increasing, to the detriment of the other kind, although it gives less preserve in proportion to its size. These are the varieties of Tomatoes grown largely under irrigation. There is, however, another kind, very valuable, because it can be grown without watering—

THE HORTICULTURAL SHOW IN NAPLES.

In connection with an exhibition of birds, there was the other day a plant and flower-show in Naples. Owing to the short notice, the plants exhibited were rather few in number, but cut flowers and floral arrangements were more numerous. Amongst the exhibits, there were some specialties which to English readers may be of interest. *Dr. G. Motta-reale, Portici, August, 1895.*

(To be continued.)

MICROSTYLIS MACROCHILA.

The genus *Microstylis* is not a favourite one with Orchid-growers, but that many of the species are possessed of sufficient beauty, both of leaf and flower, was well exemplified in the pretty group of them staged in the centre of the fine collection of Orchids in flower exhibited by Messrs. F. Sander & Co., of St. Albans, at the last Temple Show of the Royal Horticultural Society. Two of the prettiest were *Microstylis Scotti* and *M. macrochila* (fig. 60), both of which had their pale-green and cream-coloured leaves beautifully mottled with light brown. The flowers of *M. macrochila* are dark purple, and it appears to be very free in growth and bloom if grown in a moist, warm, and tolerably shady house. After the growths have flowered and matured the leaves fade, and from that time until the next growing-season, water should be withheld or very sparingly afforded. It is the neglect of this resting season, and the habit of watering plants all the year round, which has probably caused the scarcity of *Microstylis* in collections.



FIG. 60.—MICROSTYLIS MACROCHILA.

at any rate—it being much more easily kept in health. The plant was figured in the *Botanical Magazine*, t. 7365. *W. Watson.*

ITALY.

TOMATOS.—This year Tomatos have, in the province of Naples, flowered rather late, owing to unfavourable weather, and at the end of June there was but a scanty supply of the variety called Sicily, known in England under the name of Early Red Tomato, or Powell's Early, a variety which holds the first place for its precocity. The most important Neapolitan varieties are the common of Naples, or Padula, grown in certain well-watered grounds close to the town, and much appreciated for its flavour and productiveness. This variety produces large, fleshy, scarlet fruits, generally of a round shape, somewhat depressed in the upper part, and crossed by a deep furrow almost to half of the fruit. It is much made use of for sauces and for preserving, as well as for eating in salad when not quite ripe.

for instance, in the Vesuvian sandy grounds, where no other herbaceous kind could be grown during summer. It is the so-called "Ciento a schiocca," which is a sub-variety of the pyriform variety, known in England under the name of Pear-shaped Tomato. It is cultivated extensively in Torre-del-Greco. The plant is nipped at the point when 4 inches high, it then ramifies, producing almost erect stems, which grow without support. Its racemes produce from ten to fifty fruits of a pale red, approaching to orange colour; it is pear-shaped, and has a transverse diameter of about 1/2 inch, and its flavour is sensibly acid. This fruit may be kept a very long time, and even in June clusters of fruits produced in the previous October may be seen. The farmers take them off before their perfect maturity, i.e., when the first fruit begin to turn into red, and fasten them with a string which they unite at the extremities, giving the whole an appearance of enormous bunches of Grapes, which vary in weight from 12 to 16 lb. If, however, there is wet weather during growth, the fruit loses in proportion its long-keeping property.

FLORISTS' FLOWERS.

THE SHRUBBY PHLOXES.

Messrs PAUL & Sons grow a fine collection of Phloxes in their interesting hardy plant nursery at Boxbourne, Herts. All the best named varieties are here, such as Etna (Lemoine), salmon-scarlet, dark eye; Kosuth, cherry-rose, with a purplish tint in the centre; Carillion, rosy-lake, fine form; Eclairer, purplish-crimson, with light eye; Emmanuel l'erve, clear lilac, large, fine form; and many others of the newest and best. At the Old Nurseries, Caeshunt, there is a fine collection of seedlings in flower at the present time. There may be some difference of opinion as to which of the two collections is the more beautiful. For my part, I decide for the seedlings. Not only do well-grown seedlings make a beautiful show in the garden, but they are much more interesting. I am not one of those who fancy that the dwarfier you can get plants the more should they be prized; but the varieties of *Phlox decussata* of gardens twenty-five years ago, were from 1 to 1 1/2 foot; too tall, and in dry seasons the stems becoming devoid of leaves to a great extent, become decidedly unsightly if not masked by other plants. The height of the newer varieties is much reduced, and the seedlings now in flower at Caeshunt are sturdy specimens, averaging 1 1/2 foot high. Very few of these seedlings can be selected which are not as good as the named varieties; and the great variety of colour amongst them is a noteworthy feature. Some with pure white flowers of exquisite form were very fine; others exhibited purple-lilac, rose and scarlet tints—and all of them were of good form, very few indeed harking back to the primitive type.

Some amateurs may say, "It is all very well for you to recommend seedlings, but how are we to get them?" My reply to this is, save your own seed from the best named varieties. The latter can be obtained direct from any good florist, and in a season like this it is not difficult to obtain seed; but in order to have anything like success in seedling raising, the flowers should be cross-fertilised by hand, and some care and judgment exercised in the blending of the colours. I have found that if the flowers are not cross-fertilised, an immense number of plants may be grown, and the varieties will be good, but they will vary in colour but little

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or not at all from the parents. The seed should be sown on a hot-bed about February 1; it very soon vegetates, and when the plants have grown 1 inch high, prick them out in boxes, and grow them on near the glass in a warm greenhouse. By proceeding in this manner, sturdy plants may be had ready to plant out in the open borders about the first week in the month of May—a little earlier will be all the better. If they are planted at about 14 inches asunder, each plant will throw up one strong spike in the autumn. Although the Phlox is classed with perennials, the plants may be had finely in flower in seven or eight months from the time of sowing the seeds. The soil for seedling Phloxes, as for named varieties, should be worked to a good depth, and I never knew them to suffer from over-manuring. If the soil is deep and well manured, the plants are well sustained through the heat and drought of the summer. The first year there is only one stem flower to each plant; and if it is intended to flower them a second year, they should be replanted about 2 feet asunder, on fresh deeply worked, and well manured ground.

The same treatment is necessary for the named varieties, but a good system of propagation must be carried out. It is easy enough to chop an old Phlox plant into pieces with a spade, and plant them separately, but this clumsy procedure does not give satisfactory results. The best spikes are obtained from plants that have been propagated from cuttings in gentle bottom-heat, and the best cuttings are found on old stools when the plants start to grow in the spring. If taken off with a heel, and inserted singly in small pots, the roots soon form. Early-propagated plants, grown on till they come into 6-inch pots, produce handsome spikes, and form very useful stuff for greenhouse decoration. After flowering, turn them out of the pots into the open ground, as recommended above for seedlings—24 inches asunder. Such plants produce the finest flower-spikes the following season, and three only should be allowed to each plant. *J. Douglas.*

ORCHIDS AT BURFORD, DORKING.

SIR TREVOR LAWRENCE, Bart., the President of the Royal Horticultural Society, is justly known as one of the most liberal of the amateurs of gardening, who have throughout maintained a fine collection of Orchids, and he is as keen a collector of good and rare Orchids at the present day as he has ever been, although the varied collection which he has succeeded in getting together renders it increasingly more difficult to find good things already not sufficiently well represented there. As the number of species, too, increase, the difficulty of keeping in health unique plants about which little or nothing can be gleaned to serve as a guide to their culture has to be met. In this particular, and in most other matters relating to Orchid culture, the remarkable success attained at Burford, and the splendid condition in which the plants there now are, give ample proof of the interest taken in them by their owner, and the care and skill of his attentive Orchid-grower, Mr. W. H. White.

From time to time we have given illustrations of some of the marvellous plants in the Burford collection, and it greatly enhances the pleasure of a visit to look up the specimens illustrated. Invariably we find them in better condition than ever, and on the present occasion the noble specimen of *Sophranitis grandiflora* illustrated in *Gard. Chron.*, April 20, 1895, and the others which we have depicted, were found in splendid condition, and promising a still greater show of bloom in the coming season. Especially is this the case with the great mass of *Cattleya Lawrenceana*, exhibited by Sir Trevor Lawrence recently before the Royal Horticultural Society, with fifty-eight flowers, one of the spikes bearing no fewer than thirteen blooms. In the coming season it will probably exceed that number, in the aggregate at least, if not on the single inflorescence.

Commencing with the lean-to warm houses in

which the *Vanda teres* and *V. Hookeriana* thrive so well, and in which the tall specimen of *Vanda* × *Miss Joaquim* (*Hookeriana* × *teres*), is thriving and approaching the flowering stage, we found the rich collection of varieties of *Lælia anceps* throwing up spikes profusely, and the singular *Luisia volucris*, *Lælia Lawrenceana*, and the curious greenish-white *Epidendrum lmschootianum* in bloom. In the next division, on the front of which the scarlet *Habenaria militaris*, the allied *H. rhodocheila*, and the white and pink forms of *Habenaria carnea*, thrive so well, and make such a fine show, in bloom were the pretty Burford hybrid, *Cypripedium* × *picturatum* (*Spicerianum* × *superbiense*), *C.* × *Morgania Burfordiense*, still the best of its class, and one that it is difficult to conceive finer in its way; *C.* × *Euryale*; various other *Cypripediums*, and a pretty variety of *Cattleya Luddemanniana*.

These houses, like the other warm houses at Burford, have all the available space under the staging planted with *Cyrtodieras*, *Pittonias*, *Pilea*, and other pretty compact-growing foliage-plants. Such a method fills up vacant spaces, is effective, and very favourable for the plants. In one corner of the house, just passing out of bloom, is a large specimen of *Cælogyne Camingii*.

The next house, a cool intermediate one, has a full collection of the large-flowered *Maxillarias* in excellent condition. *M. Hübschii*, *M. facata*, and a few others being in bloom, as well as *Oncidium incurvum* and *O. i. album*. *Odontoglossum Bickoniense* and *O. B. album*, *Miltonia Clowesii* and other *Miltonias*, and some pretty tufts of the orange-scarlet *Lælia monophylla*, which here thrives so well that the plants bear from twenty to thirty or more flowers on each.

In the large intermediate-house, filled principally with a splendid collection of *Lælias* and *Cattleyas*, the bank of varieties of *Vanda tricolor* and *V. suavis* is in undiminished vigour and beauty. These plants sorely trouble most growers, and we wonder how many have completely failed with them during the long time those in the Burford collection have been growing in the most satisfactory manner. In this house is an immense mass of *Oncidium lanceanum*, some 4 feet across, and in the most perfect health; on the front stage is a large quantity of hybrid *Cattleyas* and *Lælias*, and of equally-priced rare imported kinds, which are being carefully tended until their flowering stage is reached. Among the plants in flower are a fine example of the singular *Cælogyne fuliginosa* and *Cattleya* × *Blesensis*.

In the large span stove-house, amid the fresh-looking foliage and brightly-coloured spathes of the plants of *Anthurium Andreanum* and its hybrids, are many fine and rare *Dendrobiums*, among which were in flower *D. Lowii*, *D. cruentum*, &c., and *Vanda Hookeriana*. On one side is a collection of the handsome-leaved *Bartolonias*, and in a corner the giant specimen of *Grammatophyllum speciosum*, which regularly sends forth its tall, stout pseudo-bulbs and graceful Palm-like foliage, but as yet has not produced flowers. Some day the reward of patience and skill will come, and the flowering of the plant add another triumph to the many which have been won at Burford.

The large *Odontoglossum*-house has its occupants in very fine condition, a noteworthy fact when it is remembered that many of the specimens have been on the place for a number of years. These plants at one time, although keeping perfectly healthy, did not make the progress desired until they were shifted into their present quarters, and since that time they have increased in vigour and in size in a remarkable degree, and another house on the same plan will probably be built for new-comers. A few *O. Pescatorei*, *O. cristatum*, and a good lot of *O. grande*, the pretty yellow *Oncidium cristatum*, *Trichocentrum albo-purpureum*, and others also were in flower.

In the next intermediate-house, the large table in the centre is filled with the specimens of *Sobralias*, which a little earlier in the year are one of the sights of Burford, ten or a dozen different species and varieties, each giving a profusion of bloom at one

and the same time. At present the species chiefly represented are *S. macrantha*, of which there are some grand plants and varieties; and *S. xantholenca*. Here in bloom, too, are some large specimens of *Cypripedium* × *Ashburtonia*, *C.* × *Crossianum*, and other of the older varieties; and in a shady corner a large specimen of *Cypripedium Schlimii*, which seems to flower continually. On one side is a bank of the Burford variety of *Cypripedium* × *Leeanum asperum*; on another, a splendid lot of *Mittonia vexillaria*, with a few good *M. × Beauiana*, and about the house in flower were *C. Charlesworthii*, *C. Spicerianum*, *Vanda cærulea*, a plant of a very large form of *Stenia pallida*, and another of the pretty fringed-lipped *Chondrorhyncha Chesteronii*; two fine plants, one with four spikes, each 18 inches long, of the rare and pretty *Epidendrum sceptrum*; several of the true *Cypripedium purpuratum*; *Oncidium aurosum*, *O. chsirophorum*, *O. cornigerum*, *Pholidota obovata*, and some other singular botanical species. The rare *Heliamphora nutans* is also thriving here. In the adjoining house are some good *Miltonia Roezli* in bloom, *Oncidium Jonesianum*, *Lælio-Cattleya* × *elegans*, *L. × Amanda*, the pretty *Aganisia ionoptera*, *Epidendrum ottonii*, *E. Godseffianum*, &c.

The large span-roofed warm-house, in which the *Phalænopsis* occupy the staging on one side, is always interesting from the floor to the roof, for underneath the staging, and in front of the hotwater-pipes, *Eucharis grandiflora* is planted, and it grows in a marvellous manner and produces a great quantity of its large pure white flowers; while the roof is thickly set with hanging-baskets of *Cirrhopetalum*, *Bulbophyllum*, *Catsetum*, &c., which are here in greater variety than in any other collection, and they are constantly producing their quaint flowers, ranging from the immense hooded *Bulbophyllum grandiflorum* (illustrated in the *Gardeners' Chronicle* from the unique specimen at Burford, April 6, p. 429), to the little *Cirrhopetalum Camingii*, with its profusion of flowers arranged like tiny pink parasols. The coppery-orange *Cirrhopetalum Mastersianum*, and a few other curious botanical species are in flower; and among the *Catsetums*, a great mass of the pretty green and white *C. Rustellianum*, which in the structure of its pretty flowers seems to stand alone in the genus. At the end of the house is a number of specimens of marvellously pretty *Acætochili*, and in bloom are *Phalænopsis violacea*, *P. Esmeralda Regnieriana*, a number of rare hybrid *Cypripediums*, and a good show of varieties of *Dendrobium Phalænopsis Schroderiana*. On one side the Burford hybrid *Calanthes* are making up immense bulbs, and on the pots of some of them, seedlings of a new race are coming up in great profusion. In the adjoining sunny lobby the hybrid, deciduous *Dendrobiums* are ripening the fine growths they have made, and some quite new crosses are expected to flower next year.

In the *Asides*-house the specimen of *Oavirandra fenestralis* (Lattice plant), always an object of interest, is still in fine condition; and in flower are *Stauropis philippinensis*, a real gem, with slender stem, clad with distichous leaves, from the base of each of which proceed a pretty red-brown flower, with a yellow margin, and with curiously-ridged lilac lip, the whole plant forming a pretty spray of flowers with foliage. *Oncidium Kramerianum*, *Asides Lawrencei*, *Dendrobium bracteosum album*, *Polystachya odorata*, and other fine things are also in bloom; and in the *Madevallia*-house many *Madevallias*, *Pleurothallis*, &c., chiefly of botanical interest, are still flowering—while the new seedling-house seems to contain material for novelties for many years yet to come.

In the general garden, so ably tended by Mr. W. Bain, the show in the greenhouses and stoves is well worthy of the Orchid department; indeed, the brilliant effect, the splendid tuberous *Begonias*, pretty *Sarcocarpus*, and fragrant Lilies, make in the conservatory whose roof is laden with the mingled flowers of the white and the crimson varieties of *Lapageria rosea*, would be difficult to excel.

In the open ground there are flowers everywhere;

the beds of brilliant Cannas; of graceful and bright Montbretias; fragrant and richly-coloured Roses, Gladioli, Crinum Powelli (which is here one of the finest hardy bulbs), and other flowers being all that could be desired, while here and there peep forth novelties or well-known old plants never seen in such beautiful form before. Two remarkable instances of the latter are the pretty bushes of sky-blue Tweedia corulea, which by cutting back are here caused to make neat and charming plants; and the purple Rhodochiton volabile, which runs over a rustic arch.

CHRYSANTHEMUM MAXIMUM AND ITS ALLIES.

THE receipt of a letter and specimens from Rev. C. Wolley Dod induced us to examine the herbarium specimens, and those in cultivation at Kew and Chiswick:—

CHRYSANTHEMUM PALLENS, J. Gay (1833), ex *Indice Kewensi*, i., 527.—Bracts of the involucre with a deep white or pale brown margin; corolla of disc-florets gibbous, or spurred at the base.

C. MAXIMUM, Ramond (1800), ex *Indice Kewensi*, i., 527.—Bracts of the involucre with a brown margin; corolla of disc-florets not gibbous or spurred at the base. The association of fleshy leaves and a more or less coarsely hairy epiderm is unusual.

C. PALLENS is usually the smaller plant, 2 to 3 feet, the leaves lighter-coloured, less hairy, and less fleshy than those of maximum. C. maximum is a rather more robust plant, with darker-coloured, larger leaves, and involucre bracts, and without any spur or protrusion at the base of the corolla of the disc-florets, such as characterise the disc-florets of C. pallens.

In addition, there are C. LACUSTRE, a coarse-growing, tall perennial, 4 to 5 feet high, with thick, fleshy, quite glabrous, glossy leaves, and large white flower-heads. The ray-florets of this species have a rather deep, lacinate, membranous cup, surmounting the ovary. No such pappus or cup exists in the florets of the disc. The involucre scales are ovate-oblong acute, with a deep membranous border, extending from the tip to about the middle of the scale. To this belong certain garden forms called latifolium and grandiflorum; and here belongs in our opinion the larger of the two plants called maximum by Mr. Wolley Dod in the communication, and of which he has kindly transmitted specimens. This is still in bloom, whilst C. maximum and C. pallens are both over.

C. SEROTINUM is also a tall-growing perennial, 4 to 5 feet, not yet in bloom. Its upper leaves are sessile, lanceolate, coarsely serrate from above the middle to the tip, dull green, slightly pilose, especially upon the lower surface, and often with a pair of small lobes or teeth at the very base. The involucre scales in the young state are covered with white hairs.

C. ATRATUM has leaves auricled at the base, and the involucre leaves almost black at the tip. This is perhaps only a form of C. leucanthemum.

"C. PALLENS.—Last spring I received from Mr. Marshall, chairman of the floral committee of the Royal Horticultural Society, a plant named Chrysanthemum pallens; he asked me whether I knew it as a distinct species from C. maximum. When the plant flowered I found it to be what I have grown for many years as the type of C. maximum (Ramond), but on careful examination of the characters, with the help of a botanical expert, I find it to be C. pallens (Gay). In common with most amateurs I have generally considered that there were two forms of C. maximum (Ramond), one of slender habit, growing at most about 2 feet high; the other coarser and with thicker leaves and larger flowers, reaching, on rich soils, a height of 4 feet. Both of these are distinct from the still taller and larger C. latifolium syn. C. lacustre. The smaller of these two plants will be found on examination to be C. pallens (Gay),

and the larger C. maximum (Ramond). The botanical distinctions between the two are not obvious, except the difference in size; but the name "pallens" is derived from the colour of the bracts of the involucre. If a flower is turned upside down, the general colour of the edges of the bracts is nearly straw-coloured in C. pallens, whilst in C. maximum it is dark brown. The lower part of the stalk in C. pallens is hairy, whilst that of C. maximum is smooth. There are also differences in the pappus and the achene only to be observed by minute examination. The native range of C. pallens is more extensive than that of C. maximum, and it is less of a mountain plant, reaching from Portugal through southern France and northern Italy, nearly to the Black Sea. It is known that C. maximum is variable from seed, and where these two closely



FIG. 61.—A SPECIES OF FICUS—PROBABLY F. SIELA—STRANGLING A MANGO TREE.

allied species are grown near one another, it will probably be found that they amalgamate, and produce intermediate forms, but as botanists have recognized them as distinct, it is better that they should have their right names given to them in gardens. C. Wolley Dod."

A FICUS STRANGLING A MANGO TREE.

OUR illustration, taken from a photograph kindly furnished by Mr. G. M. Woodson, College of Science, Poonah, exhibits a Mango tree growing in a grove near Lanowlee, on the Western Ghats, India, being killed in the embraces of a Ficus. The process of destruction is well and correctly described in the following words by Mr. James Rodway in the *Guiana Forest*:—

"Woe betide the forest giant when he falls into the clutches of the Clusia or Fig. Its seeds being

provided with a pulp, which is very pleasant to the taste of a great number of birds, are carried from tree to tree, and deposited on the branches. Here it germinates, the leafy stem rising upward, and the roots flowing, as it were, down the trunk until they reach the soil. At first these aerial roots are soft and delicate, with apparently no more power for evil than so many small streams of pitch, which they resemble in their slowly-flowing motion downward. Here and there they branch, especially if an obstruction is met with, when the stream either changes its course or divides to right and left. Meanwhile leafy branches have been developed, which push themselves through the canopy above, and get into the light, where their growth is enormously accelerated. As this takes place the roots have generally reached the ground, and begun to draw sustenance from below to strengthen the whole plant. Then comes a wonderful development. The hitherto soft aerial roots begin to harden and spread wider and wider, throwing out side-branches which flow into and amalgamate with each other until the whole tree-trunk is bound in a series of irregular living hoops. The strangler is now ready for its deadly work. The forest giant, like all exogens, must have room to increase in girth, and here he is bound by cords which are stronger than iron bands. Like an athlete, he tries to expand and burst his fetters, and if they were rigid he might succeed. . . . The bark bulge between every interlacing—bulges out, and even tries to overlap; but the monster has taken every precaution against this by making its bands very numerous and wide. . . . As the tree becomes weaker its leaves begin to fall, and this gives more room for its foe. Soon the strangler expands itself into a great bush almost as large as the mass of branches and foliage it has effaced. . . . If we look carefully around us we see examples of entire obliteration—a Clusia, or Fig, standing on its reticulated hollow pillar, with only a heap of brown barks at its base to show what has become of the trunk which once stood up in all its majesty on that spot."

LATE STRAWBERRIES.

AS we experience such varying seasons, this one very hot, the next wet and cold, the importance of growing both early and late varieties of Strawberries on different aspects is obvious. This year our late plants on north borders were an especially welcome addition to the supply, as the outside crop was over earlier than usual. Last season, owing to late spring frost during May, much of the bloom of the mid-season varieties was injured by frost, and in the southern parts of the country the earliest plants had fruit half grown which was destroyed, whereas the bloom on north borders was less advanced, and remained uninjured.

August is a good month to plant for late supplies, and I venture to assert that the fruits will be much appreciated, as we never appear to have too long a season or too abundant a crop of Strawberries. Last year I find that our supply lasted six weeks, thanks to our late kinds; this year we gathered much earlier and the period was a little over five weeks. Of late varieties there is a large choice, and the first place I would give to British Queen, a variety that does not do well everywhere, but is well worth growing if it thrives—it just follows on the main crop varieties. Eleanor or Oxoniac is also a large-fruited late variety, not noted for flavour, but a free grower and trustworthy cropper. Aberdeen Favourite is superior, though a little smaller; a fine type, of brisk flavour, and very late when grown in the shade of a north wall. For some seasons Jubilee used to be grown here in the same aspect for its good qualities and lateness, but it has now made way for Latest of All, a much superior variety, with the British Queen flavour, and coming best in dry hot seasons. It is a very fine fruit, and an immense cropper, requiring frequent renewals if great size in the fruit is required. I am unable to recommend Waterloo, as it does not crop freely at Syon, owing, I think, to the nature of the soil; and young plants, unless planted very early, seldom fruit freely. The "Pine" section of Strawberries consists mostly of late varieties, such as Eton Pine and Filbert Pine; but if my choice was limited to two only, I should select British Queen and Latest of All, planting them in the month of July for fruiting the next season. In good land, these two varieties will succeed admirably, giving fine large fruits after the plants in open beds have ceased to bear. G. Wythes.

BOTANICAL SECTION OF THE BRITISH ASSOCIATION.*

(Concluded from p. 297.)

ORGANISATION OF SECTION.—I am afraid I have detained you too long over these matters, on which I must admit I have spoken with some frankness. But I take it that one of the objects of our section is to deliver our minds of any perilous stuff that is fermenting in it. But now, having taken leave of the past, let us turn to the future.

We start at least with a clean slate. We cannot bind our successors, it is true, at other meetings. But I cannot doubt that it will be in our power to materially shape our future, notwithstanding. When we were only a department I think we all felt the advantage of these annual meetings, of the profitable discussion formal and informal, and of the privilege of meeting so many of our foreign brethren who have so generously supported us by their presence and sympathy.

I am anxious, then, to suggest that we should conduct our proceedings on as broad lines as possible. I do not think we should be too ready to encourage papers which may well be communicated to societies, either local or central.

The field is large; the labourers as they advance in life can hardly expect to keep pace with all that is going on in it. We must look to individual members of our number to help us by informing and stimulating addresses on subjects they have made peculiarly their own, or on important researches on which they have been especially engaged.

NOMENCLATURE.

There is one subject upon which, from my official position elsewhere, I desire to take the opportunity of saying a few words. It is that of nomenclature. It is not on its technical side, I am afraid, of sufficient general interest to justify my devoting to it the space which its importance would otherwise deserve. But I hope to be able to enlist your support for the broad common-sense principles on which our practice should rest.

As I suppose, everyone knows we owe our present method of nomenclature in natural history to Linnæus. He devised the binominal, or, as it is often absurdly called, the binomial system. That we must have a technical system of nomenclature I suppose no one here will dispute. It is not, however, always admitted by popular writers who have not appreciated the difficulty of the matter, and who think all names should be in the vernacular. There is the obvious difficulty that the vast majority of plants do not possess any names at all, and the attempts to manufacture them in a popular shape have met with but little success. Then, from lack of discriminating power on the part of those who use them, vernacular names are often ambiguous; thus *Bulrush* is applied equally to *Typha* and to *Scirpus*, plants extremely different. Vernacular names, again, are only of local utility, while the Linnæan system is intelligible throughout the world.

A technical name, then, for a plant or animal is a necessity, as without it we cannot fix the object of our investigations into its affinity, structure, or properties.† *Nomina si necesse perit et cognitio rerum.*

In order to get clear ideas on the matter, let us look at the logical principles on which such names are based. It is fortunate for us that these are stated by Mill, who, besides being an authority on logic, was also an accomplished botanist. He tells us:‡ "A naturalist, for purposes connected with his particular science, sees reason to distribute the animal or vegetable creation into certain groups rather than into any others, and he requires a name to bind, as it were, each of his groups together." He further explains that such names, whether of species, genera, or orders, are what logicians call connotative: they denote the members of each group, and connote the distinctive characters by which it is defined. A species, then, connotes the common characters of the individuals belonging to it; a

genus, those of the species; an order, those of the genera.

But these are the logical principles, which are applicable to names generally. A name such as *Ranunculus repens* does not differ in any particular from a name such as John Smith, except that one denotes a species, the other an individual.

This being the case, and technical names being a necessity, they continually pass into general use in connection with horticulture, commerce, medicine, and the arts. It seems obvious that, if science is to keep in touch with human affairs, stability in nomenclature is a thing not merely to aim at but to respect. Changes become necessary, but should never be insisted on without grave and solid reason. In some cases they are inevitable unless the taxonomic side of botany is to remain at a standstill. From time to time the revision of a large group has to be undertaken from a uniform and comparative point of view. It then often occurs that new genera are seen to have been too hastily founded on insufficient grounds, and must therefore be merged in others. This may involve the creation of a large number of new names, the old ones becoming henceforth a burden to literature as synonyms. It is usual in such cases to retain the specific portion of the original name, if possible. If it is, however, already pre-occupied in the genus to which the transference is made, a new one must be devised. Many modern systematists have, however, set up the doctrine that a specific epithet once given is indelible, and whatever the taxonomic wanderings of the organism to which it was once assigned, it must always accompany it. This, however, would not have met with much sympathy from Linnæus, who attached no importance to the specific epithet at all: *Nomen specificum sine generico est quasi pistillum sine campana.** Linnæus always had a solid reason for everything he did or said, and it is worth while considering in this case what it was.

Before his time, the practice of associating plants in genera had made some progress in the hands of Tournefort and others, but specific names were still cumbersome and practically unmanageable. Genera were often distinguished by a single word; and it was the great reform accomplished by Linnæus to adopt the binominal principle for species. But there is this difference. Generic names are unique, and must not be applied to more than one distinct group. Specific names might have been constituted on the same basis; the specific name in that case would then have never been used to designate more than one plant, and would have been sufficient to indicate it. We should have lost, it is true, the useful information which we get from our present practice in learning the genus to which the species belongs; but, theoretically, a nomenclature could have been established on the one-name principle. The thing, however, is impossible now, even if it were desirable. A specific epithet like *vulgaris* may belong to hundreds of different species belonging to as many different genera, and taken alone is meaningless. A Linnæan name, then, though it consists of two parts, must be treated as a whole. *Nomen omne plantarum constabit nomine generico et specifico.*† A fragment can have no vitality of its own. Consequently, if superseded, it may be replaced by another which may be perfectly independent.‡

It constantly happens that the same species is named and described by more than one writer, or different views are taken of specific differences by various writers; the species of one are therefore "lumped" by another. In such cases, where there is a choice of names, it is customary to select the earliest published. I agree, however, with the late Sereno Watson§ that "there is nothing whatever

of an ethical character inherent in a name, through any priority of publication or position, which should render it morally obligatory upon anyone to accept one name rather than another." And in point of fact, Linnæus and the early systematists attached little importance to priority. The rigid application of the principle involves the assumption that all persons who describe or attempt to describe plants are equally competent to the task. But this is so far from being the case that it is sometimes all but impossible even to guess what could possibly have been meant.*

In 1872 Sir Joseph Hooker† wrote:—"The number of species described by authors who cannot determine their affinities increases annually, and I regard the naturalist who puts a described plant into its proper position in regard to its allies as rendering a greater service to science than its describer when he either puts it into a wrong place, or throws it into any of those chaotic heaps, mis-called genera, with which systematic works still abound." This has always seemed to me not merely sound sense, but a scientific way of treating the matter. What we want in nomenclature is the maximum amount of stability, and the minimum amount of change compatible with progress in perfecting our taxonomic system. Nomenclature is a means, not an end. There are perhaps 150,000 species of flowering plants in existence. What we want to do is to push on the task of getting them named and described in an intelligible manner, and their affinities determined as correctly as possible. We shall then have material for dealing with the larger problems which the vegetation of our globe will present when treated as a whole. To me the botanists who waste their time over priority are like boys who, when sent on an errand, spend their time in playing by the roadside. By such men even Linnæus is not to be allowed to decide his own names. To one of the most splendid ornaments of our gardens he gave the name of *Magnolia grandiflora*: this is now to be known as *Magnolia foetida*. The reformer himself is constrained to admit, "The change is a most unfortunate one in every way."‡ It is difficult to see what is gained by making it, except to render systematic botany ridiculous. The genus *Aspidium*, known to every Fern cultivator, was founded by Swartz. It now contains some 400 species, of which the vast majority were, of course, unknown to him at the time; yet the names of all these are to be changed, because Adanson founded a genus, *Dryopteris*, which seems to be the same thing as *Aspidium*. What, it may be asked, is gained by the change? To science it is certainly nothing. On the other hand, we lumber our books with a mass of synonyms, and perplex everyone who takes an interest in Ferns. It appears that the name of the well-known Australian genus, *Banksia*, really belongs to *Pimelea*; the species are therefore to be renamed, and *Banksia* is to be rechristened *Sirmuelleria*, after Sir Ferdinand von Mueller; a proposal which, I need hardly say, did not emanate from an Englishman.

I will not multiply instances. But the worst of it is, that those who have carefully studied the subject know that, from various causes, which I cannot afford the time to discuss, when once it is attempted to disturb accepted nomenclature, it is almost impossible to reach finality. Many genera only exist by virtue of their re-definition in modern times; in the form in which they were originally promulgated they have hardly any intelligible meaning at all.

It can hardly be doubted that one cause of the want of attention which systematic botany now receives is the repulsive labour of the bibliographical work with which it has been overlaid. What an enormous bulk nomenclature has already attained may be judged from the *Index Kewensis*, which was

* Phil., 219.

† Phil., 212.

‡ As Alphonse de Candolle points out in a letter published in the *Bull. de la Soc. Bot. de France* (xxxix.), "the real merit of Linnæus has been to combine, for all plants, the generic name with the specific epithet." It is important to remember that in a logical sense the "name" of a species consists, as Linnæus himself insisted, in the combination, not in the specific epithet, which is a mere fragment of the name, and meaningless when taken by itself.

§ *Nature*, xlvii., 54.

* Darwin, who always seems to me, almost instinctively, to take the right view in matters relating to natural history, is (*Life*, vol. i., p. 364) dead against the new "practice of naturalists appending for perpetuity the name of the first describer to species." He is equally against the priority craze:—"I cannot yet bring myself to reject very well-known names" (*ibid.*, p. 369).

† *Flora of British India*, i., vii.

‡ *Garden and Forest*, ii., 615.

* Address by W. T. Thiselton Dyer, M.A., F.R.S., C.M.G., &c., Director of the Royal Gardens, Kew, at the meeting of The British Association, Ipswich.

† *Linn. Phil.*, 210.

‡ *System of Logic*, i., 132.

prepared at Kew, and which we owe to the munificence of Mr. Darwin. In his own studies he constantly came on the track of names which he was unable to run down to their source. This the *Index* enables to be done. It is based, in fact, on a manuscript index which we compiled for our own use at Kew. But it is a mistake to suppose that it is anything more than the name signifies, or that it expresses any opinion as to the validity of the names themselves. That those who use the book must judge of for themselves. We have indexed existing names, but we have not added to the burden by making any new ones for species already described.

What synonymy has now come to may be judged by an example supplied me by my friend Mr. C. B. Clarke. For a single species of *Fimbristylis* he finds 135 published names under six genera. If we go on in this way, we shall have to invent a new Linnaeus, wipe out the past, and begin all over again.

Although I have brought the matter before the Section, it is not one in which this, or indeed any collective assembly of botanists, can do very much. While I hope I shall carry your assent with the general principles I have laid down, it must be admitted that the technical details can only be appreciated by experienced specialists. All that can be hoped is a general agreement amongst the staffs of the principal institutions in different countries where systematic botany is worked at; the free-lances must be left to do as they like.

PUBLICATIONS.

I have dwelt at such length on certain aspects of my subject that perhaps, without great injustice, you may retort on me the complaint of one-sidedness. But when I survey the larger field of botany in this country, the prospect seems to me so vast that I should despair even if I had my whole address at my disposal of doing it justice. I think that its extent is measured by the way in which the publications belonging to our subject are maintained. First of all, we have access to the Royal Society, a privilege of which I hope we shall always continue to take advantage for communications which either treat of fundamental subjects, or at least are of general interest to biologists. Next to this we have our ancient Linnean Society, with a branch of its publications handsomely and efficiently devoted to systematic work. Then we have the *Annals of Botany*, which has now, I think, established its position, and which brings together the chief morphological and physiological work accomplished in the country. Lastly, we have the *Journal of Botany*, a less ambitious but useful periodical, which is mainly devoted to the labours of British botanists. I remember there was a time when I thought that this, at any rate, was an exhausted field. But it is not so; knowledge in its most limited aspects is inexhaustible if the labourer have the necessary insight. The discoveries of Mr. Arthur Bennett amongst the potamogetons of the Eastern Counties is a striking and brilliant instance.

Besides the publication of the *Annals*, we owe to the Oxford Press a splendid series of the best foreign text-books issued in our own language. If the thought has sometimes occurred to one's mind that we were borrowers too freely from our indefatigable neighbours, I, at least, remember that the late Professor Eichler paid us the compliment of saying that he preferred to read one of these monumental books in the English translation rather than in the original. I believe it is no secret that botany owes the aid that Oxford has rendered it in these and other matters in great measure to my old friend, the Master of Pembroke College, than whom, I believe, science has no more devoted supporter.

PALÆBOTANY.

I have said much of recent botany; I must not pass over that of past ages. Two notable workers in this field have passed away since our last meeting. Saporta was with us at Manchester, and we shall not readily forget his personal charm. If some of his work has about it a too imaginative character, the patience and entire sincerity with which he traced

the origin of the existing forms of vegetation in Southern Europe to their ancestors in the not distant geological past will always deserve attentive study. But in the venerable, yet always youthful, Williamson we lose a figure whose memory we shall long preserve. With rare instinct he accumulated a wealth of material illustrative of the vegetation of the Carboniferous epoch, which, I suppose, is unique in the world. And this was prepared for examination with incomparable patience either by his own hands or under his own eyes. He illustrated it with absolute fidelity. And if he did not in describing it always use language with which we could agree, nothing could ruffle either his imperturbable good nature or the noble simplicity of his character. Truth to tell, we were often in friendly warfare with him. But I rejoice to think that before his peaceful end came he had patiently reconsidered and abandoned all that we regarded as his heresies, but which were, in truth, only the old manner of looking at things. And I think that if anything could have contributed to make his departure happy, it was the conviction that the completion of his work and his scientific reputation would remain perfectly secure in the hands of Dr. Scott.

VEGETABLE PHYSIOLOGY.

Turning again to the present, the difficulty is to limit the choice of topics on which I would willingly dwell. In an address which I delivered at the Bath meeting in 1888, I ventured to point out the important part which the action of enzymes would be found to play in plant metabolism. My expectations have been more than realised by the admirable work of Professor Green on the one hand, and of Mr. Horace Brown on the other. The wildest imagination could not have foreseen the developments which, in the hands of animal physiologists, would spring from the study of the fermentative changes produced by yeast and bacteria. These, it seems to me, bid fair to revolutionise our whole conceptions of disease. The reciprocal action of ferments, developed in so admirable a manner by Marshall Ward in the case of the Ginger-beer plant, is destined, I am convinced, to an expansion scarcely less important.

But, perhaps, the most noteworthy feature in recent work is the disposition to reopen in every direction fundamental questions. And here, I think, we may take a useful lesson from the practice of the older Sections, and adopt the plan of entrusting the investigation of special problems to small committees, or to individuals who are willing to undertake the labour of reporting upon special questions which they have made peculiarly their own. These reports would be printed *in extenso*, and are capable of rendering invaluable service by making accessible acquired knowledge which could not be got at in any other way.

We owe to Mr. Blackman a masterly demonstration of the fact, long believed, but never, perhaps, properly proved, that the surface of plants is ordinarily impermeable to gases. Mr. Dixon has brought forward some new views about water-movement in plants, which I confess I found less instructive than many of my brother botanists. They are expressed in language of extreme technicality; but, as far as I understand them, they amount to this. The water moving in the plant is contained in capillary channels; as it evaporates at the surface of the leaves a tensile strain is set up, as long as the columns are not broken, to restore the original level. I can understand that in this way the "transpiration current" may be maintained. But what I want to know is, how this explains the phenomena in the Sugar Maple, a single tree of which will yield, I believe, 20 to 30 gallons of fluid before a single leaf is expanded.

We owe to Messrs. Darwin and Acton the supply of a *Manual of Practical Vegetable Physiology*, the want of which has long been keenly felt. Like the father of one of the authors, "I love to exalt plants" (i. 98). I have long been satisfied that the facts of vegetable physiology are capable of being widely taught, and are not less significant and infinitely

more convenient than most of those which can be easily demonstrated on the animal side. How little any accurate knowledge of the subject has extended was conspicuously demonstrated in a recent discussion at the Royal Society, when two of our foremost chemists roundly denied the existence of a function of respiration in plants, because it was unknown to Liebig!

ASSIMILATION.

The greatest and most fundamental problem of all is that of assimilation. The very existence of life upon the earth ultimately depends upon it. The veil is slowly, but I think surely, being lifted from its secrets. We now know that starch, if its first visible product, is not its first result. We are pretty well agreed that this is what I have called a "proto-carbohydrate." How is the synthesis of this effected? Mr. Acton, whose untimely end we cannot but deeply deplore, made some remarkable researches, which were communicated to the Royal Society in 1889, on the extent to which plants could take advantage of organic compounds made, so to speak, ready to their hand. Loew, in a remarkable paper, which will perhaps attract less attention than it deserves from being published in Japan,* has from the study of the nutrition of bacteria, arrived at some general conclusions in the same direction. Bokorny appears recently to have similarly experimented on *Algæ*. Neither writer, however, seems to have been acquainted with Acton's work. The general conclusion which I draw from Loew is to strengthen the belief that form-aldehyde is actually one of the first steps of organic synthesis, as long ago suggested by Adolph Baeyer. Plants, then, will avail themselves of ready-made organic compounds which will yield them this body. That a sugar can be constructed from it has long been known, and Bokorny has shown that this can be utilised by plants in the production of starch.

The precise mode of the formation of form-aldehyde in the process of assimilation is a matter of dispute. But it is quite clear that either the carbon dioxide or the water, which are the materials from which it is formed, must suffer dissociation. And this requires a supply of energy to accomplish it. Warington has drawn attention to the striking fact that in the case of the nitrifying bacterium, assimilation may go on without the intervention of chlorophyll, the energy being supplied by the oxidation of ammonia. This brings us down to the fact, which has long been suspected, that protoplasm is at the bottom of the whole business, and that chlorophyll only plays some subsidiary and indirect part, perhaps, as Adolph Baeyer long ago suggested, of temporarily fixing carbon oxide like hæmoglobin, and so facilitating the dissociation.

Chlorophyll itself is still the subject of the careful study by Dr. Schnuck, originally commenced by him some years ago at Kew. This will, I hope, give us eventually an accurate insight into the chemical constitution of this important substance.

The steps in plant metabolism which follow the synthesis of the proto-carbohydrate are still obscure. Brown and Morris have arrived at the unexpected conclusion that "Cane-sugar is the first sugar to be synthesised by the assimilatory processes." I made some remarks upon this at the time,† which I may be permitted to reproduce here.

"The point of view arrived at by botanists was briefly stated by Sachs in the case of the Sugar-Beet, starch in the leaf, glucose in the petiole, cane-sugar in the root. The facts in the Sugar-cane seem to be strictly comparable ‡ Cane-sugar the botanist looks on, therefore, as a 'reserve material.' We may call 'glucose' the sugar 'currency' of the plant, cane-sugar its 'banking reserve.'

"The immediate result of the diastatic transformation of starch is not glucose, but maltose. But Mr. Horace Brown has shown in his remarkable experiments on feeding Barley embryos that, while they can readily convert maltose into cane-sugar, they altogether fail to do this with glucose. We may

* *Bull. College of Agric. Imp. Univ. Tokio*, vol. ii.

† *Journ. Chem. Soc.*, 1893, 673.

‡ *Kew Bulletin*, 1891, 35-41.

conclude, therefore, that glucose is, from the point of view of vegetable nutrition, a somewhat inert body. On the other hand, evidence is apparently wanting that maltose plays the part in vegetable metabolism that might be expected of it. Its conversion into glucose may be perhaps accounted for by the constant presence in plant tissues of vegetable acids. But, so far, the change would seem to be positively disadvantageous. Perhaps glucose, in the botanical sense, will prove to have a not very exact chemical connotation.

"That the connection between cane-sugar and starch is intimate is a conclusion to which both the chemical and the botanical evidence seems to point. And on botanical grounds this would seem to be equally true of its connection with cellulose.

"It must be confessed that the conclusion that 'cane-sugar' is the first sugar to be synthesised by the assimilatory processes seems hard to reconcile with its probable high chemical complexity, and with the fact that, botanically, it seems to stand at the end and not at the beginning of the series of metabolic change."

PROTOPLASMIC CHEMISTRY.

The synthesis of proteids is the problem which is second only in importance to that of carbohydrates. Loew's views of this deserve attentive study. Asparagin, as has long been suspected, plays an important part. It has, he says, two sources in the plant. "It may either be formed directly from glucose, ammonia (or nitrates) and sulphates, or it may be a transitory product between protein-decomposition and reconstruction from the fragments."*

In the remarks I made to the Chemical Society I ventured to express my conviction that the chemical processes which took place under the influence of protoplasm were probably of a different kind from those with which the chemist is ordinarily occupied. The plant produces a profusion of substances, apparently with great facility, which the chemist can only build up in the most circuitous way. As Victor Meyer † has remarked: "In order to isolate an organic substance, we are generally confined to the purely accidental properties of crystallisation and volatilisation." In other words, the chemist only deals with bodies of great molecular stability; while it cannot be doubted that those which play a part in the processes of life are the very opposite in every respect. I am convinced that if the chemist is to help in the field of protoplasmic activity, he will have to transcend his present limitations, and be prepared to admit that as there may be more than one algebra, there may be more than one chemistry. I am glad to see that a somewhat similar idea has been suggested by other fields of inquiry. Professor Meldola ‡ thinks that the investigation of photochemical processes "may lead to the recognition of a new order of chemical attraction, or of the old chemical attraction in a different degree." I am delighted to see that the ideas which were floating, I confess, in a very nebulous form in my brain are being clothed with greater precision by Loew.

In the paper which I have already quoted, he says of proteids §:—"They are exceedingly labile compounds that can be easily converted into relatively stable ones. A great lability is the indispensable and necessary foundation for the production of the various actions of the living protoplasm, for the mode of motions that move the life-machinery. There is a source of motion in the labile position of atoms in molecules, a source that has hitherto not been taken into consideration either by chemists or by physicists."

But I must say no more. The problems to which I might invite attention on an occasion like this are endless. I have not even attempted to do justice to the work that has been accomplished amongst ourselves, full of interest and novelty as it is. But I will venture to say this, that if capacity and earnestness afford on any day of success, the prospects of the future of our Section possess every element of promise.

KEW NOTES.

TACCA PALMATA.—This is a new addition to the cultivated species of Tacca, seeds of it having been received at Kew last year from the Java Botanic Garden, from which a batch of plants were raised, and most of them are now flowering in the tropical houses. The general characters of the plant are similar to those of the well-known *T. artocarpifolia* from the Mascarene Islands, but smaller, the slender leaf-stalks being 1 foot long, supporting a palmatifid blade 9 inches across; the flower-scapes are erect, from 18 inches to 2 feet in height, and it bears a umbel of about twenty dull purple flowers springing from a quartette of leaf-like, green bracts. The flowers, which are $\frac{1}{2}$ inch in diameter, have three inner and three outer recurved segments. The plant is worth a place among interesting easily-grown stove plants. Probably it will grow to a larger size. *T. pinnatifida*, from the roots of which arrowroot is prepared in Fiji, has also lately flowered at Kew. A fourth species grown here is *T. cristata*, generally known as *Ataccia*.

CRINUM PURPURASCENS.

Sir John Kirk, K.C.B., recently brought to Kew seedlings of a *Crinum* which he found growing in deep water at Brass near the mouth of the river Niger, and which, so far as he could see, was a true aquatic, the leaves as well as the stems being quite submerged, the head of flowers only appearing above the surface of the water. In the distance the flowers had the appearance of a *Nymphaea*. On pulling at one of the flower-heads he drew up with it a long Leek-like stem with narrow strap-shaped leaves more like some sea-weed in character than any *Crinum*. Sir John, on seeing a plant of *C. purpurascens* in the Kew collection, which is a native of that region, thought it might probably be the same as what he saw at Brass. The inference is that *C. purpurascens* is of aquatic habits, and judging by Sir John's description, it is a much more attractive plant when seen growing in deep water than when growing in a pot in the ordinary way. It flowers annually in a stove at Kew.

AGAVE KEWENSIS.

For many years there has been a gigantic Agave in the succulent-house at Kew under this name. Its early history appears to be unknown, but thirty years ago it was included by Jacobi in his *Monograph*, where it was first described under its present name. At that time it was a large plant, so that probably its age now is fifty to sixty years. It is now flowering for the first time, the pole-like spike reaching to the roof of the house, and bearing a dense head of large bright yellow flowers. A figure of it has been prepared for the *Botanical Magazine*, where, no doubt, Mr. Baker will tell all that there is to be told with regard to it. Meanwhile it is worth the while of anyone interested in Agaves to see this plant, which is exceedingly handsome in flower, but which does not at present look like perpetuating itself, the leaves having all perished, and the stem failed to develop suckers. Possibly, however, bulbils will be produced on the inflorescence.

CEREUS GIGANTEUS.

One of the large specimens of this giant Cactus recently obtained from Arizona, and represented in the photograph of a group of Cacti published in these pages a few weeks ago, is now flowering freely. This is the second time this species has flowered at Kew in the last five years, the first being in 1891, when a figure was published in the *Botanical Magazine*. The flowers are 6 inches long, trumpet-shaped, with numerous short white petals surrounding a large cushion-like cluster of yellow stamens, in the centre of which is the erect many-rayed stigma. Compared with the colossal stem the flowers are small and disappointing. Had the flowers been on the same scale as those of *C. Eyriceii* (*Echinopsis*) they would have been about the size of an ordinary wash-tub. W. W.

THE WEEK'S WORK.

FRUITS UNDER GLASS.

By RICHARD PARKER, Gardener, Goodwood, Chichester.

MELONS.—Late crops of Melons often prove useful during shooting parties in October, but to obtain fruit of good flavour at such time, late batches of plants should be grown in heated pits or houses where a night temperature ranging from 65° to 70° can be maintained. If this convenience is at command, and provided the plants are strong and healthy, it is not too late even now to set a few fruits. The above-mentioned night-temperature, together with a brisk, growing heat during the day ought to produce ripe fruit towards the end of next month. The continued bright weather has proved very beneficial to the present crop, as ventilation was admitted freely to the fruit during the latter stages of ripening, which is very necessary to good flavour. Where the fruit is in different stages of swelling, a fair amount of moisture can safely be used while there is sun-heat, but at the first approach of dull, wet weather, great care must be taken to ensure an even temperature, and there must be less atmospheric moisture. Slight surface-dressings of fresh loam may be given to sustain the plants in a healthy condition until the fruits are cut.

TOMATOS.—If not already prepared, a house should be got ready for plants that are at present standing in pots out-of-doors, so that they may be removed under cover before damage is done by heavy rains or frosts. A house that has been used during the summer for Melon-growing may be selected with advantage, as the pots, if small, and full of roots, can be stood on the soil used for the former crop, and allowed to root into the same. Plants occupying large pots will require to be surface-dressed and stood upon bricks, that the drainage may be thorough. Train the fruiting-stems as near the roof-glass as possible, and continue to shorten back lateral growths, also the strongest foliage to half its length, so that light and air may easily reach the clusters of flowers. The house should be ventilated freely during bright weather, and a slight circulation in the hot-water pipes should be maintained if the weather becomes damp. Atmospheric moisture must be avoided, or disease will follow. Water rather sparingly. We are testing several varieties for winter work, and up to the present Frogmore Selected has set the best crop. Clusters of fruit, eight and ten on each, are swelling very evenly.

THE FLOWER GARDEN.

By BAILEY WADDS, Gardener, Birdsall Gardens, York.

DAHLIAS.—Show and other varieties of Dahlias should be given attention by cutting off all dead flowers as they appear, and by securing the plants against rough weather. Dahlias are most useful autumn-flowering plants, and every inducement should be given them to continue in flower as long as possible. Before the plants have passed out of bloom they should be looked carefully over, and correct names attached to each of them; or where this is impossible, discard the plant, as there is nothing more confusing than wrongly-named plants.

ALPINE AURICULAS in beds or borders must be kept clean from weeds, and the plants ought now to be growing strong and healthy. Where the plants are grown in pots, young seedlings and offsets that are growing in small pots or boxes should be moved into 5 or 6-inch pots. They require perfect drainage and rich sandy loam, with a good quantity of small broken brick in it. Place them in frames or pits from which the lights can be taken off during dry weather. In winter they must be given a situation that is dry and airy, but free from frosts.

BULBOUS PLANTS.—Seeds of these that have been sown during the season should now be sown in boxes, and placed in pits from which severe frost can be excluded. Bulbs of Narcissus, *Lilium candidum*, Anemones, Tulips, Hyacinths, Crocus, Iris, *Gladiolus Colvillei*, &c., may be planted as soon as the beds or borders are cleared of their summer occupants. Those put into herbaceous borders should be planted in clumps of from six to twelve bulbs, and kept as near the front as possible, that they may be readily observed when in bloom.

PRIMROSES AND POLYANTHUSES that require planting out should be removed as soon as possible. Where they are growing thickly in old-established beds, every other plant should be taken out.

* *Loc. cit.*, 64.

† *Nature*, xlii., 250.

‡ *Pharm. Journ.*, 1890, 773.

§ *Loc. cit.*, 12.

WALLFLOWERS may also be planted in their winter quarters as soon as possible. Window-boxes standing in sheltered positions should be filled with them at once; and some plants should be put into pots, in order to fill the vases in spring. These may be kept in a cool pit or house.

CARNATIONS AND PINKS.—Layers and cuttings which are well rooted must be planted out without delay. Give the ground a good manuring, and a little fresh lime at the time of planting. Late layers should be left on the plants for some time yet, as they do not root so quickly.

HERBACEOUS BORDERS.—A considerable amount of cleaning-up will be required at this season. The borders are very gay just now with the flowers of *Tritoma Uvaria*, *Michaelmas Daisies*, various sorts of *Helianthus*, *Anemone japonica*, herbaceous *Paloxea*, *Hyacinthus candicans*, and *Bulbocodiums*. Annuals sown or planted in these borders should be kept within bonnets. Such plants as Sweet Peas, Marigolds, *Tropæolums*, summer *Chrysanthemums*, *Pelargoniums*, and annual *Scabions* should be grown on borders or beds to themselves, or on shrubby borders. *Dahlia*s, annual *Sunflowers*, *Mignonette*, clumps of *Ten-week Stocks*, and such plants that will come off quickly may be grown in herbaceous borders, but they should not be allowed to interfere with the flowering and ripening of *Pæonies*, *Spizæas*, *Delphiniums*, and other hardy plants.

THE ORCHID HOUSES.

By W. H. WHITE, *Orchid Grower, Burford, Dorking.*

VENTILATION AND SHADE.—The principal work to be done in Orchid-houses now is the repotting of the cool-growing species, but while such work is in progress, there are other important matters requiring attention. Each day has a shorter period of light than its predecessor, and it is necessary to take advantage of all the sunlight in order to assist the plants to thoroughly ripen their growth. Gradually expose the collection as a whole to extra sunlight, and on every favourable opportunity admit a free circulation of air. In the hottest division, where *Dendrobium*s still in full growth, *Cyrtopodiums*, *Renanthras*, *Grammatophyllums*, *Vanda Hookeriana*, *Cattleya superba*, *C. Schilleriana*, *Catacætnæ*, &c., can be accommodated to a position by themselves, the plants will now require only the thinnest of shading under any circumstances; but such plants as *Phalænopsis*, *Angræcum citratum*, *A. Ellisii*, *A. Kotschyi*, *A. Sanderianum*, *A. pellucidum*, *Phaius tuberculatus*, *Anæctochilna*, *Eulophiella Elisabethæ*, *Cypripediums*, the warm-growing *Cœlogyne asperata*, *C. Lowii*, and *C. Cumingi*, are liable to permanent injury if exposed to direct sunlight. The amount of shading in the case of these, however, may be lessened by not lowering the blinds quite so early in the morning, and by lifting them sooner each afternoon. It is important that discrimination should be used in this matter, and when the blinds are down during the middle hours of the day, it is necessary to guard against over-ventilation, so as to minimise the fluctuation in the temperature through cold winds. Many of the *Aëidea*s and *Saccobalanus* are still growing freely, and will only require to be moderately shaded. The deciduous *Calanthes*, which are now commencing to show their flower-spikes, will scarcely require to be shaded at all; by thus exposing them the bulbs become strong and well-ripened, and the colour of the flowers will be clear and rich. There are few Orchids that enjoy an airy atmosphere at this season more than the *Cattleyas*, especially when there is plenty of sun-heat. There is no need to be continually pulling the blinds up and down at every burst of sunshine, as *Cattleyas* will stand more direct sunlight at this season than any other, and they will only require shade at all for an hour or so during the hottest part of the day. Such species as *Lælia anceps*, *L. autumnalis*, *L. albida*, *L. Gonldiana*, *L. Marriottiana*, &c.; *Vanda terea*, *V. Kimballiana*, *V. Amesiana*, *Schomburgkias*, *Barkerias*, *Eulophias*, *Epidendrum atropurpureum*, *E. Randii*, *E. rhizophorum*, and *Odonoglossum citrosannum*, also delight in plenty of sunshine during the autumn, and an abundance of fresh air whenever practicable. *Miltonia vexillaria*, *Cœlogyne*s, *Vandas* of the *suavia* and *tricolor* section, the cooler-growing *Aërides*, as *A. crassifolium*, *A. maculatum*, *A. m. Schröderæ*, *Saccobalanus coleate*, and the cooler-growing *Cypripediums*, which, when an intermediate-house is not at command, are usually cultivated with the *Cattleyas*, all require an airy position and moderate shading. The *Odonoglossum*, *Made-*

ralias, and other species in the cool-house should be protected from strong sunshine at all times. Those *Dendrobium*s that have completed their growth and have for the past few weeks been gradually dried and hardened off, may be fully exposed to the sun. Very little water is needed now to keep the bulbs plump. Afford plenty of air by opening the ventilators at both top and bottom, but avoid cold draughts.

THE HARDY FRUIT GARDEN.

By W. POPE, *Gardener, Highclere Castle, Newbury.*

PEACHES AND NECTARINES continue to require frequent attention. The growths should be secured, and the laterals on vigorous shoots stopped to one leaf. Late kinds need as much air and sunlight as possible, in order to obtain fruits of good colour and flavour. The fruits should not be shaded by leaves, which may be fastened back; or if this cannot be done, shortened, or taken away entirely. Long sappy growths may be shortened, but this must be done with care, or the diverted sap may unduly excite dormant buds that should fruit next season. Trees that have been cleared of fruit may now have old bearing wood that can be spared taken out, and if the shoots are then still crowded, they may be thinned freely. Each shoot requires a space of 9 to 12 inches in order to ensure the perfect ripening of the wood, and which is the best preventive of injury by hard frosts. The roots often require water at this season, and if upon examination the borders are found to be dry, they should be given a good soaking at once, first breaking the surface if trodden hard near the wall. Where lifting has to be done it should be attended to in good time; and before the fall of the leaf. Many good growers transplant their trees periodically, and the roots by frequent removal become a mass of fibres, so that the slight check experienced is beneficial in hastening wood ripening, and preventing rampant growth. If any trace of red-spider be detected, give the trees a thorough washing with clear water three or four days in succession, applying it with force from the garden-engine, and taking care that every portion is well wetted. Any trees that are badly infested should be treated with some safe kind of insecticide, afterwards syringing them with clear water till clean.

STOPPING PEARS, PLUMS, ETC., ON WALLS.—Continue to stop secondary growths on Pear, Plum, Cherry, and Apricot trees on walls, pinching all such to one leaf so as to keep the spurs close to the wall, and to allow of sun and air having free access to every part. The shoots must be secured to the wall as they advance in growth, or it may be difficult to bring them into a proper position later on. Overgrown spur-growth may also now be thinned, cutting out one here and there, where they can be spared. If a few of these are taken away yearly, a neglected tree will in a few years be furnished with short spurs close to the wall, and the fruit will be greatly improved in size and quality. In the case of old exhausted trees, this should be supplemented by clearing away the top soil and applying a good dressing of rich compost to the roots.

THE KITCHEN GARDEN.

By JOHN LAMBERT, *Gardener, Powis Castle, Welshpool.*

SWEET BASIL has made abundant growth in the open this summer, and should now be dried for use during winter. Where a green supply in winter is expected, preparations for growing it in heated pits or in boxes, must be made at once. Sow the seed now, and as soon as the seedlings can be handled, carefully prick them out, and as they are very tender they must not be put into a cool draughty house. A Cucumber-house or Pine-stove will suit them well, but keep them as near to the roof-glass as possible.

GENERAL WORK.—Since the rains have come the growth of weeds has caused considerable trouble in the kitchen garden, and it has been difficult to destroy them by hoeing. Hand-weeding is imperative in the case of some crops where the hoe cannot be used, but during dry days let all the garden be thoroughly cleaned, afterwards hoed, and if dull weather ensue repeat the operation soon afterwards. Turnips sown as advised will now require thinning, which will need to be done twice, or they will still be left too thickly. Some of the late sowings on poor soil may be left a trifle closer than the others for producing sprouts next spring. Chirk Castle Blackstone and

Orange Jelly are two good ones for this purpose, and they will stand hard winters well. Let all Turnips which are fully matured be pulled, trimmed, and put away in the root-house, as Turnips do not improve by being left in the ground after they are mature. Endive will now require blanching. The blanching may be done by tying the plants when dry—or better still, by placing inverted flower-pots over them. If flower-pots are used, a few only need be done at a time, for when the holes are stopped, the blanching process is a rapid one. Asparagus may now receive the last dressing this season of salt or fish manure. See that the growths are not badly beaten down, and any fresh growths with berries attached should be removed. Peas and Beans now exhausted should be removed, and the ground cleaned of all weeds; but if the Peas were sown thinly, and are not troubled badly with mildew, they will make side-growths if left, and still produce a few good dishes. Scarlet Runners will be benefited by a good soaking of manure-water. Broccoli will require to be earthed up, just sufficient to keep them steady in case of rough winds. Cabbage and Coleworts may be treated the same when large enough. Large beds of old stools that furnished hearts for spring cutting, which were cleaned of old dead and decaying leaves, and were cut with the intention of obtaining young sprouts through the winter, will now be making nice growths, and should be encouraged, for many of them will stand through an ordinary winter. All second-early Potatoes will be best lifted at once, and if seed be required, it should be selected. Beds of Early Horn Carrots and also Turnip-rooted Beet may be cleared from the ground. Give attention to the pricking out *Caniflowers* and Cabbages for winter work, and dust them occasionally with soot or lime.

PLANTS UNDER GLASS.

By W. H. SMITH, *Gardener, West Dean Park, Chichester.*

CYCLAMENS, if grown in cold frames, must now be removed to the greenhouse; or if they can be placed in a small house or heated frame, where the temperature can be kept about 50° at night, they will do much better, as in the greenhouse they are apt to become drawn. Keep the plants close to the glass, and lightly shade them during very bright weather. Weak manure-water may be given twice a week, and this may be varied occasionally by applications of weak soot-water. As soon as the plants are taken in, they should be fumigated with Richards' Compound if they are affected with any fly or thrip. Syringe them lightly on bright days until the flowers commence to open, after which the operation should be discontinued.

WINTER-FLOWERING PELARGONIUMS should now be cleaned of all yellow and decaying leaves, and afterwards placed in their winter quarters. These plants do much better, and the flowers last considerably longer, if a small light airy house can be devoted to them, and damping will be less likely to occur than when they are grown among other plants. Before the plants are staged they should be given a top-dressing with a good fertiliser. If they are not required to flower until winter, the buds may be picked off for a while longer, but on no account should the shoots be stopped, or they will not flower until spring.

CARNATION SOUVENIR DE LA MALMAISON.—Those layers first potted will now be ready for moving into their flowering-pots, which should not be less than 24-size. For a potting compost use good turfy loam, peat, leaf-soil, wood-ashes, and plenty of coarse sand. Pot the plants firmly, and take this opportunity to look the plants over very closely for disease and fly. If the former is present it should be cut clean out with a sharp knife, and burnt. When they are potted the plants may be put into cold frames, withhold water for a few days afterwards, when a thorough soaking may be given. Some of the new varieties of the *Souvenir de la Malmaison* type of Carnations best worthy of cultivation are Sir Charles Freemantle, Princess Daisy, Mrs. Everard Hambro, Sir Evelyn Wood, and Toe Churchwarden.

EAST LOTHIAN STOCKS should now be potted into 48 sized pots, which will be found the most suitable size in which to flower the plants. A compost of good loam, leaf-soil, and cow-manure will suit them well. Pot very firmly, and plunge them out-of-doors in coal ashes. Do not water for a day or two, but afterwards give them a good soaking.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

APPOINTMENTS FOR THE ENSUING WEEK.

SHOW.

THURSDAY, SEPT. 26. { Royal Horticultural Society: Great Show of British-grown Fruits at the Crystal Palace.

SALES.

MONDAY, SEPT. 23. { Dutch Bulbs, at Protheroe & Morris' Rooms.

TUESDAY, SEPT. 24. { Dutch Bulbs, at Protheroe & Morris' Rooms. Highly important Sale of the celebrated Beech Lawn Collection of Established Orchids, by order of W. E. Lee, Esq., by Protheroe & Morris (three days).

WEDNESDAY, SEPT. 25. { Dutch Bulbs, at Protheroe & Morris' Rooms. Annual Unreserved Clearance Sale of Greenhouse Plants, &c., at The Floral Nurseries, Castle Hill, Maidenhead, by order of Mr. E. Owen, by Protheroe & Morris.

THURSDAY, SEPT. 26. { Dutch Bulbs, at Protheroe & Morris' Rooms.

FRIDAY, SEPT. 27. { Dutch Bulbs, at Protheroe & Morris' Rooms. Orchids, at Protheroe & Morris' Rooms.

SATURDAY, SEPT. 28. { Dutch Bulbs, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—55°.9.

The British Association and Agriculture.

For many years of its existence this journal, to the extent of half of its superficial extent, was identified with agriculture; and the *Agricultural Gazette* was recognised as one of the farmer's staunchest friends and ablest advocates of his best interests. The man above most other men who was noted as the best friend of agriculturists was the Editor of the *Gazette*—Mr. JOHN C. MORTON; and his writings of five-and-twenty years since are as valuable and pertinent to-day as they were when first this journal saw the light. Mr. MORTON has gone to his rest, but the good he essayed to do, and did, has not been "interred with his bones," and of this we have daily evidence; amongst other bodies the British Association has taken up the subject of agriculture, and in the endeavour to forward its interests has achieved some amount of success, and here it may not be out of place to remind our readers that the *Agricultural Gazette's* remedy for agricultural distress was summed up in the words, "free land, freedom of contract, sufficiency of working capital, and sufficiency of brain power." The British Association devoted Monday last to agriculture, and preparation had been made for a large attendance of those supposed to be most interested in agriculture; but the expectations were not warranted by the result. Men of high authority in various departments of science spoke on the subject of Government aid to education, and the endowment of experiments; on the extension of the work of the Board of Agriculture; to the publication of results obtained by experimenters, the duty of County and District Councils in the matter of agricultural education; but not a word that we can discover on the means adopted by foreign agriculturists to make their trade pay them, and to some extent govern the markets in this country. Some admitted that of most things grown we manage to grow the finest crops—climate considered: and admitting this, the value of further experiment is questionable; and it being admitted that agriculture is an

industry like weaving or iron-working, some notice might have been taken of the relative position of all in the matter of freedom of action, of the chances of profit in investment of capital in one, as compared with the other. It was gratifying to note appreciation of the fact that whilst the area devoted to Wheat-growing is decreasing, that set apart for Oats and Barley was steadily increasing—furthermore that the increase in the number of breeding swine was something like 25 per cent.

And so it comes to pass that, however interesting were the papers read and the consequent discussion thereon at Monday's meeting of the British Association—and nothing can be said against their value in these separate respects—we are forced to the conclusion that the old propositions of the *Agricultural Gazette* above recorded are as unimpeachable as ever—free land for the farmer, freedom of contract, sufficiency of capital, and of brain power. Given all these, and this one industry must prove as successful as any other in the land.

Tillage and Nitrification.

FROM the earliest period to the present day adequate tillage of the soil has been counselled and practised, but so slow are the processes of the human mind that although the operation has been practised from time immemorial, it is only now, thanks to the labours of a few chemists and biologists, that we are beginning to realise in what the advantages consist. In the course of a decade or two the physiologists have lighted upon truths of the utmost practical importance, which successive generations of practitioners, from the time of the expulsion from Eden till now, have failed to recognize. The subject has been suggested to us by a paper published in the *Revue Scientifique* for June 22, by M. P.-P. DEHÉRAIN, on the "Effects of Tillage in Promoting Nitrification in the Soil." The conclusions arrived at are, in brief, as follows:—We know now how to take advantage of the phosphates and of salts of potash; and if we knew at the right time how to convert the nitrogen contained in the humus of the soil into nitrates, agricultural produce would be proportionately increased.

To ensure such results the soil has, from remote ages, been constantly and vigorously "worked," but it is only now that we begin to understand the advantages of such tillage and the conditions under which alone it is beneficial. However thoroughly ploughing and digging be done, their value is but little unless the soil be in a damp condition. If the ferments in the soil whose action it is necessary to excite are dormant or feeble, and do not begin their work in early spring, the tillage is relatively ineffectual.

The whole question of nitrification is dominated by the slowness of the evolution of the nitric ferments. Rendered inert by the frosts of winter, it is but slowly that they begin their work of nitrification, and produce only in April and May insufficient quantities of nitrates. Hence the necessity for the employment of nitrate of soda; hence the necessity for having a fleet constantly at sea, conveying these nitrates at great cost from the coast of the Pacific.

Now when the ground is damp, well aerated, and the ferments are active, there are produced, without any addition, many more nitrates than are necessary. The soil of Guadeloupe yielded, on May 30, 39 milligrammes of nitrogen per 100 grammes, or 390 milligrammes per kilo., or 390 grammes per tonne, or, lastly, 390 kilos. to 1000 tons—that is to say, infinitely more than

is necessary for the heaviest harvest. In applying the same calculations to the soil from Eure-et-Loir there were found only the insufficient amount of 25 kilos. of nitrogen.

"What then is lacking?" asks M. DEHÉRAIN. Replying to his own question he repeats, "Active ferments." Can we go further, that is to say, can we cultivate these ferments and pass their nitrifying properties from one soil to another? Can we, in spring, sow nitric ferments in full activity which shall supply the place of those paralysed by the frosts of winter? Is this an impossible dream? I know not. Leguminous plants owe their property of fixing atmospheric nitrogen to the presence on their roots of nodules filled with bacteria; now, already, on several occasions, the germs of these bacteria have been transferred from one soil to another with beneficial effect. From time immemorial such tillage has been practised, the soil having, at great cost, been transported from one place to another. For what reason? What do these soils contain? These are the problems which are now to be attacked, but without discounting future possibility and limiting ourselves to present knowledge, we now know that if we put the ferments of the soil into working order, we can obtain from it more nitrates than the heaviest crops require, and, if we remember that it is not only under the influence of micro-organisms that the nitrogen in the soil becomes assimilable, but that it is also by their activity that atmospheric nitrogen becomes fixed, that it enters into the cycle of organised beings, we recognize how true and how profound was the saying of M. BERTHELOT, "The earth is a living thing!"

The paper concluded with an eloquent tribute to the genius of PASTEUR, by whose labours the nature of fermentation and the principles on which the manufacture of wine, beer, and vinegar depend have been elucidated. PASTEUR has investigated the parasitic organisms causing disease in silkworms and domestic animals, and shown how their malign influence may be controlled or abolished. It is he who has devised "vaccines" which prevent the destructive effect of epidemic diseases on our flocks and herds. Moreover, the obscurity which surrounded so many of the diseases of mankind is gradually being dissipated. M. PASTEUR teaches us how to cope with hydrophobia; one of his pupils neutralises the poison of diphtheria. But to cure sick mankind is not sufficient. The healthy must be fed, and now we see more clearly how this is to be accomplished, and we recognize to-day that the fertility of the soil is due to the action of the ferments which it contains.

ROYAL HORTICULTURAL SOCIETY'S FRUIT SHOW.—On Thursday, September 26, and two following days, the Royal Horticultural Society's Great Show of British Fruit will be held at the Crystal Palace. The exhibition, which promises to be even a greater success than that held last year, will be opened by the Lord Mayor, Sir JOSEPH RENALS, at 12.30 on September 26, when he will be accompanied by the Sheriffs and the Master and Warden of the Worshipful Company of Gardeners. A public luncheon will be held on the same day at 1.30 in the Grand Saloon, and will be presided over by Sir TREVOR LAWRENCE, Bart. Lectures will be given each day of the show in the Garden Hall at 3.30 as follows:—September 26, "New Fruits of Recent Years," by Mr. G. BUNYARD; September 27, "Pruning Fruit Trees," by Mr. A. H. PEARSON; September 28, Prize-essay on "The Commercial Aspect of Hardy Fruit-growing." Nurserymen and others are particularly requested to exhibit under

the schedule. By direction of the Council, exhibits outside the schedule will only receive cards of Commendation according to merit. Vegetables, other than Tomatoes, are not allowed to be shown. With reference to exhibits outside the schedule, exhibitors should bear in mind the new rule adopted at the suggestion of the Fruit Committee:—"All collections of fruit are limited to 100 dishes or baskets, and all dishes or baskets must be of distinct varieties of fruit, no duplicates being allowed."

BEDDINGTON, CARSHALTON, AND WALLINGTON HORTICULTURAL SOCIETY. — The above

tributed by the trade and private growers, and County Council Certificates will be granted for specially meritorious productions. The Hon. Secretary will furnish further particulars on application.

THE ADULTERATION OF ATTAR OF ROSE.—The difficulty in obtaining pure otto or attar of Rose in the European markets is a fact well known to all. Andropogon oils play the largest part in this systematic adulteration, but "Geranium oil" from *Pelargonium capitatum* also takes a place. Some new features as to the authors of this adulteration have just been brought to light in the Report of the

the otto may not be tampered with after reaching the merchant's hands, there is no means of ensuring that the peasant, whose stock the latter buys up, has not already adulterated it. Supervision during distillation is no guarantee, for the ingenious peasant is in the habit of sprinkling essence of Geranium over the freshly-gathered Roses before distillation, in order to increase the yield. Congelation at a certain temperature, which is principally relied upon as a test of purity, is quite fallacious. These are new lights in the preparation of attar of Rose to which the attention of our perfumers will, no doubt, be directed, especially when it is considered the enormous price this pro-



FIG. 62.—*ESCHYNANTHUS HILDEBRANDII*: FLOWERS ORANGE AND SCARLET. (SEE P 324)
(The single flowers to the right and left of the plant are of natural size.)

society, as Mr. G. W. CUMMINS, the Honorary Secretary, requests us to inform our readers, have, in conjunction with the Surrey County Council, arranged to hold a special show at the Public Hall, Carshalton, on October 16 and 17, of vegetables, fruit, &c., and also a large representative collection of Potatoes from trial plots in various parts of the county of Surrey, grown under the Technical Education Committee, so as to show the effects of diverse soils on the yield. Addresses will be given by the Surrey County Council's instructors on horticulture on "Fruit and its Cultivation," and "The County Potato Experiments." A few prizes will be offered for local cottagers' produce, whilst provision will be made for collections of vegetables and fruit con-

British Consul at Sofia, in Bulgaria, where, speaking of this important industry, he says, the adulteration to which otto of Roses has always been subjected seems hardly to have been checked by the prohibition imposed by the Government on the importation into Bulgaria of the adulterating medium, essence of Geranium. Indeed, the quantity of otto which reaches the European markets in a pure state must be very small. Last summer the British Chamber of Commerce at Constantinople sent a delegate to Kezanlik, the principal otto-producing centre, with the view of procuring an absolutely pure sample, to serve as a standard for purposes of comparison. This gentleman, however, was obliged to return empty-handed, for he ascertained that though

duct realises. In connection with this peculiar and limited industry, it is interesting to note that the cultivation of the Kezanlik Rose has been started with some success at Broussa, in Asia Minor, by Mussulman refugees from Bulgaria.

NEWCASTLE AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.—The first meeting of the fifth session of this society was held at their room, 25, Westgate Road, on Tuesday, the 10th inst. The chairman, Mr. BULLOCK, presided over a good attendance. A paper entitled "Botany, as an Aid to Observation," by Mr. JAS. SCOTT, Farn-dene, Gateshead, was read by the Secretary. By the discussion which followed, it was evident that Mr

Scott's paper was the means of creating a good deal of enthusiasm on the part of the younger members to know more of the theory of their business.

CALIFORNIAN NOTES.—Mr. J. BURT DAVE, of the University of California, kindly sends us three photographs, which, interesting though they be, are unsuited for reproduction. No. 1 is of *Quercus agrifolia* [?], Nêz, as it grows on Mare Island, San Pablo Bay, Cal. It illustrates to some slight degree the curious effect of the cold westerly trade-winds in shaping the outline of exposed trees. These keen winds, in many cases, absolutely prevent growth on the exposed side, causing a curiously "lob-sided" development; often indeed, in such situations, *Quercus agrifolia*, and especially *Umbellularia californica*, grow up conformably with the contour of the hill behind them, being practically flattened out. No. 2 is a photograph of a lady standing in a clump of wild Mustard (*Brassica nigra*), which often grows from 8 to 12 feet high, taking exclusive possession of fence corners and rich waste lands. No. 3 illustrates a hedge of white Marguerites (*Chrysanthemum frutescens*), 4 feet high, with a background of *Quercus agrifolia* [?] and Pines.

OPIUM AND MORPHIA IN CHINA.—It is stated that concurrently with the decrease in the importations of foreign opium into Amoy, it is found that large quantities of morphia are brought in, as much as 800 ounces having been imported during one month. A considerable portion of this is used for hypodermic injection, this practice being greatly on the increase, and it is carried on at many establishments in the city. This habit is judged by medical men to be more injurious than opium smoking. Habitual opium smokers taking morphine injections are enabled to abstain from the opium pipe, but are by no means cured of opium smoking, as cessation from the injections inevitably leads to an increased indulgence in smoking. Moreover, no care is taken to keep the syringes properly clean, and evil consequences frequently result from the insertion of dirty instruments into the skin.

AGRICULTURAL TEACHING IN ABERDEEN UNIVERSITY.—A conference took place on Friday, 13th inst., in Marischal College, Aberdeen, in reference to the proposed introduction of agricultural teaching into the University. The special committee appointed by the University Court in connection with the matter, met representatives of the Aberdeen County Council and Town Council; Dr. SMITH, of Newhills, presiding. The whole matter was fully discussed, gratification being expressed at the response made by the public bodies, including £200 from the Town Council, to the proposal. The meeting came to the conclusion that there was now a strong claim for a liberal grant by the Board of Agriculture, and it was remitted to the convener to assist the factor (Dr. HUNTER) in preparing an estimate of the probable income and expenditure for the current year, on the footing that there should be a lecturer on agriculture, and a separate lecturer on agricultural chemistry. The meeting on this understanding adjourned, till a reply should be obtained from the Board of Agriculture.

BOTANIC GARDEN, NEW YORK.—The tract selected comprises 250 acres of the most desirable section of Bronx Park, near the old Lorillard mansion. Included within the tract is a beautiful grove of Hemlock Spruce, which was not only the pride of the original owners, but remains to-day one of the chief attractions of the park. Provision for its preservation is therefore made. The first advance towards this object was made when the Torrey Botanical Society of Columbia College was formed. In 1891 an Act was passed authorising the project, but it was inoperative owing to the violation of some constitutional provision—the failure, it was said yesterday, to include in the bill an authorisation of the city to issue bonds while appropriating the needed money. This defect was overcome by the enactment of chapter 3 of the laws of 1894. The success of the project was assured on June 18 last, when, at a

meeting held in the office of President SEB LOW, of Columbia College, the assurance was given that the necessary 250,000 dol. to be secured from private sources had been subscribed. The site of the new home of botany is beautifully adapted to the growth and cultivation of flowers. In addition to the grove of Hemlock, which includes the entire west bank of the river within the tract, there is much protective wood. The Bronx furnishes abundant water, the soil is fertile, and there is both low and high lying land. The plot of 250 acres includes one-half of the entire length of the gorge of the river, which has been so often admired and sketched by artists. The natural scenery is delightful, and the garden will be worthy of its magnificent scenic setting. The citizens of New York will before long be able to point with gratification to a superb exhibition, not only of our own flora, but also of the variegated and fragrant plants of other climes, equal to anything in Kew Gardens, or in the famous gardens of Paris and Vienna.

WEEDS.—The *Bulletin* of the Kansas State Agricultural College for June, 1895, contains descriptions and figures of the seedling plants of about 150 common weeds of the State. The utility of such work is so obvious, that it is to be hoped the managers of our village schools will set their children to work to discover and detect the seedlings in the fields and hedge-rows. In many cases this work may be done even in winter, and may be made interesting to the children.

MACHINERY EXHIBITION IN VIENNA.—The Consul-General for Austro-Hungary (11, Queen Victoria Street) sends us the following note:—"Encouraged by the great success of the Exhibition of Agricultural Machinery, held at Vienna during May last, the Imperial and Royal Agricultural Society in Vienna has decided to hold a second exhibition in May next year. The prospectus will include not only agricultural machines in the strict sense of the word, but appliances used in all branches of industry connected with agriculture, such as breweries, distilleries, yeast, sugar, vinegar, and starch factories. The mart will also extend to tools and engines used in forestry, saw-mills, celluloid-factories, orchards, vineyards, in the feeding and breeding of cattle, horses, fish, &c. It will comprise electrical machines used in the service of these industries, seeds and manures. Provisional applications for space (which will not be considered binding) will now be received by the Committee of the Second International Exhibition of Machines. I. WIEN, Herrengasse 13, Austria. W. Prinzig, Acting Imperial and Royal Consul-General."

NICOTINE POISONING FROM EATING GRAPES.—A paragraph has been going the round of the papers, drawing attention to the poisonous nature of Grapes gathered from Vines to which nicotine has been applied as an insecticide, it being stated that several alarming cases of illness had been so caused at Dorchester. In answer to our inquiries, Dr. FISHER, of Dorchester, has furnished us with some particulars of the occurrence alluded to. It appears that about six weeks ago a vineyard was fumigated several times with a preparation described as containing "the pure nicotine of tobacco in a highly-concentrated form." The Grapes were not syringed or touched in any way afterwards. A bunch of these Grapes were partaken of by a lady and her daughter. The daughter soon afterwards became deadly pale, felt ill, vomited, and after lying down for some hours, recovered. The mother was more seriously affected. She felt giddy, turned white, and, after lying down, became quite cold, sweated profusely, and thought she was dying. After vomiting, however, she slowly recovered, but remained much upset for the rest of the day. Another bunch of these Grapes was given to a lady and her child, soon after which the lady fainted, and the child was sick. A strong young man ate a bunch in the train on his way to London, and he also was most violently sick and ill. Another lady ate three

bunches on different occasions, and after each felt giddy, and had to "hold on to the table;" she neither felt sick nor turned cold, but it should be mentioned that she is accustomed to smoke. The cook also "felt very queer" after eating a bunch. In three of the above cases, the symptoms were alarming, and all suffered considerably. Dr. Fisher says it is manifestly difficult to explain these cases on any other theory than the one advanced—namely, that the symptoms were due to nicotine poisoning. The victims were all people in robust health, never given to such attacks, and they did not live in the same house. The importance of the subject is increased by the fact that this preparation has recently found great favour with gardeners and others on account of its great insecticide power, and that although it is definitely stated on the label that it contains the concentrated nicotine of tobacco, it is equally definitely stated that "the proprietor wishes it to be clearly understood that it contains no injurious ingredient whatever." Perhaps not injurious to plants, but the phrase is open to a double meaning. To state on the label that the compound should be kept in a safe place out of the reach of children is perhaps a roundabout way of saying it is a poison, but we prefer the shorter term. *British Medical Journal*, September 14, 1895.

SHIRLEY AND SURROUNDING DISTRICT GARDENERS' AND AMATEURS' MUTUAL IMPROVEMENT ASSOCIATION.—The monthly meeting took place at the Parish Room, Shirley, Southampton, on the 16th inst., the President, Mr. W. F. G. SPRANGER, in the chair. The subject for the meeting was "The Cultivation of the Fuchsia," contributed by Mr. E. G. WILCOX, gardener to Col. W. SINKINS, Aldermoor House, who is well qualified to speak on the subject, he having gained first honours for the best six Fuchsias at the late Southampton and local shows. Questions were put to Mr. WILCOX on the subject of manuring, potting the plant, and the uses to which Fuchsias might be put in beds and borders, all of which were satisfactorily replied to. A cordial vote of thanks was accorded to the author of the paper. The attendance of members was very good.

AN EXHIBITION OF VEGETABLES AT BRIGHTON, SEPTEMBER 12, 13, AND 14.—A vegetable show was held on the above dates in the store-rooms of Messrs. TILLEY BROTHERS, seedsmen, of Brighton, excellent prizes being offered in upwards of twenty classes, for all of which there was a keen contest, exhibits coming from all parts of England. The principal class for a collection of not less than six kinds brought eight exhibits. The 1st prize fell to Mr. H. STEVENS, of East Preston, Worthing, with autumn Giant Cauliflowers, Satisfaction Potatoes, Autocrat Peas, Giant Runner Beans, Snowball Turnips and Onions, good Carrots, Marrows, Leek, and Tomatos. Potatos shown as single dishes were excellent, especially Mr. H. STEVENS' Snowdrop Kidney, and Mr. F. CLARE'S Zenith. Upwards of 200 dishes were staged in the various classes, and the show (the first of the kind held) was a great success.

NOVA SCOTIAN APPLES.—The condition of the Apple orchards in the principal fruit districts, according to the *Government Report*, is very satisfactory, with exception of Bear River, where a crop of not over 35 per cent. is expected, and West Cornwallis, where a small crop is indicated, although the bearing trees look well. Complaint is made of the Baldwin, both at Bridgetown and Aylesford. The Aylesford Gravensteins also do not seem to have blossomed as fully as usual. Other reports from King's County are:—fruit well set and maturing satisfactorily. The crop promises to be quite up to average. Well set, clean, and smooth, crop average, but 25 per cent. less than the great crop of 1894. Pests not troublesome. Present appearance satisfactory; no injury from insect pests. Set well, prospect good; some at Paradise have canker-worm and roller. Crop not large, but quality promises to be very good. The crop is maturing well. The Plum crop is reported variously from different

districts, mostly unfavourably, but there will probably be an average crop wherever the trees have been reasonably well attended to.

ROYAL BOTANIC SOCIETY OF LONDON.—In the Victoria tank of this Society, in their gardens, Regent's Park, there is to be seen one of the finest plants of the *Victoria Regia* ever grown in this country. It covers a space of over 400 square feet, each of the eleven leaves measuring more than 7 feet across apart from the turned-up rims, which stand 6 or 7 inches above the water. The flowers are pink, and follow one another in quick succession, rising just over the centre of the plant. Visitors to the gardens should see it now, while it is in its greatest perfection, as, being grown as an annual, it will shortly begin to decay.

MR. BARRON'S RETIREMENT.—Concerning this matter, Mr. A. H. SMEE has sent us a copy of the following letter, addressed to the President of the Royal Horticultural Society, which we publish in full:—"My dear Sir TREVOR,—I should be wanting in courtesy to yourself and other members of the Council if I did not give you notice of the questions which I propose to ask at the next annual meeting of Fellows, or at such early period as the Council may think it desirable to call the Fellows together for the special purpose of taking them into their confidence. I shall require the production of the minutes of the Council which appointed this special committee to report upon Chiswick, the date of its appointment, the names of the committee, the reference and the scope of its enquiry, the report it made, and all the correspondence emanating from the secretary or other officer relating thereto, also a statement of the proposed changes in the management of its Chiswick Garden. I shall also ask questions which will require the production of the minute-book of the Garden Committee, and also the minutes of all the committees (fruit and floral), which visit Chiswick for the purpose of the seed trials, &c. The logical outcome of the action of the Council (if the rumours are true), by superseding the standard committees and the appointment of this special committee, and not consulting them on their Chiswick Garden, implies a direct vote of censure on all members of these committees, and is equivalent to a vote of non-confidence in the competency of the Garden Committee. The Council must see that by the appointment of this Special Committee questions are raised which are far more reaching in their consequences than the consideration of the dismissal of an old employé. It is a public announcement by the Council to the horticultural world that they have no confidence in the ability, skill, or integrity, of the forty or more members composing their committees which visit the gardens at Chiswick, and this, too, at a time when others like myself are endeavouring to raise the standard of judging at local horticultural exhibitions with a desire to place the judging above the suspicion of local influence. The managers of these local shows have selected their judges from members of the fruit and floral committees, who, the Council by its action, have considered to be unworthy of confidence for consultation as to the management of its own garden. How will it be possible for the managers of local shows to continue to employ them as judges? What, too, is the position of these members, who are employed in giving technical instruction, and acting as public examiners of candidates' papers on horticulture? To my mind their character is at stake, and some action must be taken in this matter where everything depends upon confidence. The Council must, at a public meeting, justify their action, or retract their proceedings; they must either rehabilitate the character of the members of these committees, or reconstruct the committees. The sooner the matter is cleared up the better, for the uncertainty which overhangs the question is doing no good to horticulture. The least that can be the outcome of this unfortunate action of the

Council will be that its proceedings have been most unbusinesslike, and that they have unintentionally committed an uncourteous and stupid blunder."

FRUIT ESSAY COMPETITION.—In consequence of the excellence and equality in merit of two of the essays on the "Commercial Aspects of Hardy Fruit-growing in the United Kingdom," the Council of the Royal Horticultural Society increased the prize-money originally offered, and Mr. L. CASTLE, manager of the Duke of Bedford's experimental fruit farm at Ridgmont, with Mr. S. T. WRIGHT, Glewston Court Gardens, Ross, have had the honour of being awarded equal first prizes. One of these essays will be read at the Crystal Palace fruit show, and both will presumably be published as soon afterwards as possible. The adjudicators were Mr. A. F. BARRON, Mr. J. WRIGHT, and Rev. W. WILKS.

AUSTRALIAN TIMBER.—It has for years been a pleasant duty to record any endeavour to popularise the use of Australian wood in this country, whether for paving or upholstering purposes. Gradually the Eucalyptus and other large timber trees have become popularly known, if not as popularly used. To-day our vehicular traffic is carried on over roads constructed of wood from the Antipodes, and promise is not wanting that New Zealand and Australian timbers will soon obtain higher rank. The Manchester Ship Canal Company, we believe, are endeavouring to make a market here for the wood noticed; they have brought, and continue to bring, to Manchester what may be looked upon as pioneer cargoes for that section of the industrial world. The venture, we have been informed, has so far been successful, and there is no doubt that, when the capacity of the Eucalyptus is better known, it will enter in successful competition with most kinds of timber now on the market.

"TIJDSCHRIFT VOOR TUINBOUW."—The three first monthly parts of a new horticultural journal have been published at Gröningen by Mr. J. B. WOLTERS. The publication is edited by Dr. Bos, Meers. E. H. KRELAEGE, LEONARD SPRINGER, and others, and is illustrated with coloured plates and other illustrations.

PLANT PORTRAITS.

- AERIDES HOULETTIANUM, *Revue de l'Horticulture Belge*, September.
- APHELANDRA NITENS, *Garden*, August 17.
- APONOGETON DISTACHYDUM VAR. LAORANGEL, *Revue Horticole*, August 16.
- CATTLEYA "LEOPOLD II."—Apparently a form of *C. gigas*, with white flower-segments and a broad frilled lip of a reddish-purple colour, with a yellow throat. *Lindenia*, t. CDLXXIX.
- COCHLIODA NOZZLIANA, *Rolle, Orchid Album*, t. 569.
- CORYLUS ROSTRATA, *Garden and Forest*, August 28.
- DENDROBIUM NOBILE CANDIDULUM, *Lindenia*, t. CDLXXX.
- GODETIA WHITNEYI VAR., *Revue de l'Horticulture Belge*, September.
- HENEBOCALLIS AURANTIACA VAR. MAJOR, *Gardeners' Magazine*, August 17.
- MAGNOLIA CAMPDELLI, *Garden*, August 24.
- MARICA NORTHRANA VAR. SPLENDENS, *Cogiaux, Illustration Horticole*, t. 40.
- MAXILLARIA NIGRESCENS, *Orchid Album*, t. 511.
- MINULUS QUINQUEVULNERIS, *Tijdschrift voor Tuinbouw*, t. 1.
- ODONTOGLOSSUM HARVENGTENSE X, L. Lind.—A hybrid between *O. Pescatorei* and *O. triumphans*, raised in the collection of M. le Comte de Bousies, Château d'Harveugt, *Lindenia*, t. CDLXXVIII.
- ONCIDIUM ORNITHORHYNCHUM ALBIFLORUM, *Orchid Album*, t. 512.
- ONCIDIUM SPILOPTERUM, *Lindley, Orchid Album*, t. 510.
- PHAIUS MACULATUS, *Lindley, Lindenia*, t. CDLXXVII.
- RHODODENDRON GRANDE, *Garden*, August 10.
- RICHARDIA BEHMANNI, Krelage, in *Tijdschrift voor Tuinbouw* 1891, t. 2.
- ROSA LUCIE, *Gardeners' Magazine*, August 17.
- RUBUS CAESENSIS, *Garden*, August 17.
- SCILLA SIBIRICA MULTIFLORA, *Garden*, August 31.

AN ORCHID COLLECTOR.

DAVID WILLIAM ALEXANDER is probably known, either personally or by repute, to everyone interested in Orchids residing in Grenada and Trinidad. In appearance he is a strapping big fellow of the African race, and has a pleasant face and pleasing manners. His home in Grenada is called La Digue, and when at home he is a gentleman in a cloth

suit, and shining black shoes. His costume when collecting, however, is very different: he then dons a strong canvas suit and peaked hat, and no shoes. A very sharp-edged cutlass hangs from his side ready for emergency. He works very hard, and can undergo days together the extraordinary work of collecting, during all sorts of weather, alone in the deepest woods, where he often sleeps, on some branch of a noble tree, out of reach of the wild animals which roam around him at night in search of prey, and who fill the forests with weird noises and screams like those from human beings. He is wondrously enough to know the bird or animal that vents his feelings in such a way; whose hisses and roars, or plaintive notes help to denude the night of the awful stillness that reigns through the forest by day; which of the two is pleasanter is best known to one who has experienced both, but Alexander gets his snatches of sleep in spite of them all, and resumes his searchings as day dawns. Up in the topmost branches he is able, through long experience, to detect small Orchids where others might search in vain. Sometimes he has to fell the trees to obtain his treasures, and generally being alone, he has to carry his rich but heavy loads many miles to the nearest place for shipment. He does a great deal of collecting in Venezuela for gentlemen in Trinidad. From thence he has already brought to light one new Orchid—probably more; and it is probable that among his recent collections more will be added to the known list of South American Orchids. Of the Trinidad forms, he appears to know the habitat of each one. Ever since Mr. Prestoe's time in Trinidad (a former Government botanist there), he has, I believe, been a collector of Orchids. The very few commercial Orchids native of Grenada offer no inducement to the collector; hence Alexander's frequent journeys to Trinidad and Venezuela. His large collection at La Digue, Grenada, represents a choice selection of plants, and are sold as often as a good offer presents itself. All these plants, with few exceptions, are mounted on blocks. Among these might be instanced:—*Oncidium Papilio*, *O. lanceanum*, *O. citrinum*, *O. luridum*, *O. haematochilum*, *O. altissimum*, *O. iridifolium*, *Diacrium* (*Epidendrum*) *bicornutum*, *Gongora maculata*, *Coryanthes* species, *Cattleyas*, *Rodriguezia secunda*, and *Cynoches* species. These are, however, but a few, noticed when the writer paid the collector a visit about a month since.

A word more of his home. La Digue is some 2 to 3 miles distant from the town of Grenville, or, say, 14 miles apart from the town of St. George, the principal port and town of Grenada, where the mail steamer companies and other shipping have their depôts. His house, which stands amidst a small Cacao plantation of his own, is kept beautifully clean. He evidently lives a very pleasant bachelor life, and on good terms with all mankind. *W. E. Broadway, Botanic Garden, Grenada, B. W. I., August 22, 1895.*

HOME CORRESPONDENCE.

CAMPANULA NITIDA.—As we were promised that there should be a review of the garden Camoannas, which were to be grown and examined at Chiswick, I have been eagerly looking out for something about that ancient and mysterious garden plant, *C. nitida* (Aiton), syn. *C. planiflora* (Lamarck). I believe botanists, though too cautious to say so, would agree that the plants which pass in gardens and herbariums under this name, and which are said to have flowers either blue or white, single or double, are nothing more than permanently stunted forms, probably originating at different times, of *C. persicifolia*. The oldest figure of the alleged species is in Dodart's *Histoire de Plantes* (Paris, A. D. 1676), where it is called *Trachelium americanum minus flore coruleo patulo*. Since that date it has had at least half-a-dozen names. Its history is carefully investigated by De Caudolle in his *Monograph of Campanula*, p. 313. He says he found it in many herbariums and gardens, varying from 6 to 18 inches high, the specimens agreeing in nothing but the flowers, which were precisely those of *C. persicifolia*, but smaller. He never could obtain a seed of it, and found it die of

cold in very severe winters. This seems hardly consistent with its alleged habitat, Arctic America; but it was probably referred to America by gardeners for the same reason that many plants were referred to Jerusalem a century earlier, because no one was likely in those days to go there to look for them. America during the present century has been pretty well hunted for plants, and Asa Gray in his *Flora of North America*, says of this plant "vaguely attributed to North America, wholly unknown in a wild state, apparently allied to *C. persicifolia* and not North American." My experience of the plants sold as *C. nitida* is that they are not consistent with one another; but most of them if planted in good rich soil, either develop their growth into typical *C. persicifolia* or die. *C. Wolley Dod*, *Edge Hall, Malpas, P.S.*—If this alleged species were lost, I would undertake to make it again in a very few years by a selection from dwarf forms of *C. persicifolia*. *C. W. D.*

ERITRICHUM STRICTUM (?).—A most beautiful and continuously free-blooming hardy annual, with deep blue flowers, was sent to me in the spring of last year by the Rev. Theodore Marsh (the well-known raiser of hybrid *Lachenalis*), of Cawston Rectory, Norwich. He wrote to me when sending it that, being perfectly hardy, it required no special care, and usually sowed its own seed freely all round wherever it grew, so that by transplanting the seedlings in the spring, it could be made use of wherever a border of blue flowers was wanted in the garden. I transplanted my self-sown seedlings accordingly this spring round one of my beds of Lemoine's *Gladioli*, where they have bloomed continuously and most profusely during the whole summer, and have been much admired by all visitors to my garden; to none of whom was the plant known, and nearly every one asked for the name, and wished to know where they could obtain seed of it for next year. The small deep blue flowers exhale a strong perfume, somewhat resembling that of the flowers of the common Lime tree, and during the sunny hours of the morning they are covered with flies, bees, and other insects, who seem to find the odour very attractive. I have not been able to find the name in any of my books of reference, except the *Index Kewensis*, the horticultural dictionaries only mentioning one species of *Eritrichum*, the pretty little alpine, *E. nanum*. I sent some flowering specimens to Messrs. Cutbush, the well known London nurserymen and seedmen, who wrote me that they knew it, and sold seed of it under the name of *Eritrichum nothofolium*; and to them I have accordingly referred all my friends for seed of this most ornamental plant. On referring to the *Index Kewensis* for this second specific name, I find it is said to be synonymous with *Plagiobothrys nothofolium*. I also sent flowering specimens to the Herbarium at Kew for identification, and the learned botanical authorities there said it was not an *Eritrichum* at all, but apparently one of the Hound's-tongue family, *Cynoglossum furcatum*, figured by Wight in his *Illustrations of East Indian Plants*, vol. iv., t. 1395. I hope some of your readers will recognise and give the correct name of this plant. *W. E. Gumbleton*.

SLUGS AND WORMS.—You must be almost, if not quite tired of the above subject, but I know not how to get information except by your paper. If Mr. W. T. of Bishop's Teignton, South Devon, will kindly allow me, I will send him one of the earth slugs if I find that they have no shell, which I have not noticed at present. Perhaps "W. T." can tell me how many sorts or varieties of the little fish called sticklebacks there are? I. Walton only mentions one; but I am told one variety has three spines on its back, another two, and a third has only one spine. *Robert Warner, Widford Lodge, Chelmsford*.

JUDGING AT METROPOLITAN AND LARGE PROVINCIAL HORTICULTURAL EXHIBITIONS.—Permit me to suggest that, at all important open competitions of this kind, there should be an expert (say, from Royal Horticultural Society), in attendance as a scrutineer, to see that no points of merit in the exhibits are overlooked, and if any error occur, that it may be pointed out before the adjudicators leave their work. Generally men of notable positions are selected as judges, and rightly so; but after all, they are liable to mistakes, and a scrutineer would materially assist in securing justice in each award. By thus making their judgments as perfect as possible, they would be of the greatest value to mere local societies; inasmuch as thousands go to premier shows to study the points of merit in the awards, and take the cue

afforded. Consequently, judges at local shows are often twitted if they endeavour to correct evident errors; and sometimes they bring undeserved contumely on the judges, quibbling and cavilling between competitors and committees. I could instance some awards at a high-class provincial show recently held, which have borne fruits at subsequent shows, and which furnished pegs for the nonplussed competitor to hang his quibbles upon. *P. M.*

HARDINESS OF CLEMATIS DAVIDIANA.—It may interest your correspondents in to-day's number of the *Gardeners' Chronicle* to learn that the *Clematis Davidiana* has proved perfectly hardy here in the open ground. It was planted about a year ago, and is now a nice bushy plant, covered with grey-blue flowers. We did not admire it very much at first, but now it has gained upon our affections, and there is no longer "a talk" about digging it up! It has the great recommendation of novelty—so dear to ladies! *H. M. E., Leamington*.

A VINE SPORT.—I looked in the other day to see some of the wonderful examples of fruit, plant, and flower culture at Mr. Thomas Rochford nurseries, at Broxbourne, Herts, and was shown a very remarkable instance of variation from the original on a Vine of the Black Alicante Grape. The rods are not of great length, and they are furnished from base to summit with splendid bunches. There is no question here of the transmission of sap by grafting. The Vine for 4 or 5 feet from the base is producing bunches which are undoubtedly Alicante; the upper part of the rod about 6 feet or more is producing Grapes altogether different, and resembling in size of berry the Gros Colmar; but, the leaves and wood are not of this variety, nor are they quite identical with Alicante. It is curious that the Vine should thus break into a new character at a certain point, and retain it to the very top of the cane; in all my experience of Vine growing I never knew such a case as this. The difference in the berries is so marked that it cannot escape observation. *J. Douglas*.

THE DOUBLE-FLOWERED DAISY.—I was very pleased to see Mr. E. Bennett's remarks on these flowers in a recent issue of the *Gardeners' Chronicle*, p. 206. I have seen Daisies at their best in the three places named—Aston, Cliveden, and Belvoir, and have no hesitation in placing Aston first with this lowly flower. It was well worth the journey from Bury to Birmingham to see the Aston Daisies in the heyday of their freshness and beauty. Mars was indeed marshalled into might as Daisy edgings extended into miles of broad bands, or furnished enormous masses of beds and borders of brilliant colours. The Daisies, in fact, were the eyes of those beautiful gardens, when spring gardening at Aston was at its best. Messrs. Fleming at Cliveden, and Wm. Ingram at Belvoir, each made good use of Daisies in those great examples of spring gardening. But in these the Daisies were accessories rather than principals, as at Aston. And now, through no better reason than that I can discover than the caprices of fashion, the employment of Daisies is on the wane: spring-flowering bulbs, annuals, *Violas*, *Primroses*, *Aubrietias*, *Arabis*, &c., having crowded them out from many a spring garden, and other plants are also sharing the same fate. A few years ago it was no uncommon thing to see many thousands of Forget-me-Nots, mostly of the best of all the early-flowering varieties, viz., *Myosotis disitiflora*, propagated for spring bedding every year; but now we seldom meet with this pleasing support to the Daisies and brilliant contrast to the yellow *Primroses* in such bold and telling masses as were common at that time. Writing of Daisies, it is to be hoped that we may not lose the quaint Hen-and-Chicken form amid our changes of fashion. Further, does any reader of the *Gardeners' Chronicle* possess the white-flowered Hen-and-Chicken Daisy, or has anyone been successful in raising new forms of this curious and interesting plant? Perhaps the introduction and illustration of the new Daisy, Bride, and Mr. Bennett's interesting and informing letter may do very much to restore the Daisy to its old place, power, and popularity in our spring gardening. *D. T. Fish*.

TRIALS AT CHISWICK.—A recent wrangle over the nomenclature of a Bean, with a purposeless result, led to the statement being made on behalf of Chiswick Gardens that everything sent there for trial was not tried. That such is the case is due first, to lack of space, and second, to there being no trial of the particular products taking place that season. There is a general assumption in the

country that any one may unsolicited send anything at any time to Chiswick to be grown for trial, quite oblivious of the fact that one thing grown does not constitute a trial, but that real tests of value are found only when the best representatives of any one product are grown along with new-comers. It was doubtless under such conditions that the Bean, the unfortunate object of a sharp discussion recently, was in 1885 put on one side at the time, and was, with many other things, probably relegated to the dust-heap after the seed had become sterile. There can be no doubt, however, but that the best work done by the Royal Horticultural Society at Chiswick is found in its annual trials, and it would be indeed a grave misfortune were any scheme, however valuable, that may be proposed to govern Chiswick operations in the future, should in any way interfere with or militate against the continuation of these trials. There are times and seasons when these trials are most successful, and others, when arising from adverse seasons, they are less so. These are accidents which always arise in gardening, and may not be absolutely under our control. None the less, there can be no doubt whatever as to two things. First, that every effort of which the garden staff has been capable have been put forth to conduct these trials successfully and impartially; and, second, that the respective committees, when they have assembled at Chiswick to examine results, have done so in a spirit of absolute impartiality, and entirely devoid of bias. I have seen a good deal in connection with these trials, as a member of one of the committees, and can truly aver that those members who attend the meetings at Chiswick, and be it understood do so at personal and pecuniary sacrifice, come to their work with the honest desire to be just and impartial, and nothing more. Very rarely indeed is it that a member has any interest whatever in what may be under trial—and if he have, then he is invariably absent. Only recently, at least so far as the Fruit Committee is concerned, does it seem to have been the practice for that body to call for a trial, which is now done in the form of a request to the Council to authorise a trial of some particular product during the succeeding year. When that committee finds certain products apparently new, or at least professedly so, constantly coming before it, what wonder if it asks for a trial of that product at Chiswick, because so many claimants for honours being in the field it becomes rather monotonous, as well as puzzling. A good trial helps to clear the air of dubious claims for superiority, and often shows that novelties so called are neither novel nor improvements. A notable trial requested next year is one of Cucumbers. This is a vegetable with which undoubted advance has been made during the past ten years, but still not quite so great as to justify the production of at least a dozen new claimants for honours in one year. No wonder, with so many Richards in the field that the Fruit Committee felt the best course was to invite the Council to promote a thorough trial of these assumed new and established older sorts at Chiswick next year. It is practically impossible for any committee to deal satisfactorily with Cucumbers at the table, especially when the exceedingly fine handsome varieties in commerce are remembered. If any improvement or advance is to be found it can only be in the direction of greater precocity or of cropping qualities. It is very easy for "Heads" or "Tails" to sneer at these trials, but a seat on the committee for a year or two helps materially to testify to their exceeding necessity. But there remains the difficulty as to the efficient conduct of a Cucumber trial at Chiswick. Without doubt the best results are invariably obtained in low-span houses, such as are found in market or seed-growing establishments, where Cucumbers are grown so admirably. There is, so far as I know, no house in the gardens suited for a trial, and if the trial is to have any value a big one must be conducted. The best results are also got when plants are grown in pots or boxes of restricted size, or in shallow troughs, for root-area must be not too considerable. The soil also should not be very far from the glass. How are such conditions to be furnished? If during the winter the Council could erect in the gardens a long low-span house, say 100 feet by 12 feet, with a sunken central alley, they would then provide the very place needful for a trial. Later, Melons might follow, also Tomatoes, and such a house would be of great service in the gardens in many ways. There are one or two exceptions perhaps to the general good success attendant on vegetable trials in the gardens. Peas do not always grow well, because the soil is very porous, and rapidly dries, whilst it is certain that the enclosed atmosphere becomes in hot

weather literally super-heated. These are not conditions ordinarily favourable to Peas. Still, some first-rate trials have been furnished when seasons have been cool and drizzly. Potatoes, again, do not often turn out well; that is chiefly due, as this year, to the excessively porous nature of the soil, and to its being too highly charged with nitrogenous substances. A firmer soil, in which nitrogen is a minor element, and phosphate and potash are in greater proportion, is always better for Potatoes. Disease has badly raged amongst the trial Potatoes at Chiswick this season, and the growth of top is abnormal. I have found the same results exactly on soil of precisely similar texture, and highly charged with nitrogenous nature at Richmond, but at the same place on poorer and stiffer soil the crop is clean and excellent. Some of the same varieties much diseased at Chiswick have given splendid crops on poor soil in various parts of Surrey. It would be well for these two vegetables if the Council could somewhere obtain within a few miles an acre of more open and firmer soil for future trials; that would then leave room for some other things of interest to be grown at Chiswick. In both directions the interests of horticulture would be greatly served. *A. D.*

TOMATOES TRUE TO NAME.—Year by year the difficulty of obtaining Tomato seed true to name is becoming greater, especially in regard to the varieties of fine quality, viz., Hackwood Park Prolific, which I make bold to say, from several years' experience in growing the same, as also the splendid crops I have seen growing elsewhere, is the finest market grower's Tomato. I have at different times procured some seeds, presumably of that variety, from the leading seedmen, but have been sadly disappointed with the results. In one case not one plant out of a thousand or more, grown from a packet of seed, bore any resemblance to the true variety, but proved to be almost worthless. In another instance some 50 per cent. were true. A neighbour of mine has this season been greatly dissatisfied with seed obtained from what was considered a reliable source. Doubtless many others could a similar tale unfold. The variety above-mentioned was raised by Mr. Bowerman, gardener at Hackwood Park, Basingstoke, and it was awarded a First-class Certificate by the Royal Horticultural Society. The stock then passed into the hands of a well-known nursery firm, with whose name I am acquainted; and, judging by the habit of the plants from a trial-packet of seed received some few weeks since from this firm, I think they have the true variety. Another variety, also difficult to obtain true, is Trophy. At present I have a house planted with plants raised from seed from a well-known London firm; and although Trophy, there are fully half-a-dozen other varieties, including bad forms of Old Red, Dedham Favourite, &c. The Trophies are very good, but I would not care to save seed from such a mixture. I hold that, where seed-saving is practised, there should be but one variety grown in the house, and that true. Anyone conversant with Tomato growing will know with what ease the pollen of these spurious varieties on a hot dry summer day is wafted about by currents of air through the house—without mentioning other means whereby it gets distributed. I say that seedmen cannot be too particular as to the source from which their stock is obtained. There is nothing more annoying than after careful and painstaking culture of a house, or houses filled with plants, to find when the fruit appears that it is not the right thing. It is only a question of a half-a-crown or so at the outset, but when wrong varieties are supplied, and as in my case, really worthless ones, the loss involved is serious, especially to a market grower. *P. F. Le Sueur, Grand Vale, Jersey, Sept. 10.*

RED-FLOWERED DENDROBIUMS.—Mr. Rolfe's remarks on *Dendrobium sanguineum* (p. 292) leads me to think he is not acquainted with *D. arachnites*. This species flowered the first time at Downs in 1885. A description of the same plant is given in Messrs. Veitch & Sons' *Orchid Manual*, part iii., p. 18. It is described as a remarkably beautiful and interesting Dendrobe, producing brilliant red flowers. A flower and pseudo-bulb was forwarded to Professor Reichenbach, who identified it as *D. arachnites*, and described by him in the *Gardeners' Chronicle*, 1874. Professor Reichenbach sent a note to the *Gardeners' Chronicle*, July 4, 1885, in which he states:—"This lovely gem has waited a long time from our first knowledge of it up to its flowering in England. It came first from my oldest English correspondent, Mr. Stuart Low, who presented me with a giant dried flower that exceeds in size

either of the seven other flowers at hand. It was sent by Mr. Boxall in 1875 to Mr. W. Bull, who sent me a flower and an extract from his correspondent's letter, which said the plant was very rare. Lastly, Mr. F. Sander appeared very pleased with Mr. E. Rimann, a very ardent collector and connoisseur of Dendrobias, for sending living plants, dried flowers, and sketches. The bulbs are rather yellowish honey-coloured, neatly stalked, perhaps not so always, as Mr. Rimann's sketch does not represent it. The flowers have broad, linear, blunt, equal sepals and petals, and a much broader lip of different shape, sometimes simple ligulate, with basilar angles, sometimes with a very attenuate anterior part. It is convolute. The whole flower is of a very bright cinnabar-red, the veins of the lip being partly covered with a peculiar haze. The average flowers exceeds 1 inch in length. Mr. Low's flower is like the father, exceeding the present ones by a half length. Mr. E. Rimann speaks in the highest terms of it, and such a pyramid of cinnabar flowers as he sketched them must be striking. Of the leaves I know nothing. I was lately most agreeably surprised to obtain a fine fresh bulb, and a very good flower from our Orchid Cræsus, Mr. W. Lee." Prof. Reichenbach says, "Of the leaves I know nothing;" but some time after his note appeared, he paid us a visit, and I remember the first Orchid he asked to see was this Dendrobe in question, when he particularly admired the new pseudo-bulb and leaves—but whether he recorded any further notes or not will, perhaps, not be known until the secrets of his great herbarium are revealed to the world. *C. Woolford.*

RUST IN BEGONIAS.—I am an extensive grower of Begonias, and it is my opinion that the so-called rust mentioned by "W. K." in your last issue, p. 304, is caused by neglect on the part of the growers, for I do not believe that the small white insects are the cause of it. I am more inclined to the opinion that it is produced by fungus, induced by insufficient ventilation, being careless with the water-pot, and the use of stimulating manures. I have seen Gloxinias similarly injured. Flowers-of-sulphur will be found an effective remedy if sprinkled on the foliage. *H. W. C.*

VINE AT HACKTHORN HALL, LINCOLN.—In the notice of this Vine on Saturday last, the name of the gardener, Mr. William Popple, who planted the Vine twenty-five years ago, and to whose care it undoubtedly owes much of its success, was accidentally omitted. *C.*

THE ROYAL HORTICULTURAL SOCIETY AND MR. BARRON.—We are still in the dark as to details, but cannot rest until the Council has recognised its responsibility, and has made all plain to its constituency. Perhaps we shall learn next week that a return has been made to the *status quo ante*, which might be the best remedy for blundering—which seems to have been heavy, it only from the point of view that right was done in a wrong way. If this return is not made I am anxious for the future, and wish, in the first place, to support "Introspector" in his contention that £200 a year is not a sufficient salary for a qualified man as the new Superintendent. It is not a living wage. The very least that should be offered is £250 a year, with a house and its usual accompaniments. If the Society offers £300 (and a house), it would not be a penny more than a suitable man with a family ought properly to spend. I have no interest whatever in the appointment, and therefore consider it a duty to make these remarks. The right man for the post would not be well off in any case; he must be a first-class gardener, and a man of culture and refinement, and must be prepared to entertain, and could not live in a suitable manner on the salary offered. It is the duty of the Society to offer a salary upon which a man may live without difficulty and discomfort. I do not consider, indeed, that the kind of man for the post is really well paid with less than £400 or £500 a year, which is, perhaps, no more than that of the town surveyor who looks after the neighbouring roads and sanitary arrangements. Many technical men get much more, and I beg to ask why a proficient horticulturist should receive less than the average of other technical persons. I may refer, for instance, to the Telegraph Department of the Post Office, which I happen to light upon in *Whitaker*. Further, in consideration of the future, it seems to me rash that a Council, not elected for the purpose, should propose the reorganisation of Chiswick. We have always understood, rightly or wrongly, that a Council not qualified for dealing with Chiswick, was, necessarily, represented by the Chiswick board, which, however, is

well qualified. The Council need not be shut off from all concern in dealing with Chiswick, but it is above all things essential that qualified men alone should be directly responsible. I regard the Council, of course, as a mixed body, or at any rate, liable to be so, and it has always appeared that a delegation of competent men was unavoidable. This delegation does exist, in the Chiswick board, and from what has transpired it appears necessary to demand for it the right to primary concern and responsibility in any reorganisation that may be contemplated. If the Board is not strong, it can very easily be made so. This leads me to my last point—the position of the new Superintendent. We know perfectly well that even members of the Council may not be able to recognise the technical nature of the work to be done, and might criticise or influence without knowledge of the matter in hand. It is, therefore, important to secure that the new Superintendent shall hold a position of unquestionable responsibility and authority, save in the presence of a duly authorised and qualified committee of the Society. To the Chiswick Board he ought to act as Secretary, in order that he may be in close touch with that body, and be in a position to understand and be understood. He cannot be regarded as a mere subordinate, but must be looked upon as a member of the Society in an especially responsible position. The head of the Chiswick garden is necessarily the chief officer of the Society in practical matters, and unless this is fully recognised it is impossible that Chiswick can be managed, as it ought to be, to the full benefit of the Society, and for the good of the country. After all, as it is to be hoped, the Council may retract and thus avoid an increased expenditure, which, so far as is known to anyone outside, is quite unnecessary—unless, it be perhaps, to provide the present Superintendent with the assistance he may want. *Pro bono Publico.*

— The matter can hardly be left where it now stands. The publication of the names of the special Council that advised the Council in this unfortunate matter does but make things worse. With a few exceptions, the names represent nothing in particular to horticulturists; and had each been as weighty as that of Mr. Douglas, it is of infinitely more importance in a matter of this sort to know what was said or reported than who said it. Gardeners wherever they meet are hankering to know two things—first, the full text of the special report that led to Mr. Barron's resignation; and second, the character of the new policy which seemed to the Council incompatible with the retention of the distinguished services of Mr. Barron. The honour and the interests of the Society, as well as the wounded *esprit de corps* of the craft, require the production of both at the earliest possible moment. *D. T. Fish, September 17.*

THE QUARRY, SHREWSBURY.

THE Quarry, as is well known to many readers of the *Gardeners' Chronicle*, is the place wherein the Shropshire Horticultural Society holds its great annual exhibition of plants, cut flowers, fruits, and vegetables, and it would be hard to find a more suitable and charming spot in which to hold a show of such magnitude and excellence as is the Shrewsbury Floral Fête. The site occupies a fairly central position in the town, and is within easy reach of the general railway station. Nature has been very kind to the Quarry grounds, which cover an area of about 12 acres; and the Corporation of Shrewsbury (to which body this public park belongs), backed up by the Shropshire Horticultural Society, have made the most of the advantages afforded by Nature, until a place of very delightful and quiet resort has been provided for the inhabitants of and visitors to the picturesque town of Shrewsbury.

The entrance to the Quarry is close to St. Chad's Church, and is a very imposing one, there being a roomy and handsome lodge of the Queen Anne style of architecture, with several massive ornamental gilded iron gates adjoining, and provided by the Shropshire Horticultural Society. Right in front of the gates is a broad straight avenue, which extends about 400 yards in length, in a gradual descent down to the broad, swiftly-flowing waters of the winding Severn, and is flanked on either side by extra fine specimens of Lime trees (*Tilia europæa*), which were

planted in 1720. A statue of Hercules at the end of this avenue appears to guard the approach thereto from the river, a ferry being close by. This avenue divides the Quarry grounds, but admits of free access between the lines of trees from one side to the other at any point. During an exhibition that part of the grounds to the left on entering, contains the several large tents in which the horticultural exhibits are staged, secretaries' tent, luncheon tents, and the splendid bandstand—also we believe the generous gift of the Shropshire Horticultural Society, and the ornamental portion of The Quarry, known as the "Dingle;" while that on the right accommodates a variety of attractions acrobatic, fireworks, &c., with a row of refreshment tents in the background.

The "Dingle" referred to is situate at the rear of the space occupied by the exhibition tents, and a short distance from the bandstand. It is a hollow of considerable depth, and covers about an acre in extent. One half of this space consists of water, with a circular jet fountain in the centre, shedding its silvery spray about 9 feet above the surface of this miniature lake, in which Lillies, &c., are luxuriating. The other half is laid out with flower-beds cut out of the grassy award, with another fountain playing in the centre of same. The "Dingle" is partly enclosed by trees and shrubs, with an inner boundary composed of rough stones forming a bank of irregular height and outline, with various kinds of hardy plants of bushy, drooping, and trailing habit growing thereon. Well-kept gravel walks lead to and intersect this charming dale-like summer retreat.

Beds filled with golden Harry Hieover Pelargonium, intermixed with variegated grass and edged with blue Lobelia, had a pleasing effect; as also had beds of "Happy Thought" Pelargoniums, edged with dwarf variegated grass and blue Lobelia intermixed, and scarlet Tropæolum edged with a good band of Bambusa Fortunei variegata, Begonias, also in variety, having an outer band of blue Lobelia and Golden Pyrethrum; scarlet Pelargoniums, encircled with a band of variegated-leaved Pelargoniums; beds filled exclusively with Heliotrope and Pentstemons; and raised beds, with scarlet-flowered Begonias, intermixed with the silvery-leaved Dactylis elegantissima in the middle, and having a raised band of Saxifraga densa, showed up to advantage, the colours in the individual beds harmonising well with one another, and contrasting effectively with the surrounding objects, including beds of Rhododendrons and Bracken. A grotto, with water trickling down among the hardy Ferns which grow out of the walls, &c., and a fine statue of the goddess of the Silver Lake, presented by the Earl of Bradford in 1879, are also features of the Dell. Underneath the recumbent figure of the goddess, which rested on a pedestal having three steps ascending thereto, are engraved the following lines:—

"Sabrina fair,
Listen where thou art sitting
Under the glassy, cool, translucent wave,
In twisted braids of Lillies knitting,
The love-train of thy amber dropping hair,
Listen for dear honour's sake,
Goddess of the silver lake,
Listen and save."

In conclusion, I should like to say a word in favour of the variety of attractions other than those which are provided in the horticultural portion of the Quarry grounds for the paying public by the committee of the Shropshire Horticultural Society, and to which some well-meaning people object. For my own part—and I have attended the Shrewsbury Show pretty regularly in the capacity of judge during the last eight or ten years—I candidly admit that I see nothing to object to in the practice of drawing together 40,000 or 50,000 people to a flower show by other attractions than those provided in the exhibition tents, if these are of an innocent and high-class description. On the contrary, I think, from every point of view, much good results therefrom, and the Society is accordingly entitled to the thanks not only of horticulturists but of the general public as well, for the good which it has

done and is doing by offering liberal prizes to be competed for annually, in promoting a standard of high cultural skill among gardeners, amateur, and cottagers in the cultivation of plants, flowers, fruits, and vegetables, and also in promoting a love for the same subjects among the thousands of people from mining and other populous districts, who are induced to visit the show more from a desire to see the variety of attractions than from any wish to see the horticultural exhibits. These visitors, however, evince great interest in inspecting the inmates of the numerous tents, and in that way a love for and a wish to grow and tend to the requirements of plants, flowers, &c., is excited, perhaps for the first time, in their minds. Hence, the end more than justifies the means. Moreover, it is quite certain that were the acrobatic and similar attractions omitted from the Society's programme, there would be a great falling off in the annual receipts, and therefore the Shropshire Horticultural Society would not be able to continue the gifts to local charities which it has hitherto contributed with such liberality. H. W. W.

NURSERY NOTES.

MESSRS. LITTLE AND BALLANTYNE,
CARLISLE.

As in the case of some other old firms, ownership is no longer indicated by the title of this one. The present proprietor is Mr. James Watt, by whose knowledge and energy an originally large business has been still further developed. An extensive seed trade is conducted, and beyond this Mr. Watts is known as a farmer and stock-breeder, both in East Lothian and Cumberland. The nursery at Knowfield lies on the outskirts of the ancient city of Carlisle, and contains, in addition to the enormous stock of forest trees, an interesting variety of plants of horticultural value. Trees and shrubs, indeed all things pertaining to ornament, are grown extensively, and the firm does a large export trade. I was struck with the possibilities of some hardy subjects seen here in lending brilliant colour and beauty of form to the garden for which too exclusively we turn to tender plants, requiring annual propagation and artificial heat in winter. Populus argentea, I believe a variety of P. alba, was such an one. It was planted in lines, and every individual treated as a kind of pollard by cutting it back to near the ground each year—the white foliage was decidedly ornamental; and in contrast we observed the rich coloration of Acer Schwedleri, or similar red-leaved variety, the plants being treated in precisely the same manner. This idea of utilising hardy trees for the purpose of "subtropical effect" in gardening may easily be carried further. It is not generally known, for instance, that the autumn tints of Quercus coccinea may be used for dwarf arrangements by cutting back every year; and for handsome leaves, hardly any plant can beat Pannonia imperialis, which, if grown with single shoots, produces leaves 2 feet across each way, the shoots themselves reaching a height of about 9 feet.

The extent of ground cultivated is nearly 200 acres, and one cannot but notice the general arrangement which seems so perfect that it would be easy, without a plan, to locate the position of every crop or particular tree. Some of the crops are exceptional in extent, and the damage done to certain kinds during the past winter is suggestive of anxiety in the management of such a concern. There is, however, the compensating advantage that plants grown here will be hardy enough for almost any district in Britain. The hardy Conifers do well, and are treated as a specialty. Among the new kinds, a variety of the Scotch Fir, Pinus sylvestris pyramidalis, is most striking. It has very upright branches, and thus emulates the habit of the Irish Yew. This, I believe, originated from seed, and, if true, it is curious that such a habit originates from seed, while the weeping habit as often originates as a bud-sport from an ordinary tree or shrub. Records

upon this matter would in any case possess interest. Among the golden Conifers Thuya occidentalis aurea was very fine, and certainly it is one of the best. Thujaopsis dolabrata does well, and therefore cold is not the something inimical which prevents it doing well in places further south. Among specimen trees Pseudolarix Kæmferi was showing well its fine ornamental character.

An interesting Conifer is Pinus Pence, which in south-eastern Europe represents the magnificent Pinus excelsa of the Himalayas. It is denser in habit, more conical, and has shorter leaves than that species. Perhaps the most interesting of the Pines noted was Pinus Balfouriana, of which there is a handsome tree. In Veitch's *Manual of Coniferous Plants* it is said that its merits as a decorative tree have yet to be proved; and it is of interest to remark that this specimen was decidedly ornamental, and its tufted foliage, which has originated the name Fox-tail Pine, was clearly noticed. The braches, however, are small.

There was a new Holly of the Hodginsii type called Golden King, and likely to prove an acquisition for association with its well-known consort, Silver Queen. As a pretty curiosity, we may mention Fagus sylvatica tricolor which originated here, and has distinct rosy colour, especially about the margins. It looks like a sport from the Copper Beech, but I was not informed of its origin. Among trees of coppery tint, Betula purpurea is looked upon with great favour, it being of first-rate colour. Ulmus corylifolia rubra, which should be valuable from the same point of view, was also noticed. The tree seemed to be of vigorous growth and richer in colour than the Copper Beech. Quercus robur nigra is another useful subject in tree combinations. From grave to gay, I may turn to the Roses, which are extensively grown in all sections. Reference to the houses must be brief. They contain most plants for which there is a demand, or interest. I saw, for instance, some of the finer-growing Conifers under glass; this method of culture seemed to develop their beauty, and, in one or two cases, entirely alter the out-door character of the species. L.

ORCHID NOTES AND GLEANINGS.

LÆLIO CATTLEYA × BRYMERIANA (L.C.
× AMANDA ♀, × C. WARSCEWICZII.

A NOBLE inflorescence of this fine hybrid is received from Mr. John Powell, gr. to W. E. Brymer, Esq., M.P., Irlington House, near Dorchester, where the plant was raised some years ago, and where it is now flowering for the fourth time. The scape is stout, over 1 foot in height, bearing on the upper half four flowers on a stalk, 3 inches in length. The flower in form is nearest to L.C. × Amanda, and in size and colour to C. Warscewiczii (gigæe). The flowers measure 7 inches across; sepals and petals of a bright rosy-lilac colour. The lip is slightly three-lobed, and also of a rosy-lilac tint, with a beautiful veining of bright purple, fading off to lilac towards the crimped margin. When mature and while waning, the flowers assume a decidedly blue tint, which causes it to appear different than in the earlier stages. J. O'B.

PECULIARITIES OF GROWTH IN ORCHIDS.

Whether it is that growers take more notice of strange growth and abnormal flower-productions than formerly, or whether the last hard winter has been the cause of more unusual growths in Orchids or not, I know not; but of late I have had many strange specimens sent, and questions asked as to the nature of the abnormal productions. All seem to point to the fact that it is difficult to define arbitrarily what may or what may not take place in growths or in flowers, and the more experience I obtain the less inclined do I become to say "always" or "never" to any feature in any plant, and especially an Orchid. Writing from Liverpool recently on this subject, F. H. M. says:—"I have a Lælia autumnalis which

is producing a growth on the side of a pseudo-bulb, and a Lycaste Skinneri with a new growth on the top of an old pseudo-bulb. There appears in the September number of *The Orchid Review*, middle of p. 268, referring to *Cattleya labiata*, 'Pseudo-bulbs clavate, always monophyllous.' I recently purchased a plant of *Cattleya labiata autumnalis*, of which the following is a description. Bulbs five, all of the stout, club-shaped type, each about 7 inches long. This year's growth is monophyllous, and bears the usual double flower-sheath. Last year's was similar, but I was told that the sheath was abortive. Then come two diphyllous bulbs, both of which apparently produced flowers, and then the first (or last) is again monophyllous. The diphyllous bulbs are like the others, but their leaves are shorter, wider, and very thick. Perhaps some other correspondents may be able to remark on these interesting subjects."

false trade description. Mr. Tristram, for the Trades' Mark Protection Association, prosecuted, and Mr. H. D. M. Page defended.

Mr. Page said it would be now his duty to place before the magistrates his clients' defence. He took it the charge was in three heads; that there was a description given to the article sold. That the defendants' description was false, and the falsity was in naming it Shephard's Kale. The Act provided that any person who applied any false trade description to goods, should be subject to the provisions of the Act, unless he proved that he acted without intent to defraud. A further section provided that any person who sold any goods or anything to which a false trade description was applied, must prove that having taken all reasonable precaution against committing an offence against the Act, he had at the time of the alleged offence no reason to suspect the genuineness of the trade description. The definition given of "trade description" in the Act was as follows:—The expression "trade description" means any description taken or indication direct or indirect as to the mode of producing any goods. Mr. Page went on to deal at length with the Act, and contended that they did not come within the definition at all. In the first place the Shephard's seed was only a variety of a seed commonly called Kale, it was not produced by Mr. Shephard—he simply sowed the

It contained no implication as to who grew the seed, although it applied to the first introducer. They frequently bought back seeds from farmers from their own stock. Questions were then put as to the custom of the trade, but Mr. Tristram objected, as custom of the Trade could not override an Act of Parliament. Continuing, witness said he had never heard any objection raised by a person whose name the seed bears to the sale of seed, though not grown by him. Part of the seed which was bought from Mr. Edney was sold to Mr. Harry Waters, the steward to Lord Lawrence. Since the case was previously before the court he had germinated some of the seed saved by Mr. Payne from the complainant with perfect result.

At this stage the court adjourned.

On resuming, the cross-examination of the witness was proceeded with.—In answer to Mr. Tristram, Mr. Toogood said he could show no catalogue of any other firm which contained mention of his seeds; he could not swear that he had ever seen one. The advocate next proceeded to catechise the witness in reference to firms in the South of England, and as to whether Shephard's Kale was mentioned in them. An advertisement was put in, in which it was stated that all seeds were grown by the firm; the witness explained that all seeds bearing their name were grown by them. They did not grow every seed,

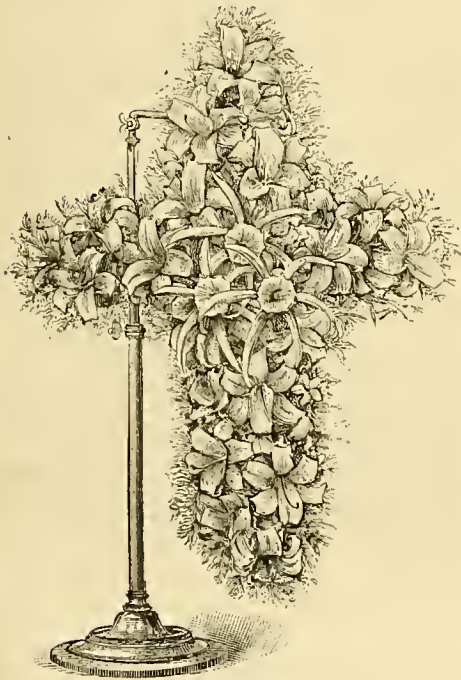


FIG. 63.—CROSS-HOLDER.

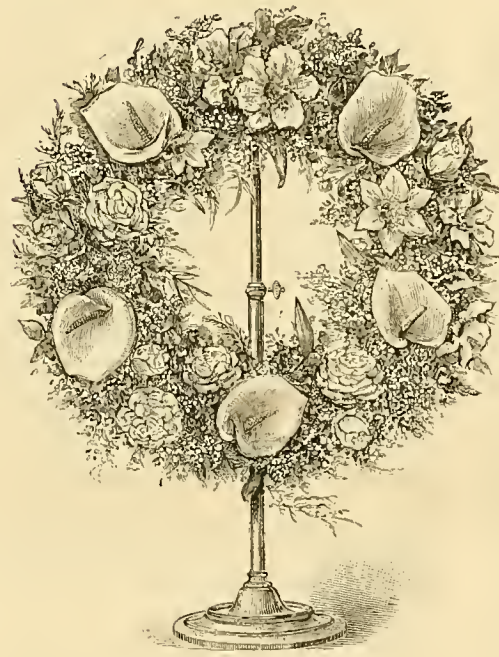


FIG. 64.—WREATH-HOLDER.



FIG. 65.—SHOWER BOUQUET HOLDER.

NEW INVENTIONS.

TO DISPLAY SHOWER BOUQUETS.

With a view to simplifying this operation, a holder or stand, the application of which is illustrated in figs. 63, 64, 65, has been designed and may be obtained from Messrs. Osman & Co., 132, Commercial Street, London. This patent bouquet, wreath, and cross holder, intended for the use of florists and exhibitors, is made in brass, either polished or nickel-plated. The illustrations well show the appliance, but we may add that the holder is trumpet-shaped, split, and furnished with a sliding ring, and can be expanded or contracted, or set to any angle by means of thumb-screws. The trumpet-holder may be removed, and a hook substituted in the case of wreaths or similar designs. The stem is telescopic, and its length is regulated by a set-screw.

LAW NOTES.

SHEPHARD v. TOOGOOD & SONS.

This case, of which a brief notice was taken from the *Times*, and published in these columns on August 24, was resumed on Thursday, September 12.

At the Southampton Police Court, before Mr. G. P. Perkins and other magistrates, Messrs. Toogood & Sons, seedmen, of Above Bar, were summoned for selling Shephard's Kale by a

seed, and Nature did the rest. Then he contended it was not a false trade description, inasmuch as it was not calculated to deceive and mislead any one as to the nature of the goods sold. Mr. Page went on to mention the witnesses he proposed to call. They included, he said, some of the best growers in the country, to whom the question was of immense importance. He also went on to contend that it was recognised that after a seed had been placed on the market anyone was able to sell the seed, provided he sold it by the name which had been given it. He went on to quote instances of this, and contended that the seed which was being grown by Mr. Edney was absolutely true to stock. Going on to deal with the complainant's evidence, he said the magistrates at this last hearing must have been struck with the very unsatisfactory way in which he gave his evidence. For an intelligent man to stand before them and say that whilst he attached a meaning to Shephard's Kale he could attach no meaning to Sangster's A 1 Peas was, he considered, rather straining the credulity of the Court. He had assumed a very strong bias, and then he had not called a single witness from the trade to support him. It was also absolute nonsense to talk about a secret process in producing the seed—it was preposterous.

The first witness called was Mr. William George Toogood. He said he was in partnership with his brother as seedsmen. He had had nineteen years' experience in the trade. The seed he had sold, which was now in question, was bought of Mr. Edney, of Dean, in March of this year. He told witness he had gone through the Kale, and it was perfectly true in every way. The general practice of growers was to sow varieties of seeds in trial-grounds. In watching growth in the trial-grounds it was noticed varieties vary, and if they noticed anything they approved of they selected that specimen. They sowed, and resowed the seed year by year until they considered the variety fixed. Then the seed was given a name—in many cases they preferred to give their own; it was then placed in the catalogue and sent to farmers and growers generally. The name of a person attached to a seed simply indicated its variety; there was no other inference to be drawn from it.

nor did he know anyone who did. This was the first year his firm had sold Shephard's Kale, and he mentioned other firms who sold the Kale. He could not sell the article as Kale because there were about twenty-five varieties of Kale, and a farmer, when buying, would want to know what sort it was.

Alderman Rogers agreed with the witness, and said they must give some indication of what sort of Kale was wanted.

Witness would swear he had never sold Shephard's Kale by any other name. He had once sent a packet with "Kale grown from Shephard's stock" on it, probably because the gentleman ordered it as such.

Mr. Tristram said he had no objection to its being sold in that way.

Cross-examination continued: Mr. Shephard had said he ought not to sell his Kale, but he said he had a right to do so. He bought the Kale from Mr. Edney as Shephard's Kale.

Re-examined: In the firm's catalogue, a number of seeds were named with other people's names. It was a fact that he employed farmers largely to grow seeds for him under his supervision. Shephard's Kale was not known universally; it was a purely local growth. It was not in other catalogues on that account.

Mr. John Gater was next called. He said he was a farmer of West End, and a buyer of seed. Most of the varieties of seeds bore the name of an individual, but the use of that name was not indicative of who grew the seed in question. If he was sold a parcel of Shephard's Kale, he should not expect they were grown by Mr. Shephard.

Mr. William James Nutting, of the firm of Messrs. Nutting & Son, Southwark Street, London, said varieties of seeds with personal names were generally quoted in all catalogues. A catalogue of Messrs. Hurst was produced with an entry of Nutting's selected dark red Beet, and he said his firm had not supplied it direct. A man's particular seed should be sold under his name, though it need not necessarily be produced by him. The use of the personal name was no indication of who grew the seed under offer. It was not his experience that seed grown by a person other than the introducer would

produce bad stock. He did not know any secret mode of producing seed.

Mr. Thomas Arthur Newby, manager to Messrs. Hurst, of Houndsditch, said in reference to one of their Swedes, Hurst's Mouch, it cost £500 to bring it to perfection, and now it was quoted in other catalogues.

Mr. J. F. Edney, a farmer of West Titherley, gave evidence to having bought seed from Mr. Shepard of the variety in question. He sold the seed, and saved some, and produced from it. Some of this he sold to Mr. Toogood as Kale seed. It was, in fact, Shepard's Kale seed.

Mr. Page intimated that he had other witnesses, but would not call them, and the magistrates retired to consider their decision at ten minutes past four. Six minutes later the Chairman said the magistrates were unanimous in dismissing the summons with costs, after having considered the matter very fully.

In answer to Mr. Page, the Chairman said they meant the whole of the costs, but these being left to the Court, they afterwards stated the amount at £5 5s.

Mr. Tristram applied for leave to state a case, which was granted.

SOCIETIES.

BATTLE HORTICULTURAL.

SEPTEMBER 4.—Favoured by magnificent weather and a picturesque location, the annual show of the Battle Floral and Horticultural Society was a great success. Most postponed events suffer, but though put off a week on account of the Hastings Carnival, the indefatigable Hon. Sec. and committee must be heartily congratulated on the display made in the three large marquees provided, including over 1000 entries.

Potatoes were present in profusion, and were almost without exception of very high quality. Onions were, as a rule, deficient in finish, but root crops were clean and good all round.

In the first division, Mr. T. Portnell, gr. to Sir ARCHIBALD LAMB, Bt., was well to the fore for six stove and greenhouse plants; and he had also six very clean and good foliage plants. Begonias were not good, and Fuchsias, with the exception of one lot, were badly bloomed. Zonal Pelargoniums were fairly well shown, but they are not equal to the heavily-flowered specimens one meets with on the E. and S.E. coasts. Altogether, the plants in divisions 1 and 2 were not so good or so numerous as in past years. Cut flowers were in plenty, but if we except the stove and greenhouse blooms staged by Mr. T. PORTNELL, and the decorative Dahlias of Mr. STREDWICK, they were not worthy of special notice. Roses were good and bright for so late a season, Mr. T. DURRANT YOUNG, Eastbourne, making the best show; while the amateur honours fell to Mr. H. FOSTER, of Ashford, in both divisions. Gladiolus were very poor; Mr. J. FOSTER, Ore, had 1st prize. Mr. J. CHIVERS, St. Leonards, won for Phlox Drummondii.

Fruit was in grand condition, and the entries were numerous. Mr. W. ALLEN, gr. to Lord BRASSEY, took both 1st prizes for a collection of eight dishes, given by Col. HANKEY, Beaulieu, as well as a thoroughly well-deserved 1st, for three bunches of Muscat of Alexandria Grapes and three bunches of Black Hamburgs. Three bunches of Black Hamburg Grapes, shown by an amateur, W. C. RAPER, Esq., were perfection in size, colour, and finish; while a market grower, Mr. F. GORE, secured a good 1st for three bunches of Gros Maroc.

Melons were numerous, but a trifle over-ripe. Mr. PORTNELL secured 1st prize with Elenheim Orange.

In Apples, Mr. W. ALLEN took 1st, with Lady Sudeley (dessert variety), and Peasgood's Nonsuch (culinary), both of which were handsome dishes.

The most tempting feature in the fruit classes was, however, the Plums, which were highly coloured and finished; indeed, I have rarely seen Gages so good. 1st, Mr. E. P. RICHARDS, gr. to the Hon. F. A. BRASSEY; 2nd, Mr. T. PORTNELL; 3rd, Mr. GOWER, gr. to Mrs. LAWRENCE. While an amateur, B. H. THORPE, Esq., took 1st with Transparent Gage, and 2nd with Washington; and 1st in the culinary class with Pond's Seedling, all grown on open wall, and perfect in colour and finish.

Local and other florists made a good display in plants, Ferns, and cut flowers of hardy perennials. Two groups arranged by Mr. HOLLANDS and Mr. CHARLTON respectively, of Tunbridge Wells, were very attractive, and contained some good novelties, the former showing good Ferns and Caladiums, while some pans of the pretty *Sibthorpia europæa variegata*, were conspicuously well-coloured and healthy. Mr. CHARLTON had a hybrid *Statice (latifolia × incana)* of elegant habit, with small blue flowers, most useful for cutting; some good hybrid *Montbretias* and *Rudbeckia tomentosa*. T. Bunyard.

ROYAL CALEDONIAN HORTICULTURAL.

SEPTEMBER 11, 12.—The autumn show of this Society was held in the Waverley Market, Edinburgh, on the above dates. Probably few more successful shows have been held under the auspices of the Society. The number of entries was over 2100, and of these the majority were good in quality. Fruit and cut flowers embraced the most classes, and particularly in those devoted to Grapes and Apples, the

entries were very numerous, and the exhibits remarkably good. The collections of *Gladiolus* and tuberous *Begonias* were brilliant in colour, the former never having been seen in finer condition in Edinburgh. In the vegetable classes, the competition was generally keen. Nurserymen from all parts were present, and their exhibits did much to give the place an additional gay and furnished appearance.

PLANTS.

The plants arranged for effect upon tables were deserving of praise. That arranged by the winner of the 1st prize and Turner Memorial Cup, Mr. G. WOOD, gr., Oswald House, Edinburgh, was an excellent arrangement. Upon his table were noted *Oncidium incurvum*, *Odontoglossum*, grasses, Palms, Crotons, and other decorative plants and Ferns. The 2nd prize went to Mr. J. MCINTYRE, gr. to Mrs. GURNEY PEASE, Woodside, Darlington.

In the class for four stove and greenhouse plants in flower, the plants were small generally. Mr. J. MCINTYRE was 1st, and included plants of *Lapageria rosea* and *Statice profusa*; 2nd, Mr. W. BENNETT, Corstorphine. Mr. W. McMurtrie, gr. to Sir ED. COLERBROOKE, Bart., Abington House, was 1st for a single specimen stove or greenhouse plant, with a well-flowered *Statice profusa*.

Orchids were few, and the plants generally small. For four distinct kinds, Mr. J. ALLEN, gr. to J. PRIMROSE, Esq., Arundel House, Dumfries, took 1st prize, with *Odontoglossum grande*, *O. Harryanum*, *Cattleya Dowiana*, and *C. Eldorado*; Mr. W. HUTCHINSON, Balmadie, Aberdeen, was a close 2nd, with *Dendrobium Phalenopsis*, *Dica grandiflora*, *Cypripedium Spicerianum*, and *Cattleya Dowiana*. A magnificent plant of *Oncidium incurvum*, with more than twenty spikes of expanded flowers, from Mr. J. CURROR, Eskbank, took 1st place for a specimen Orchid.

In the class for *Cypripedium*, Mr. W. SHARP was 1st, with good plants of *C. Schroderianum*, *C. Harrisianum superbum*, and *C. oenanthum superbum*.

For foliage plants, Mr. T. LUNT, Keir Gardens, Dunblane, took the premier position with splendidly-grown plants, *Cissus discolor*, *Alcascia metallica*, *Anthurium crystallinum* were especially good. Mr. A. URQUHART, Liberton, was 2nd, with smaller but creditable plants. The best Crotons in the class for two came from Mr. T. LUNT; 2nd, Mr. J. MCINTYRE, Darlington. Table plants were numerous, and lined the raised centres of the fruit tables. Mr. M. McIntyre, gr. to Sir C. TENNANT, The Glen, Innerleithen, taking 1st prize.

Tuberous Begonias were generally good, those coming from Mr. A. B. HENDERSON, gr. to W. MACFIE, Esq., Clermiston, being far beyond the rest in quality and size of bloom. In the class for six, Mr. D. ADAMS, Duddingston Cottage, was 2nd. Mr. A. BRYDON, Tweedbank, Innerleithen, was 1st for a specimen double Begonia, exhibiting a deep salmon-coloured variety.

Fuchsias were good. Mr. A. PRYIE, Newington House, was 1st for two; and Mr. W. AITKEN for a single specimen.

Pelargoniums creating a blaze of colour, Lilliums and other flowering plants occupied considerable space, the early-flowered *Chrysanthemums* being fairly numerous.

FERNS.

The prizes for Ferns were well competed for, as usual. Mr. J. NAPIER, gr. to P. N. FRASER, Esq., Murrayfield, was a successful exhibitor in the larger classes. Mr. A. URQUHART, Southfield, Liberton, being 2nd to that exhibitor for four distinct exotic kinds. Mr. NAPIER and Mr. J. NAIRN, Craigcrook, took 1st and 2nd places for four *Adiantums*, both exhibiting good plants. With a splendid *Adiantum Farleyense*, Mr. D. McMURTRIE, Abington House, was 1st. Mr. NAPIER was successful in the class for nine distinct British Ferns, the classes for these being well contested.

CUT FLOWERS.

The fine spikes of *Gladiolus* staged by Mr. SMITH, Prestwick, were the admiration of all, his blooms were of large size and very brilliant in colour. This exhibitor was 1st in the classes for twelve, and for six spikes. Hollyhocks were well shown by Mr. A. OLIVER, gr., Crosswell Hall, Morpeth, who was 1st for twelve magnificent blooms, and also for five spikes. Judging from the number of Dahlias of all sections shown the season has been suitable for them. The 1st prize for twelve show blooms was gained by Mr. W. CRAIG, Duns, for a very even lot of heavy substance and perfect shape; followed by Mr. W. VEITCH, of Carlisle, the latter taking 1st place for six show blooms, and also in the class for twelve fancy blooms.

The best Dahlias in the class for six trusses, single blooms, came from Mr. J. PEARSON, Murrayfield, who also secured 1st place for six bunches of single Cactus Dahlia blooms.

Sweet Peas were shown in abundance and great variety. In the class for six bunches, Mr. A. BRYDON, Innerleithen, was 1st.

For twelve trusses of stove or greenhouse flowers, Mr. W. SHARP, Forgandenny, and Mr. M. MCINTYRE, The Glen, Innerleithen, took 1st and 2nd places respectively.

Carnations and Picoetes, Pansies and Violas, brought many entries, and the winning lots were of first-class quality.

Chrysanthemums in bunches and single flowers were fairly good, Mr. J. NAPIER being 1st in the bunched class, and Mr. A. BRYDON securing that position in the classes for the twelve and six varieties.

Mr. LOW, Dundee, was 1st for well-arranged hand bouquets among fifteen competitors.

Roses.—The exhibits in these classes required a considerable space, and were in most cases good. The best twenty-four distinct varieties were from Mr. W. HARPER, gr. to J. RICHARDSON, Esq., Perth, conspicuous upon his board were Ulrich Brunner

E. Jacobs, A. K. Williams, Grace Darling, General Jacqueminot, and Gloire de Margottin; Mr. W. PARLANE, Rosses, 2nd. In the class for twelve blooms, there were seventeen entries, Mr. J. HOOD, Helensburgh, securing 1st place. Tea Roses were numerous also, and the classes devoted to separate varieties brought some good blooms. In the classes for six blooms, each of Charles Lefebvre and La France, Mr. HOOD was 1st.

Herbaceous Cut Blooms.—The class for twelve bunches of herbaceous flowers had numerous entries, and Mr. J. MEIKLE, Bridge of Weir, was placed 1st for a fine selection.

FRUIT.

Ninety-six classes were devoted to fruit, and as there were a great number of entries in some of the classes, the grand display may be easily imagined. The prizes for the collection of twelve dishes of fruit, exclusive of Pines and Bananas, presented by the Corporation of Edinburgh, brought three competitors, the 1st prize going to Mr. W. SMITH, gr., Oxenford Castle, Dalkeith, whose exhibit was a selection of choice fruits of very exceptional quality; the 2nd prize was gained by Mr. J. HUNTER, gr., Lambton Castle; while Mr. D. MURRAY, Calzean Castle Gardens, was 3rd. The collection of eight dishes also contained some excellent fruit. Mr. J. HUNTER was 1st, and Mr. W. SMITH 2nd. For twelve dishes of hardy fruit, grown out-of-doors, Mr. S. T. WRIGHT, of Hereford, was 1st, and Mr. J. DAY, Garlieston, 2nd. Mr. J. HUNTER carried off the 1st prize for twelve dishes of orchard-house fruits (Grapes excluded).

The best six bunches of Grapes, three varieties, came from Mr. J. LESLIE, Pitcnellen, closely followed by Messrs. D. & W. BUCHANAN, Kippen, who also staged some excellent bunches. For two bunches of Muscat of Alexandria, Mr. D. KION, Carberry Towers, was 1st, with well-finished fruit. The 1st prize for two bunches of Black Hamburg Grapes went to Mr. J. POTTER, Cumberland; 2nd, Mr. J. MENZIES, Larbert, both of whose exhibits were very fine. There were eight competitors in this class. An enormous bunch of Black Alicante Grapes with fine berries, well finished, and carrying a good bloom, secured Mr. T. BOYD, gr., Callender Park, Falkirk, the 1st place, the bunch weighing about 10 lb. Mr. T. BOYD was also 1st for one bunch of Lady Downe's, and was followed by Mr. T. LUNT.

Mr. M. MCINTYRE, Innerleithen, was 1st in the class for one bunch of Grapes with finest bloom, showing Cooper's Black. Mr. T. BOYD was 1st for a Queen Pineapple of not less than 3½ lb. weight; 2nd, Mr. MCINTYRE, who carried off the prize for any other variety not less than 5 lb. in weight, with a good smooth Cayenne. For the best green-fleshed Melon, Mr. T. BOYD was 1st with a medium-sized fruit. Mr. J. MORRISON, gr., Archerfield, secured 1st place both for twelve Peaches and for the same number of Figs.

Apples required the space afforded by several tables. Mr. S. T. WRIGHT, Hereford, being the most successful exhibitor, taking fourteen 1st prizes out of the thirty-three classes. The fruit was, generally speaking, large, though hardly ripe.

Pears were not so numerously shown as Apples, but some very fine fruit was staged. Mr. J. GIBSON, Chiswick, and Mr. S. T. WRIGHT, sharing many of the prizes between them. Some very fine red and white Curran's were staged, and the entries for these classes were numerous.

VEGETABLES.

Of the five competitors who staged collections, Mr. J. GIBSON, Devonhurst, Chiswick, was 1st, and was awarded the Medal of the Veitch Memorial Trustees. Mr. B. RAE came 2nd with a creditable collection.

For two Cucumbers, Mr. P. MAIN, Polmont, was 1st, also for twelve Tomatos. Cauliflowers were best shown by Mr. J. LORRAINE, Lasswade. Mr. J. COSSAR, Dunbar, staged the best twelve varieties of Potatoes. Parsnips, Turnips, and Onions brought a large number of competitors. Indeed, the classes for vegetables all round were most eagerly contested.

NURSERYMEN'S CLASSES.

Messrs. B. E. LAIRD & SONS, Messrs. DICKSON & Co., of Edinburgh, and Messrs. J. & R. THYNNE were the only exhibitors of plants, the former securing three 1st and three 2nd prizes out of the six classes. For thirty *Gladiolus* spikes, Mr. G. MAHR, Ayr, was 1st. For eighteen trusses single Dahlias, Messrs. R. B. LAIRD & SONS won; Mr. M. CAMPBELL 2nd. Out of the thirteen classes for cut Roses, Messrs. J. COCKER & SONS, Aberdeen, took ten 1st prizes, including the classes for thirty-six and eighteen. Messrs. T. SMITH & SONS, Stanara, are to be commended for their stand of twelve which took the 1st place, upon which some magnificent blooms were noted. Messrs. D. & W. CROLL, Dundee, were also successful Rose exhibitors, taking 1st prizes for twelve blooms of *Marville de Lyon*, and for twelve blooms of Charles Lefebvre. For twenty-four trusses of *Chrysanthemums*, Messrs. DICKSON & Co. were successful; while for Carnations and Picoetes, Mr. W. CAMPBELL was 1st.

MISCELLANEOUS EXHIBITS were numerous. Messrs. R. B. LAIRD & SON arranged a pretty table of stove and greenhouse plants. Messrs. METHVEN & SON were conspicuous for Begonias, Clematis, Lilliums, and other flowering plants. A fine table of highly-coloured foliage plants came from Messrs. J. & R. THYNNE, of Glasgow, which were very much admired. The tables of Ferns, including "Filices," was a relief after the blaze of cut flowers, and Messrs. BIRKENHEAD & SON are to be congratulated upon the good display made. Herbaceous and florists' flowers came from Messrs. J. COCKER & SONS, from Messrs. DOBBIE & Co., and Messrs. CUTHBERTSON, Inthessay, the tables of each being centres of attraction.

Mr. W. ECKFORD filled a table with Sweet Peas in great variety; Carnations and Sweet Peas forming also a pretty table, from Messrs. LAING & MATHER, Kelso.

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Table with columns for DISTRICTS, TEMPERATURE (ACCOMULATED), RAINFALL, and BRIGHT SUN. Includes sub-columns for Above (+) or below (-) the Mean, Day-deg., and 10ths Inch.

The districts indicated by number in the first column are the following:— 0, Scotland, N. Principal Wheat-producing Districts— 1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. Principal Grazing, &c. Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending September 14, is furnished from the Meteorological Office:—

"The weather, as a whole, was again fine and dry over the greater part of the Kingdom, although rain was experienced in nearly all places on the 10th or 11th. In the extreme north of Scotland the conditions remained unsettled, and rain fell almost daily. Severe thunderstorms occurred in some parts of Scotland on the 9th.

"The temperature again exceeded the mean, the excess ranging from 2° in 'England, E. and Ireland, S.' to 4° in 'Scotland, W.' The highest of the maxima were recorded on the 9th, when the thermometer rose to 87° in 'England, S.W.' (at Llandoverly), 86° in the 'Channel Islands,' 84° in 'England, N.W.,' 83° in 'England, S.,' and to 82° in the 'Midland Counties.' The lowest of the minima, which occurred on the 13th, ranged from 37° in the 'Midland Counties,' and 38° in 'England, S.' to 45° in 'Scotland, W. and England, N.W.,' and to 49° in the 'Channel Islands.'

"The rainfall just equalled the mean in 'Scotland, N.,' but was less in all other districts. Over 'England and Ireland, S.,' the fall was very slight.

"The bright sunshine was rather deficient in 'Ireland, N. and Scotland, N.,' but was again very prevalent in all other districts. The percentage of the possible duration ranged from 60 in the 'Channel Islands,' and 58 in 'England, S. and E.,' to 35 in 'England, N.W.,' 22 in 'Ireland, N.,' and 20 in 'Scotland, N.'

MARKETS.

COVENT GARDEN, September 19.

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

Table with columns for VEGETABLES—AVERAGE WHOLESALE PRICES and MUSHROOMS. Lists items like Beans, Runners, Cauliflowers, etc.

POTATOES.

Beet samples, good demand at £4 to £4 10s.; ordinary, £2 to £3. Supplies heavy. J. E. Thomas.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

Table listing various cut flowers like Arums, Asters, French p. bn., Carnations, etc., with prices in s. d. s. d.

FRUIT.—AVERAGE WHOLESALE PRICES.

Table listing various fruits like Apples, Peaches, Damsons, Figs, etc., with prices in s. d. s. d.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

Table listing various plants in pots like Adiantum, Aspidistra, Asters, etc., with prices in s. d. s. d.

SEEDS.

LONDON: Sept. 18.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., state that business in field seeds continues on a narrow scale. Trifolium is in diminishing request, quotations for fine samples are now abnormally low. Winter Tares come forward more freely, the demand being small, values naturally favour buyers. Sowing Rye is also exceedingly cheap. The new white Mustard is proving rather a short crop. Rape-seed is depressed. Bird-seeds are for the moment in meagre request. There is no change in either Peas or Haricots.

FRUITS AND VEGETABLES.

BOROUGH: Sept. 17.—Quotations:—Onions, 3s. 6d. to 4s. per bag; Horseradish, 1s. to 1s. 3d. per bundle; Apples, 2s. 6d. to 4s. per bushel; Peas, 1s. 9d. to 2s. 3d. per bushel; Plums, 2s. 3d. per half-sieve.

SPITALFIELDS: Sept. 17.—Quotations:—Cabbages, 3s. to 4s. per tally; Collards, 2s. 6d. to 3s. 6d. per tally; Beans, 1s. to 1s. 3d. per bushel; Carrots, 2s. to 2s. 6d. per dozen bunches; Turnips, 2s. to 3s. per dozen bunches; Onions, 1s. 9d. to 2s. per dozen bunches; Beet, 1s. 6d. to 2s. per dozen; Sage, 1s. 6d. to 2s. per dozen bunches; Lemon Thyme, 2s. per dozen bunches; Sweet Basil, 1s. 9d. to 2s. per dozen; Apples, 1s. to 2s. 6d. per bushel; Damsons, 2s. per half bushel.

STRATFORD, Sept. 17.—There has been a good supply of all kinds of produce at this market during the past week, and a brisk trade has been done at the undermentioned prices:—Cabbages, 2s. to 5s. per tally; Cauliflowers, 9d. to 1s. 6d. per dozen; Turnips, 1s. 6d. to 2s. 6d. per dozen bunches; Carrots, household, 2s. to 3s. per ton; do., 1s. to 2s. 3d. per dozen bunches; do., cattle-feeding, 20s. to 22s. per ton; Mangels, 16s. to 18s. do.; Swedes, 15s. to 20s. do.; Onions, Ghent, 2s. to 2s. 6d. per bag; do., Bordeaux Port., 4s. 6d. to 5s. 6d. per case; Apples, English cookers, 1s. 6d. to 3s. per bushel; do., dessert, 2s. to 3s. 6d. per bushel; Plums, 1s. 6d. to 2s. per half-sieve; Damsons, 1s. 3d. to 1s. 9d. per half-sieve; Tomatos, English, 2s. to 3s. per peck; Cucumbers, frame, 1s. to 2s. per dozen; do., field, 4d. to 8d. per dozen; Beans, Scarlet, 1s. to 1s. 6d. per bushel; do., 2s. to 3s. per bag; Beetroot, 2s. to 2s. 6d. per dozen bunches; Celery, 9d. to 1s. per roll; Parsley, 1s. to 1s. 6d. per dozen bunches.

FARRINGTON: Sept. 19.—Quotations:—Cabbages, Collards, 1s. per dozen; Cauliflowers, 1s. 6d. to 2s. dozen; Turnips, 3s. dozen bunches; Carrots, do.; Mint, Parsley, 3d. big bunch; Sage, 2s. per dozen; Beans, 1s. 6d. to 2s. per bushel; Spinach, 2s. per bushel; Marrows, 1s. per dozen; Onions, 3s. per bag; Apples, large Cat's-heads, 3s. per bushel; do., Ingestre, 2s. 9d.; Golden Knobs, 2s. 9d. per half-bushel; best Williams

A very tempting table of Grapes, arranged with coloured vine foliage, came from Messrs. D. & W. BUCHANAN, Forth Vineyards, near Stirling, and was much admired. Many other exhibits received their full share of attention from the large number of visitors who were present at all times during the hours when the exhibition was accessible to the public.

FUNGUS FORAY AT HUDDERSFIELD.

HUDDERSFIELD was selected by the mycological section of the Yorkshire Naturalists' Union as the headquarters of the 1895 Fungus Foray. On Saturday, Monday, and Tuesday, September 7, 9 and 10, a series of meetings and excursions were held. The chief object of the meetings was the investigation of the woods and pastures in the neighbourhood of Huddersfield for fungi.

The party included Dr. M. C. Cooke, M.A., A.L.S., of London; Mr. George Massee, F.R.M.S., F.L.S., of the Royal Herbarium, Kew; Mr. Carleton Rea, M.A., B.C.L., of Worcester; the Rev. W. Fowler, M.A., Liveredge; A. Clarke and J. Sutcliffe, of Huddersfield; A. Bairdow, C. Crossland (hon. sec.), H. T. Soppett, J. W. Sutcliffe, of Halifax; and J. Needham, of Hebden Bridge. Saturday's excursion was to West Wood, Honley, and Storthes Hall Wood, under the leadership of Mr. A. Clarke. Although fungi were scarce objects, a few interesting specimens were found. Fixby woods and pastures, the hunting ground of James Bolton, a famous Halifax botanist, one of the pioneers of the study of English fungi, and who flourished during the latter part of last century, were also visited, and here also a few interesting species were found.

Monday's excursion was by train to Hebden Bridge, thence by conveyance to the delightful woods of the Hebden Valley. This was under the leadership of Mr. James Needham and the secretary. As in the previous excursions, fungi were by no means plentiful, but amongst those collected were two good finds, viz., Paxillus paradoxus and Boletus nanus, which hitherto had not been found in West Yorkshire. The specimens collected in the aggregate amounted to upwards of 200 different kinds, among which were many interesting forms.

Meetings were held each evening at the Y.M.C.A. rooms, at which place the specimens collected were determined and placed on exhibition. Consignments of fungi were sent in by the neighbouring societies from their respective districts. Not the least interesting part of the programme were the lectures delivered by Mr. Massee, on the Saturday and Monday evenings, which were illustrated by well-prepared lantern slides, showing the structure and development of a variety of fungi that are destructive to cultivated plants, and methods were described for checking their devastations.

TRADE NOTICE.

MR. JAS. GRIEVE.

MANY readers of the Gardeners' Chronicle will be pleased to learn that Mr. James Grieve, for many years nursery manager to Messrs. Dickson & Co., Edinburgh (who have been compelled to remove their whole nursery business to Liberton, owing to a large portion of their ground being required for railway purposes), has retained part of the Redbrae Nursery, where he will, in company with two of his sons, carry on a general nursery and florist business, under the name of James Grieve & Sons. It is Mr. Grieve's intention to devote a large proportion of his time to hardy florist's flowers, with the raising of so many of which, especially Pansies and Violas, his name is so intimately connected.

Obituary.

JAMES HARRIS.—We regret to hear of the death of Mr. James Harris, which took place on August 29, after a short and severe illness, at the Gardens, Torrance Castle, East Kilbride, Lanarkshire, the residence of Colonel Harrington Stewart. Mr. Harris was well known as a good Rose grower, a class of plants he took a great interest in, and of tuberous-rooted Begonias, of which he had got together one of the finest collections in the west of Scotland. The deceased was in his fifty-ninth year, and leaves a widow, one daughter, and eight sons, to mourn his loss. I may mention the fact that two of his sons hold responsible positions, one as Curator of the Chincóna Botanic Garden, Jamaica, and another as chief of the Orchid department of Messrs. J. Veitch's Nursery at Chelsea. W. Camm.

"DICTIONNAIRE PRATIQUE D'HORTICULTURE."

—This has now reached its fortieth part, down to the letters Mn. We have so often spoken in appreciative terms of this publication, that we need not repeat what we have said, but congratulate M. MOTTET on the regular progress of his laborious undertaking. The publisher is O. DOIN, 8, Place de l'Odéon, Paris.

Pears, 7s. per half-bushel; Hazels, 2s. per half-bushel; Plums, bush, 3s. per half-bushel; Damsons, 2s. per half-bushel; Grapes, Almeida, 17s. per barrel (best); Liebon, 12s. 6d. per barrel; Onions, case, 5s. 6d.

POTATOS.

BOROUGH: September 17.—Quotations ranged from 55s. to 90s. per ton.

SPITALFIELDS: September 17.—Quotations:—Blackland Magnums, 35s. to 45s.; Bruce, 40s. to 50s.; Sutton's Abundance, 40s. to 55s.; Highland Hebrons, 50s. to 70s.; do., Bruce, 45s. to 60s.; Snowdrops, 60s. to 80s. per ton.

STRATFORD, Sept. 17.—Quotations:—Magnums, dark soil, Bruce, 25s. to 45s.; light, do., 40s. to 60s.; Reading Giants, 45s. to 70s.; Sutton's Regents, 45s. to 60s.; Snowdrops, 50s. to 70s. per ton.

FARRINGDON: Sept. 19.—Quotations: White Hebrons, 70s. to 80s.; Red do., 70s. to 80s.; Snowdrops, 80s. to 85s.; Imperators, 80s. to 70s. (of good shape); Bruce, also a good shape, 70s. to 80s.; Magnums, 35s. to 45s. per ton.

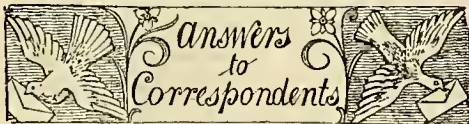
LONDON AVERAGES: Sept. 18.—Snowdrops, 60s. to 80s.; Hebrons, 60s. to 80s.; Imperators, 50s. to 60s.; Puritans, 50s. to 55s.; Early Rose, 55s. to 60s.; Regents, 55s. to 65s.; Magnums, 40s. to 55s. per ton.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending September 14, and for the corresponding period in last year:—1895: Wheat, 22s. 10d.; Barley, 23s. 11d.; Oats, 13s. 8d. 1894: Wheat, 20s. 5d.; Barley, 23s. 9d.; Oats, 15s. 9d.

HAY.

Averages.—The following are the averages of prices at the principal metropolitan markets during the past week:—Clover, prime, 90s. to 110s.; do., inferior, 50s. to 80s.; hay, best, 60s. to 90s.; do., inferior, 30s. to 60s.; mixture, 70s. to 92s.; and Straw, 20s. to 38s. per load.



* * Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.

* * PLANTS, FRUITS, ETC., TO BE NAMED.—Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists varieties cannot, as a rule, be named.

ANALYSIS OF SOIL: *Thos. Bury*. You could obtain an analysis from the Agricultural College at Downton, Wilts, on payment of a small sum.

APPLE SEEDLING: *M. B.* The Apples you send us are of good size and appearance, and may prove to be a good useful sort. It is too early at present to pass a definite opinion. We would recommend you to send six fruits to the Fruit Committee of the Royal Horticultural Society for their opinion next year.

BEGONIA LEAVES DISFIGURED: *A Constant Subscriber*. Before your question can be answered, you must send us some of the creatures which cause the injury to the leaves. Probably, they are some species of slug which are night feeders generally, and must be looked for after dark.

BOOKS: *W. H. M.* *Fruit Farming for Profit*, by G. Buyard, published by F. Buyard, 29, Week Street, Maidstone; *Practical Fruit Culture*, by J. Cheal, published by G. Bell & Sons, York Street, Covent Garden.—*F. White*, *My Gardener*, by H. W. Ward, published by Eyre & Spottiswoode, East Harding Street, E.C.—*Amateur*. The serial works on Orchids in the English language, now being issued, are *The Orchid Album*, by B. S. Williams & Son, Paradise and Victoria Nurseries, Upper Holloway, N. Monthly parts, price 5s. It has been running since 1881; *The Orchid Review*, monthly, price 1s. Communications should be addressed to the editor of the *Orchid Review*, Lawn Crescent, Kew; *Lindonia*, conducted by Messrs. J. Linden, Lucien Linden, and E. Rodigas; published by Eug. Vanderhaegen, Ghent; *Reichenbachia*, published by F. Sander & Co., St. Albans.—*Revider*. *The Horticultural Handbook and Exhibitors' Guide*, new edition (W. Blackwood & Sons, Edinburgh and London).

CINERARIAS: *Interested*. Perhaps the soil is infested with the grub of a weevil very destructive to Cinerarias and most other things. Can you send us some of the grubs you have seen?

CRABS: *J. Backhouse & Sons*. The Crab received from the late Dr. Regel, and again sent to us, is a variety of *Prunus Malus prunifolia*, see *Gardeners' Chronicle*, p. 427, October 2, 1886. The Crab John Downie, fruits of which you kindly send us, is a very ornamental variety, either in flower or fruit, the latter fact being well shown by the fruits sent.

DUROLINE: *P. M.* We should greatly doubt the suitability of this material for covering ainery instead of glass; but as a wall protector entirely open in the front, it would answer admirably.

GRAPES: *Gardener*. Not having the least knowledge of the circumstances under which your Muscat Grapes are cultivated, we shall not presume to state in what respect your culture is deficient. It may be said, however, that shanking usually indicates that the border is in an unsatisfactory condition, that the roots have penetrated a wet sub-soil below the border, or that too much water has been given the Vines.—*W. L.* You may be right. We have seen instances before where the colour in Grapes has been affected by the stock on which the variety has been grafted. In this case, however, we take the colour to be merely a slight disfigurement by rust from cold draught, especially as the exposed parts of the berries are alone discoloured.

HECKBERRY: *W. A.* *Prunus Padus*, Bird Cherry.

HIPPASTRUMS: *Amateur*. Supposing that the bulbs have been growing under glass all the summer, growth will soon cease altogether, when water should be gradually withheld until the leaves turn of a yellow colour, when no more should be afforded. Some varieties are almost evergreen in habit, but these should be similarly treated. If the plants have completed their growth, plunged to the rim of the pot in a mild hotbed, the roots will have penetrated the substance of the bed, whether it consist of tanner's bark, Oak leaves, or cocoa-fibre refuse above a heated chamber. They may be partially lifted out if when the leaves have turned yellow. The temperature of the house should not exceed 45° in the winter. Failing the accommodation this mode of culture demands, the dried-off bulbs may be kept in their pots in a frost-proof dry room, or on a shelf in a vinery or greenhouse. The repotting may commence in January, and should be completed by the middle of the next month for all bulbs of flowering age, and that of young non-flowering bulbs by the end of March—of course the earlier the better, so that the plants may have the benefit of a long season of growth. Seedlings whose bulbs are not larger than a sparrow's egg must not be dried off, although the quantity of water required will be very small from October to January. Bulbs purchased at the shops may be either potted when bought, or kept in sand or cocoa-nut fibre till the proper time for starting the bulbs arrives.

NAMES OF FRUITS: (see notices under Names of Plants). *W. T.* Pear Belle de Bruxelles.—*W. S. L.* 1, Styrian; 2, Marie Louise; the Apple is Hornmead's Pearmain.—*W. Cann.* 1, Rosemary Russet; 2, Cox's Orange Pippin; Plum much bruised, may probably be Pond's Seedling.—*J. G.* 1, Stone's Apple; 2, a pale fruit of Duchesse of Oldenburgh; 4, Pear Marie Louise; Plums should not have been packed with Apples.—*T. W.* We can only undertake to name six fruits at a time; Pears, 1 and 1½, Marie Louise; 2, 2½, Beurré de Capiaumont; 4, Louise Bonne; 5, 5½, Doyenné Boussoch; Apples, 2, Blenheim Orange; 4, Keswick Codlin.—*T. Y.* 1, Worcester Pearmain; 2, Maltster; 3, Duchesse of Oldenburgh; 4, Lord Suffield; 5, Peasgood's Nonesuch; 6, Dutch Codlin.—*W. S. Tighe.* 1, Worcester Pippin; 2, Duchesse of Oldenburgh; 3, Autumn Pearmain; 4, Cox's Pomona; 5, Worcester Pearmain; 6, Gloria Mandi.—*W. C.* Apple, Gladstone; Damsons, the Farleigh variety.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to consult the next number.*—*J. McD.* A *Zygopetalum*. The flower was destroyed by a slug in the moss!—*A. S.* *Veronica Chamædrys*; distorted by an insect. *N. C.* *Polygonum cuspidatum*.—*H. W. R.* Two shillings received for *Gardener's Orphan Fund* with thanks, 1, *Acalypha Macraefiana*; 2, *Polygonum cuspidatum*.—*J. T. P.* *Celsia arctura*.—*T. W. B.* *Solidago canadensis*, Golden Rod.—*H. T.* *Cytha-*

rexylum betoniannum.—*F. Herrington*. *Polygonum cuspidatum*.—*A. M.* 1, *Lycostera formosa*; 2, *Pinus Sabiniana*; 3, *Tilia europæa laciniata* (the cut-leaved Lime).—*H. B.* *Oncidium ochthodes*, which is said to be the same as *O. chrysornis* of Reich. f.—*Elmet, Leeds*. The *Odontoglossum Uro Skinneri* is quite equal in every respect to those we have remarked on, though differing from either.—*Wooltsey*. 1, *Polygonum cuspidatum*; 2, *Hieracium aurantiacum*; 3, *Pteris argyræa*; 4, *Adiantum concinnum latum*; 5, *Adiantum decorum*; 6, *Polypodium crasseifolium*; 7, *Pteris tremula*.—*C. B.*, *Monmouth*. *Polygonum cuspidatum*.—*N. C.* 1, *Capsella bursa-pastoris*; 2, *Stellaria media*; 3, *Euphorbia* sp., probably *peplus*.—*Cammoes*. Send better specimen.

OAK GALL AND OAK APPLE: *Royal*. The terms are synonymous.

PEACH SHOOTS: *Gardener*. There appears to be nothing the matter with your Peach-shoots, but the leaves are infested to some extent with small scale, and probably red-spider. Syringe them well daily until the leaves begin to fall off, and then the trees can be thoroughly cleaned before they are started again. Keep your house open night and day, and use no fire-heat.

ROSES, MUSHROOM SPAWN, &c.: *Grower for Market*. We cannot recommend dealers. Why do you not advertise your requirements, or scan our advertisement columns?

WALNUTS: *C. C.* Keep the nuts, after the shells have been dried in the shade spread out on a net or table, in dry salt, clean silver-sand, or charcoal-dust, and store in a cool cellar. The nuts will not keep more than four months in good condition.

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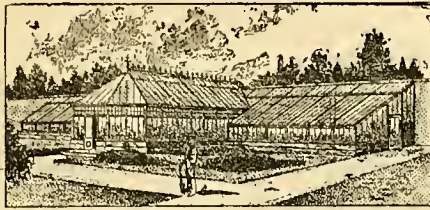
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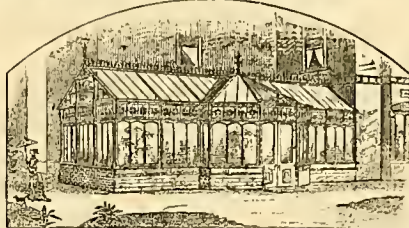
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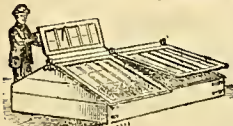
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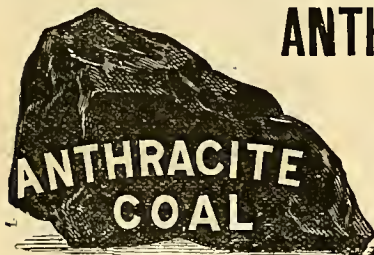


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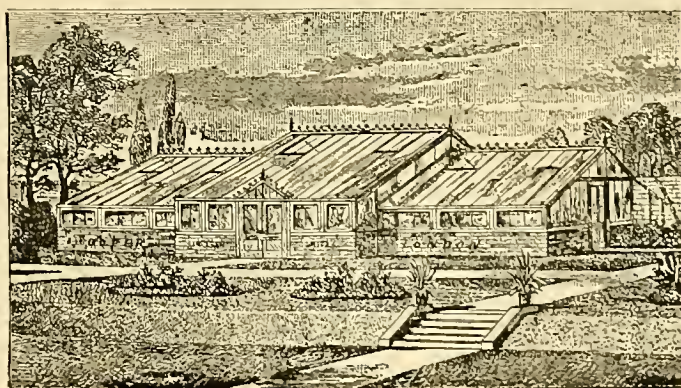
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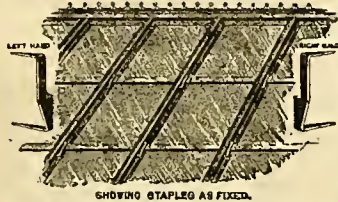
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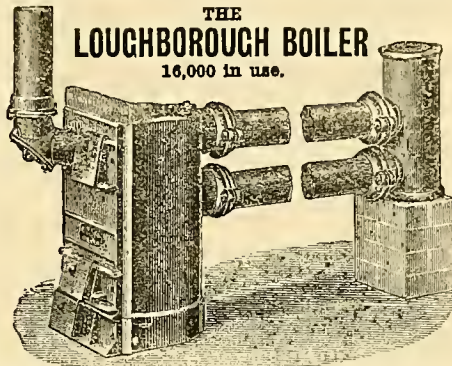
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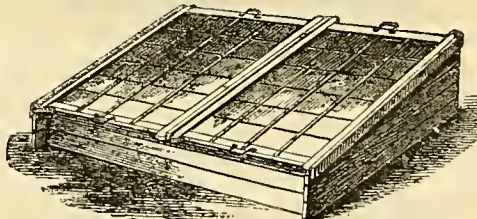
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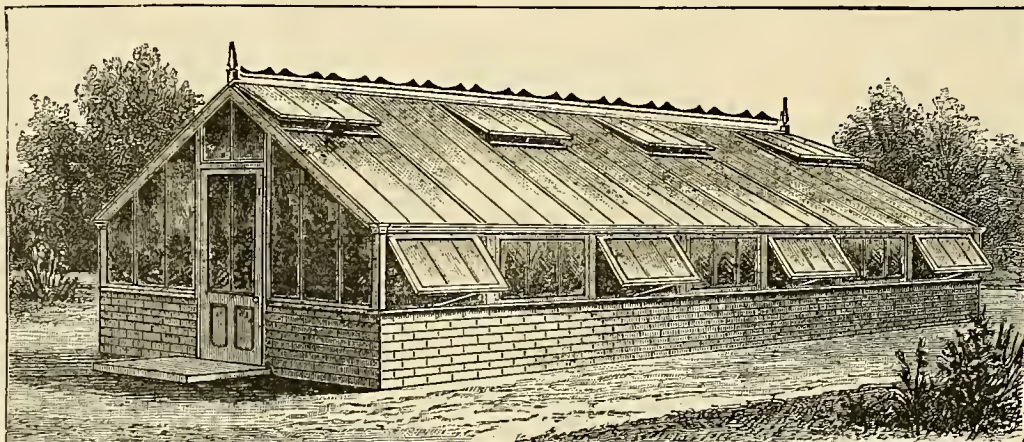
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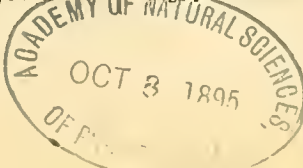
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Mr. J. C. STEVENS

BEGS TO ANNOUNCE THAT

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FIRST GREAT ORCHID SALE

Will take place at his Great Rooms, 38, King Street, Covent Garden, on **THURSDAY**, October 17 (Mr. STEVENS being previously engaged for the 3rd). As this is likely to be a very attractive Sale, and will probably draw a large attendance, it will be an unusual opportunity for including anything choice that Growers may have in Flower. Fifty Lots will be reserved in the middle of the Sale for such Plants.

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Capital Detached Freehold Residence and 2 acres, about 10 minutes' walk from Sutton Station.

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EXTENSIVE STOCK

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Catalogues now ready. The Nurseries will be on view from September 22 until the time of Sale, from 10 A.M. till 4 P.M. For further particulars apply at the offices of the Official Receiver in Bankruptcy, Truro; or, to the Auctioneer, Market Street, Penryn.—Dated September 11, 1895.

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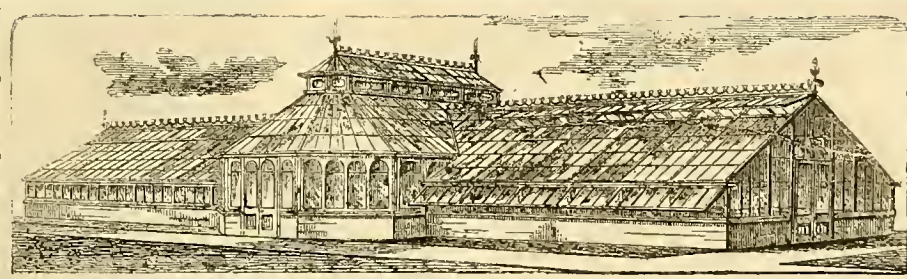
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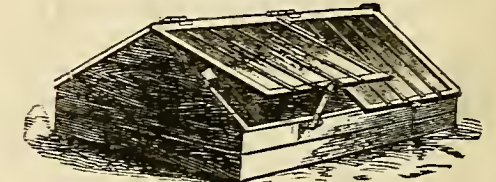
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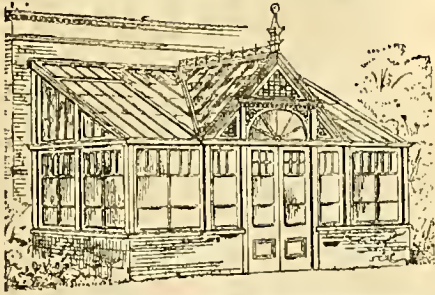
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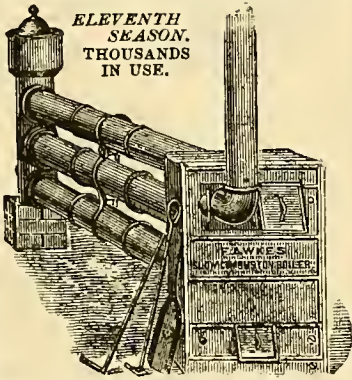
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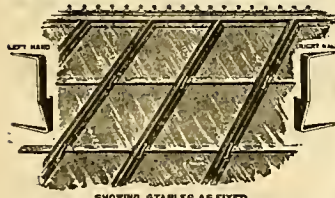


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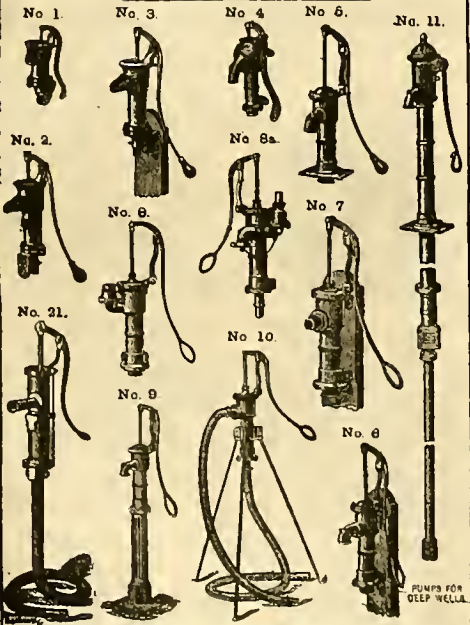
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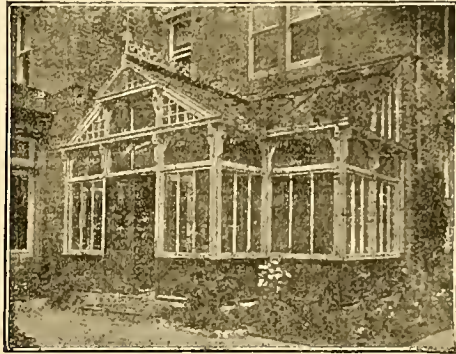
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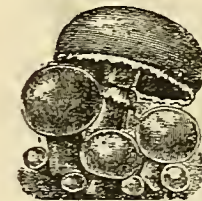
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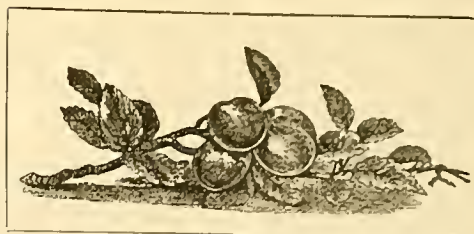
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THE

Gardeners' Chronicle.

SATURDAY, SEPTEMBER 28, 1895.

SOME OLD-WORLD GARDENS.

THERE is an indescribable charm about old-fashioned gardens, which in modern ones seems to be lacking. The pictures are toned with a mellow restfulness, soothing and grateful to the townsman's nerves. "Fair quiet and sweet rest" are there, no violent contrasts of crude colours, scarlet, yellow, or blue, distract the eye; mingled fragrances pervade and pleasant memories linger around them. From this old mossy-stemmed Apple-tree, once again drooping with its wreaths of crimson and gold, we gathered a pocket full of luscious fruit full sixty years ago. The goldfinch still puts her pretty nest in the boughs overhead. From that old China Rose we plucked a bud, and put with it a spray of Ladslove to offer to a blushing lassie of sweet seventeen!

All the year round, too, there is something to admire in these old gardens, from Snowdrops and Winter Aconite, Crocus, and the "rathe" Primrose; through the freshness and beauty of April and May, to the time of Roses in leafy June, when the garden is in its prime, Pinks and Lilies are there, with Rosemary, Ladslove, and Lavender. Then comes the waning year, when—

"Heavily hangs the Hollyhock,
Heavily hangs the Tiger-Lily."

Perhaps it is during August and September that the flower-garden wears its most resplendent colours, and when butterflies sun their gorgeous wings on the petals of the Phlox, the Hydrangea, and the Aster.

There are few lovers of a garden, and worthy of the name of amateur, who will begrudge the gardenless visitor a glimpse of his flowers.

Let me endeavour to give a brief sketch of some gardens which, by the courtesy of the owners, I have been allowed from time to time to saunter through. There is one garden, by the way, accessible to the public, as of course it should be—they pay for its keeping—Royal Kew, perhaps the grandest garden in Europe! But I speak of others not so well known.

One of the most delightful old gardens in England is that of Lord Essex at Cassiobury Park, near Watford. These gardens were repeatedly visited by John Evelyn, and about them Stephen Switzer remarks: "It must not be passed by that at Cassiobury the polite spirit of gardening shone brightest," and that he "never saw that truly delightful place without being more than ever ravished by its natural beauties." Entering from the woodlands by the head-gardener's cottage, beneath a leaf-fringed arch in the lichen-stained wall, we see a portion of the old kitchen garden. In front of us is a border about a hundred yards long and three yards wide. On either side of it is a broad, smooth, gravel walk; and along the centre, at intervals of perhaps half-a-score yards, is a line of standard, dome-shaped Filberts. On either margin is a belt of

white-flowered Pinks, 2 feet wide; then the centre—nearly 5 feet across—is entirely filled with Lily of the Valley, Lilies, and Pinks. One may imagine the perfume exhaled as the spring showers patter among the leaves and blossoms.

One of the paths is over-arched by Apple, Pear, and Plum trees. When I saw it the trees were loaded with rosy bloom, and a smart shower had scattered the pink and white petals on the cool earth beneath. The borders on either side are filled with such old-fashioned flowers as York and Lancaster Roses, Pæonies, Larkspurs, Phloxes, and Solomon's Seal. A seat beneath this leafy tunnel was a favourite resort of the late venerable Earl. There he would sit and ponder, with nothing to disturb his reveries save the songs of the blackbird, the thrush, the goldfinch, or the amorous descants of the nightingale, all of which, and many others, found safe and happy homes among the twinkling leaves.

In some of these old gardens, the walls are not the least attractive feature, whether at the time when the Apricot, Plum, Nectarine and Peach are flowering, or when the luscious fruit shows in rich, tempting festoons and clusters. Sometimes that saucy fellow with the "golden dagger," will put his nest in the branches of a Morello Cherry, in the midst of the silver tassels, or among the snowy rosettes of the Pear; and in the chinks and cranies, blue-tits and wrens build cosy nests. The copings of such old walls, too, afford a footing for House-leek and Stonecrop, Wallflower and Snapdragon, Polypody, Spleenwort and Maidenhair Fern, with the elegant little Toadflax.

Opening a door in the opposite wall, one suddenly comes upon the delightful pleasure-grounds. The broad, smooth lawn, close and soft as a carpet of emerald pile, are chequered with the shadows of stately Cedars and pillared Beeches. A gentle slope leads to the river Colne; one espies its silver ribbon beneath the branches of ancient Thorns. Here and there are herds of fallow deer resting and ruminating in the shade.

Some of the finest Silver Firs in Britain flourish here, with Limes, Beeches, Hemlock Spruce, and a large collection of coniferous trees. Kew Gardens, we believe, were largely furnished from Cassiobury in the time of the Capels. In the orangery are some old trees, drooping with fruit. Near to this house is the quaint pleasure of the late Lady "A." It is a rectangular plot, with a low latticed screen in front, covered with crimson China Roses. At the back is a screen with Roses and Clematis. In this are three circular openings—happy thought!—each affording charming views into the adjoining woods. The effect is startling! It gives one the impression of three charming landscapes, changing momentarily with the changeful light. Passing through one of the green alcoves, we come upon a sheltered dell and rockery, rich with a variety of Ferns; then a sculptured fountain, and, bending over it, one of the many Willows reared from a cutting brought from St. Helena, which still droops over the spot where Napoleon was first buried. Such is but a brief glimpse of one of the finest old gardens in England: historically famous, rich in antiquities, and abounding in interesting specimens of trees and shrubs. The inhabitants of Watford are not slow to avail themselves of the privilege of walking through the delightful park, and now and again strolling through the gardens and pleasure-grounds.

My next old garden is part of the historic Moor Park estate. There are few holiday resorts for north-west London better known than Moor Park, and especially among school

children. The late noble owner, Lord Ehury, probably never refused permission to ramble in his beautiful park. In the midst of it stands the stately mansion, once the residence of the unfortunate Duke of Monmouth and his Duchess. The estate, it may be remembered, was once the property of Cardinal Wolsey, whose great house stood, encircled by a moat, some hundred yards below. He was visited, while residing here, by King Henry VIII. and Queen Katharine. The cardinal's Oak still lives.

The park, some 500 acres of rolling sward, has many magnificent Oaks—a grove of them near the upper pleasure-grounds are pollarded. It is said that this was done by command of the Duchess of Monmouth on the death of the Duke. On the east front is a grand old Italian garden with marble fountains and statuary. It is a brilliant spectacle in the summer months aglow with dazzling colours. From these, the dazzled eye finds relief in glancing over a spacious lawn with noble Beech woods to the left and right. This is a favourite resort of herds of fallow deer. In the distance, softened by blue mists, one descries the northern heights of London. Moor Park was once the residence of Commodore Anson, who delighted under the guidance of the famous landscape gardener, "Capability" Brown, to embellish and improve the gardens and pleasure-grounds, and this beautiful and spacious lawn was one of his improvements. From the Italian garden, one may walk through the grounds, rich in rare Conifers and splendid trees, and enlivened here and there by bright colours.

At a quarter of a mile from the mansion is the large, old-fashioned kitchen garden, also the work of Brown. This is even more interesting than the lawn, with its fountains, statuary, and Yews. It is an oblong, of from five to six acres in extent, surrounded by high walls, and bordered on the south by an extensive range of glass-houses. The broad, smooth walks are margined with herbaceous flowers and fruit-trees, among which is a line of dome-shaped Pears—a charming picture when the trees are in bloom, and not less beautiful, though more tasteful when loaded with handsome fruit.

A distinguishing feature of these old-world gardens is the mingling of flowers, fruit, and vegetables. On entering the gardens from the park the *coup d'œil* is charming. A geometrical lawn slopes away southward, gay with Roses, Carnations, Zinnias, Asters, Violas, and choice bedding plants, a most interesting and delightful mass of mingled colour, fragrant with Mignonette, Heliotrope, and Stocks. On the right is a fruit quarter, with scores of varieties of Apples, Pears, and Plums. Broad walks run east and west through the garden, the central one margined with raised borders, is thickly planted with a host of old favourites, Hollyhocks, Fuchsias, perennial Larkspurs, Pæonies, Phloxes, Foxglove, Hydrangea, Campanulas, Gladiolus, Agapanthus, Sweet Briar, Clematis, perennial Sunflowers; and, nestling in the crevices of the hürs, cushions and rosettes of choice alpines. The gardens are fortunate in having a broad setting of emerald sward and waving woods, while in the distance is seen the silvery-grey line that marks the valley of the Thames as it sweeps by Windsor.

The walls of this fine old garden are covered with Peaches and Nectarines, Pears, and Plums, while one stretch of them was covered this year with an enormous crop of Apricots—a charming picture, though scarcely more beautiful than when loaded with the snow-white blossoms, bee-haunted all day long. One must not forget those hedges of Rosemary, Lavender, and Sweet

Briar, nor the lines of stately Hollyhocks, huge pyramids of glowing colour.

There are several delightful old gardens in the neighbourhood of Harrow Weald and Stanmore. One of the finest is that of Bentley Priory; half a century ago the Priory was the residence of the late Queen Adelaide. On the south front is a fine Italian garden, with statuary, fountains, and Irish Yews. A distinguishing feature of the garden a few years ago, was the huge cones or pyramids of blossom standing at intervals of a few yards. They were from 10 to 12 feet high, and 7 feet through at the base. The plants, Pelargoniums, Clematis, Heliotrope, Tropæolums were trained to stakes, and the effect of these huge cones of blossom was surprisingly beautiful. During the months of June, July, August, and September some grand Orange trees loaded with fruit were placed along the terrace. A spacious park engirdled with fine trees stretches down to a lake, and beyond, at a distance of 4 miles, is seen Harrow Hill, with its church. It is a relief to turn from the brilliant parterre and sparkling fountains to the delightfully cool greenery and shade of the Cedar garden, with its bowers of Roses and the winding paths of the fernery.

At the distance of half a mile, on the margin of Stanmore Common, there is another delightful old garden, once the property of that wealthy penmaker and connoisseur of art, Joseph Gillott. No part of this garden is visible from the high road, but the worthy lady to whom it now belongs from time to time throws it open to visitors from London. Sometimes it is a party of hundreds of elderly poor folk; at another, a number of district visitors or scripture readers; or, again, at another, a large party of Sunday-school teachers. Recreation, rest, and ample hospitalities are provided for each and all.

A distinguishing feature of this old garden of 21 acres, is the fine collection of coniferous and deciduous trees, the latter remarkable for their brilliant foliage. One might wander for hours beneath the cool arcades, and emerge suddenly on the borders of a landscape steeped in sunshine—woods, waving cornfields, placid lakes haunted by wild-fowl; while, on the horizon, is the stately grey pile of St. Albans Abbey. The Lady Bountiful of this grand old garden, Mrs. Brightwen, with its statuary, clipped hedges, and borders filled with choice herbaceous flowers, is never happier than when she sees others enjoying its manifold charms. *T. W.*

NEW OR NOTEWORTHY PLANTS.

ODONTOGLOSSUM ASPIDORHINUM, *Lehm., spec. nov.*

This is beyond any question the most floriferous Odonoglot yet discovered. Not only does every pseudo-bulb produce two flower-spikes at one time, but they do so for two and even three years in succession, a character which, though common among *Masdevallias*, has not yet been observed with *Odonoglossum*. It is therefore quite common to meet with comparatively small masses, which are set with twenty to thirty flower-spikes at one time, and as many as thirty-eight have been observed on one plant. Such plants look very charming and ornamental, more especially as the flower-spikes stand apart from and slightly bend above the short narrow leaves, thus forming a semi-globular flowering mass of great beauty. I think scarcely anything more graceful as a centre plant at a dinner-table could be imagined. The flowers vary somewhat in the colour of the lip, being sometimes pure white, but more frequently more or less spotted with lilac-crimson. The name is given in allusion to the peculiarly upright bent staminode standing like a shield above the nose-like rostellum.



FIG. 66.—CYPRIPEDIUM X LORD DENBY: COLOURS, IVORY-WHITE AND ROSE PURPLE.
(SEE P. 358.)

Plants dense, caespitose, attaining but small dimensions. Pseudo-bulbs long-oviform, strongly compressed, deeply plaited, two-leaved, 4 to 5.5 cm. long, 3 to 3.5 cm. broad. Leaves stiff, papyraceous, cuneate-oblong, abruptly cuspidate, 15 to 18 cm. long, 1 to 1.5 cm. broad. Flower-epike not inclined to branch, 30 to 45 cm. high, nine to fifteen flowered. Sepals and petals oblong, contracted into long ligulate points, and slightly nodulate at the borders, 3.5 to 4 cm. long, 0.6 to 0.8 cm. broad, clear yellow, blotched more or less with red-brown; the petals a little smaller than the sepals. Lip subpanduriform, long-unguiculate, at the margin finely fringed, at the apex abruptly contracted into a sharp convolute point, 3.5 to 4.5 cm. long, 1.5 to 1.8 cm. broad, pure white, more or less spotted with lilac-crimson. The crest consists of four tooth-like laciniae, of which the two lateral ones are protracted into villous cirrhi. The borders of the unguis are densely villose. The column, distinguished by a deep stigmatic cave, bears at the apex on either side a narrow cirriform spreading auricle, and is of a light yellow tint. The staminode is protracted, and bent upright into a flat triangular point, standing shield-like above the rostellum.

Habitat, Columbia. Grows on trees in dense forests on the eastern declivities of the western Andes of the Cauca, 2200 to 2500 metres above the sea. (*Vid. Plant. Lehmanniae*, No. 10021; *Lehm., Ic. Pl.*, t. 1001.) *F. C. Lehmann, Popayan, August, 1895.*

CEROPEGIA DEBILIS, *N. E. Brown (n. sp.)*.

Tuber flattened, with a short woody neck, producing several slender weak stems; as much as 3 to 4 feet in length, and about half a line thick, pendulous under cultivation, glabrous. Leaves rather distant, half to 1 inch long, and about half to three-quarters of a line thick, succulent, subterete, slightly flattened on the face, acute, more or less curved, with petioles about 1 line long, glabrous, light green. Peduncles quarter to half an inch long, glabrous, bearing one to three flowers at its apex. Bracts minute. Pedicels about 2 lines long, glabrous. Sepals 1 line long, lanceolate-acute, glabrous. Corolla 1 inch long, straight; the tube five-eighths to three-quarters of an inch long, ovoid-inflated at the base, and there about 2 lines in diameter, cylindrical and narrower above, scarcely enlarged at the mouth; the outside is glabrous and pale purplish, the inside is sparsely covered with reflexed hairs in the upper part; the lobes are 3 to 3½ lines long, erect, with connate tips, linear from a deltoid base, replicate, greenish, with a blackish-purple keel inside, glabrous outside, covered with rather long, curly purple hairs on the inner face. The outer corona is about half a line long, cup shaped, with five short crenations, and slightly ciliate along the margin within; the inner coronal-lobes are 1—1½ lines long, erect, narrowly obanceolate acute, and dorsally connected at their base to the outer corona by five partitions; the entire corona is white.

This very distinct and rather peculiar species was first sent to me from the *Gardeners' Chronicle* Office two or three years ago, and subsequently I learnt from Mr. J. O'Brien that it was sent to him by Mr. J. Buchanan, who collected it near Zumba in Nyassaland. It differs from all the other species known to me by its weak, pendulous stem. *N. E. Brown.*

CYPRIPEDIUM × LORD DERBY (ROTHSCHILDIANUM × SUPERBIENS).

Our illustration (fig. 66, p. 357) represents the *Cypridium* × *Lord Derby* exhibited by Thomas Statter, Esq., Stand Hall, Whitefield, Manchester (gardener, Mr. R. Johnson), at the meeting of the Orchid Committee of the Royal Horticultural Society, August 13, when it was unanimously awarded a First-class Certificate as the best introduction of its class, although certain members of the committee thought it similar to *C. Massaianum superbum* (*Rothschildianum* × *superbiflorum*), a statement which they ultimately withdrew on the dif-

ference in the parentage and the superior qualities of *C. × Lord Derby* being pointed out. One or two other hybrids of reputedly the same parentage have been recorded, but the fact remains that neither in size nor stately beauty of the flowers, or in the brightness of their colours, has anything comparable to Mr. Statter's production been publicly exhibited. The upper sepal is white, with a greenish tinge at the base, and with some fine purple lines; the petals ivory-white spotted with purple, and the lip brownish-rose. Few and far between do such rewards fall to the lot of the patient hybridist, and Mr. Statter is therefore to be congratulated on his very handsome *protégé*.

THE SEED TRADE.

THE GRASS AND CLOVER SEED CROPS.—The returns from the seed-growing districts in Germany, so far as they have come to hand, appear to show satisfactory crops. Meadow Foxtail Grass is but a poor yield, as the late spring frosts did the plants considerable injury, and the drought setting in when the seed was maturing, caused a further loss of crop. Seed of this kind is expected to be very scarce and high in price, especially as home-grown crops are decidedly below an average yield. Bent Grasses (*Agrostis*) also suffered from the weather, and the supply, both from Germany and the United States, is very limited, and high prices must rule. The waved-air Grass, *Aira flexuosa*, promises a full crop; the plant is well adapted for sheep pastures in dry natural positions. Sweet Vernal is a fine crop, and the quality exceedingly high. This is about the earliest grass to flower, and is known as the Spring Grass in this country. The tall Oat-Grass, *Avena elatior*, has yielded a crop decidedly below the average.

All the Brome Grasses show a good yield, but as they are for the most part of a rough quality, containing but little nutriment, and disliked by cattle generally, they are not much employed in this country for agricultural purposes. The Prairie Grass (*Bromus Schroeteri*), or more properly *B. commulatus*, appears to be the only one in use in this country, probably on account of its herbage in spring affording an early bite to sheep and lambs. Crested Dog-tail Grass has suffered somewhat from the weather, but there is a fair yield of good seed, although it may have lost some of its brightness. This is a grass natural to high and dry pastures and sheep-downs, where probably no other species is more valuable, not only on account of the compactness of its fine short foliage, which is highly agreeable to the close-cropping animals that feed upon them, but because owing to the depth to which the roots penetrate, it remains green during the driest parts of the summer, or at least, long after most other species have withered. Cock's-foot Grass (*Dactylis glomerata*) shows a good crop in the United States, quite one-fourth larger than last year, and though the seeds are somewhat discoloured, their germinating power is all that can be desired. From New Zealand comes good bright seed, but it does not germinate so well. It is a valuable grass, generally liked by cattle, unless when allowed to become coarse through neglect. Fescue Grasses show a varying yield; Sheep's and hard Fescues, though not a full crop, appears to be ample. The fine leaved variety shows the largest yield, but as severe cleaning will be necessary to ensure superfine samples, prices are expected to be high. The yield of Meadow Fescue is large, and seed of very fine quality has been harvested; tall Fescue is a good average crop of fine quality.

The Yorkshire Fog Grass (*Holcus lanatus*), shows a satisfactory yield of good samples. It is a grass which yields largely to the scythe, and where abundant and luxuriant, as it often is on moist peaty lands, it wonderfully increases the bulk of the hay crop, though the hay is soft and spongy. It is recommended that when the hay in which this grass abounds is carried, sprinklings of salt should be given to make it more palatable. The

Meadow Grasses (Poas), show a good yield also; the rough-stalked (*P. trivialis*) is excellent in quality; the smooth-stalked (*P. pratensis*) gives a large yield of very fine seed.

The Red Canary Grass (*Phalaris arundinacea*), shows a large crop in Germany, though it is used in this country to a very limited extent, the herbage being too coarse to be liked by cattle generally, though it is said that the creeping shoots have a sweetish flavour, and are greedily devoured by pigs, who doubtless find them nutritious. It is common in many parts of this country on the banks of rivers, pools, and ditches. Of Timothy Grass (*Paleum pratense*), nothing can be said at present with certainty in regard to the probable yield, though it is said to be good both in Russia and Germany. It is sometimes said that it is a grass not generally found in the best natural pastures in Great Britain, though that is a controverted statement. It attains to its best quality in a deep and retentive soil.

All kinds of Clover appear to have brought, or to be bringing good yields this year, and especially so the white variety. Alsike, *Trifolium incarnatum*, Trefoil, and Sainfoin all promise well, but the yield will depend upon the weather, whether favourable or otherwise. *Pisum.*

ASTILBE LEMOINEL.

UNDER the generic term of Astilbe we include the whole of a group of plants with perennial stock, herbaceous stems, the foliage deeply cut, and large branching inflorescences composed of a multitude of small flowers; in colour white or pale rose, individually insignificant, but producing a remarkable effect owing to their numbers. The plants have the appearance of being related to *Spiræa*, of the *Aruncus* section, so that many of them, after long cultivation, are commonly known under the name of *Spiræa*, whilst botanists have also given them the name of *Hetera*; we believe it is quite justifiable to include them all in one single genus, the genus *Astilbe*, as most of them have been produced through the easiness with which they cross, an incontestable proof of kinship.

The name of *Spiræa* should be at once absolutely rejected. *Spiræas* belong to the order Rosaceæ, and are characterised by the existence of numerous stamens, and of a pistil formed of from three to five carpels, usually free. *Astilbes*, on the contrary, are Saxifrageæ, and have from five to ten stamens and two carpels, usually more or less united—at any rate, at the base.

The genus *Astilbe* was founded on *A. rivularis*, Hamilt., a perennial shrub, a native of Nepal and temperate regions of the Himalaya from Cashmir to Bhotan; it has spreading rhizomes, spreading radical leaves, twice divided into three, the divisions dentate, the petioles furnished with numerous dull-coloured hairs. The stems, which grow up to nearly 5 feet, bear several alternate leaves, and are terminated by a large paniculate truss formed of numerous small flowers. The corolla is deficient, the lobes of the calyx numbering from four to five, are yellowish-white, and the eight or ten stamens are pure white. *Astilbe rivularis* does well in a gravelly situation; where it is fresh, and partly shaded, it forms a nice decoration for the borders of lakes, &c., but it is necessary to cover it with leaves during the severe cold of our winters.

Under the name of *Astilbe rubra*, Hook., there was introduced, more than forty years ago, a species indigenous in the mountains of Khasya, and north-east of Bengal; it was discovered by Griffith, and sent to Kew by J. D. Hooker and Thomson, who found it thriving at altitudes of from 5000 to 6000 feet. It differs from the preceding species by the existence of five rose-coloured petals, arranged in star-like form, and by the abundance of large reddish-brown hairs which are on the stems, leaves, and inflorescences. The species is also known as *Astilbe rivularis rubra*, and cannot stand very severe winters. *Astilbe decandra*, from America, was introduced into England about 1812; it is like the preceding

species, in habit resembling *Spiræa Aruncus*; leaves large, biternate, of a glaucous tint; the flowers, borne in ramified panicles, are white.

Astilbe chinensis (*A. odontophylla*), was introduced not many years ago from China, but does not appear to be widely known, as it is not included in horticultural catalogues. It rarely exceeds 2 feet in height, the leaves are triternate, and the flowers white with purplish-bronze shadings. This may perhaps be a variety of the following species. *Astilbe Thunbergii*, Miquel (*Hoteia Thunbergii*), was introduced fifteen years ago from Japan by Messrs. J. Veitch & Sons, of Chelsea. It is a pretty species, with very elegant foliage, of which the folioles are petiolate, oval, and covered as well as is the entire plant, with little silky hairs; the ramified inflorescences are

foliis aureo-reticulatis (about 1871), the foliage of which is green, variegated with yellow along the veins of all the folioles, and the inflorescences of which are more tufted and compact than in the type; also *A. japonica foliis-purpureis*, the foliage of which is shining bronze, at least in the young state, passing to dark green when completely developed; and, finally, *A. japonica compacta multiflora*. This last kind, lately put into trade, is destined to supplant the common variety for all purposes for which it is suitable. The foliage is firmer, more developed, the inflorescences are larger and more ramified, and form white plummy-looking tufts; it appears that this variety is a form of *A. japonica* with leaves reticulated with yellow, but the foliage of which has returned to its normal colour, and the panicles, already more

name is no more ridiculous than many terms in botanical nomenclature, such as *Dracæna Draco*, *Eryvum ervilia*, *Specularia speculum*, &c.*

A. (Spiræa) astilboides grows from about 1½ foot to 2 feet high; the pinnatifid leaves have reddish petioles; the folioles oval, pointed, much toothed, hairy, of a brown-green colour; the ramified floral stalks are covered with little white flowers, dense, which are in the form of a tubular calyx with five white lobes, five white petals, ten white stamens, and two united carpels. This species, as a perennial, likes a silicious soil, and is particularly effective in rockwork, but is especially valuable for pot-culture and for forcing, under which very pretty flowering specimens can be raised.

The origin of a variety, called by its producer, M.

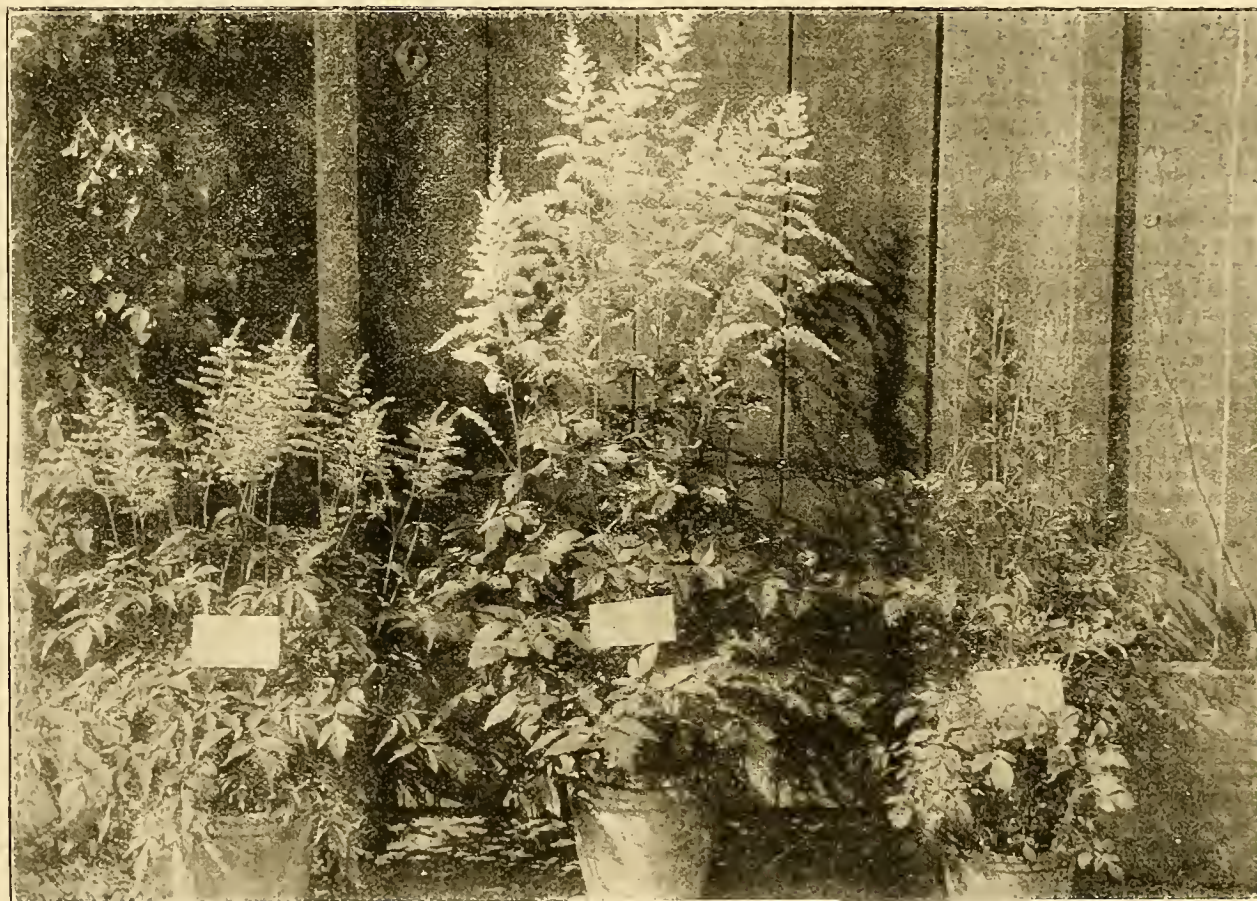


FIG. 67.—ASTILBE LEMOINFI X. (SEE P. 358.)

perfectly erect, and bear flowers with petals white merging into pale rose, elegantly set along the floriferous branches.

Everyone knows *Astilbe japonica*, Miquel, more often called *Hoteia japonica*, Morr. and Deane, or even *Spiræa japonica*, Hort. It is a plant covered with long brown hairs on the base of the stems and petioles, with radical leaves in tufts, trifurcate petioles, folioles oval lengthy, almost coriaceous, of a dark bright green on the upper surface; panicles straight, ramified, while the bracts, the pedicels, the calyx, the corolla, and the stamens, are pure white. This species, when grown in quantities for forcing, is also an excellent perennial plant; it likes a peaty soil, and generally a cool and half-shady soil. The rhizomes are perfectly hardy, but very often the young shoots are destroyed by spring frosts.

Many other varieties of *A. japonica* are also cultivated. By hybridising has been obtained *A. japonica*

compact, have profited by the increased vigour due to the return of the chlorophyll, and gained still more in size and abundance.

The year 1879 marked the first appearance of a new species, for which numerous names are not lacking. It was, in fact, at that time that Mr. William Bull, of Chelsea, who introduced the plant, sent it out as *Spiræa nivosa*; the following year he showed it under the name of *Spiræa Aruncus astilboides*, a designation applied to it by the Kew botanists; or simply as *Spiræa astilboides*, a term under which it soon became popular. Maximowicz, who had discovered it in Japan, separated it from the *Spiræas*, and called it *Aruncus astilboides*, Maxim. But the *Aruncus* are also *Spiræas*, and all the characteristics of the plant we allude to refer it to *Astilbe* or *Hoteia*; so, keeping the specific name, now perhaps too widely spread to be changed, it should be named *Astilbe astilboides*. Really this

Desbois, of Ghent, *Spiræa astilboides floribunda*, is described in the *Revue de l'Horticulture Belge* for 1891 (p. 145). One day M. F. Wiot, of the firm Jacob Makoy et Cie., of Liège, showed M. Desbois a rapid method of multiplying *A. (Spiræa) astilboides*, from seed. "I sowed them in the month of May," said M. Desbois, "I often remarked that the foliage of these seedlings was dark green, almost resembling that of *Spiræa japonica*, instead of exhibiting the metallic-brown tint of the type. . . . The following spring I was struck by the distinctive characteristics of my seedlings and of the type; I still more admired the fine thyrsoidal trusses of flowers much more close and numerous in my seedlings. I deemed myself authorized henceforth to consider my acquisition as a new species."

* A name more in accordance with facts and logic would be *Astilbe aruncoides*; only the authority of a botanist is lacking to cause this to be admitted. E. L.

M. Debois thought that his plants corresponded to a specific type of *A. (Spirea) astilboides*, while the plant originally introduced under this name was an inferior variety of the same type. We think that, on the contrary, his plant was a natural hybrid between *A. japonica* and *A. (S.) astilboides*, probably cultivated at a little space apart one from the other in his garden, and easily crossed by the insects of all kinds which never cease to visit these flowers. We believe this for two reasons: the first is that *A. (S.) astilboides*, from seedling plants sold by the firm Jacob Makoy et Cie., were exactly similar to the type; the second reason is, that we have artificially crossed *Astilbe japonica* with *A. (S.) astilboides floribunda*, and have obtained all sorts of intermediate forms, many of them very fine, and superior to both parents. The accidental hybridisation just mentioned is therefore possible. As these varieties have not been sufficiently studied, and as they are not yet re-named, we will refrain for the present from speaking of them. We will, on the contrary, say a few words about another hybrid, *Astilbe* × *Lemoinei*, the production of which tends to confirm the theory advanced above, namely that *Astilbe Thunbergii*, *Hoteia japonica*, and *Spirea astilboides* are but species of the same genus and should be classed as *Astilbe*.* We owe this novelty to a cross effected between *A. Thunbergii* and *A. (S.) astilboides floribunda*. Here is the description:—foliage very elegant, rising to 19 inches in height; long ramified petioles; large folioles broadly oval, dentate, pinnated, furnished with very bright green hairs and with a satiny look. Immediately above rise broad ramified panicles borne on firm peduncles, and forming plummy inflorescences 19 inches high; the flowers have five white petals, ten rosy stamens, and two carpels, and are extremely numerous, and the general appearance is of white, slightly rosy. Placed alongside of *A. (S.) astilboides floribunda*, as shown in the photograph, the new plant is seen to be twice as high, the time of its flowering is intermediate between the times of its two parents; it blooms in the course of July, some days before *A. Thunbergii*, one of the latest of the genus. Lastly, *Astilbe Lemoinei* is absolutely hardy, and as well adapted for forcing, as is *A. japonica*, which it excels from every point of view. *Emile Lemoine*.

ORCHID NOTES AND GLEANINGS.

CATLEYA WARSCEWICZII, COUNTESS OF DERBY.

THIS unique form of what is popularly known as a white *C. gigas* is now in flower at Stand Hall. The plant, which was certificated last year, has been divided, and both pieces are now in flower—one with three flowers, the other with two. That which strikes the orchidist most is the distinctness of the colours of the flower; the segments are white as snow, and the lip is velvety-crimson, with the upper portion having two orange-coloured eyes shaded white. Then the crimson, which is of the deepest hue, runs up from the lower division of the lip to the base of the column. No florist flower could be more distinct in its lines of colour, which do not shade into each other like many species and varieties, but show the divisional lines in a marked degree. The lip, too, although bifid, forms two-thirds of the outline of a circle, and the lobes overlap one another. Truly this is one of the grandest of *Cattleyas*, and it is to be hoped that the numerous importations will give us a few more such. The plants are growing in cylindrical baskets suspended from the roof, and are in the best of health; indeed, all Mr. Statler's *Cattleyas* under Mr. Robert Johnson's care are in exceptionally good health, and yield in their season satisfactory crops of flowers. *J. A.*

* Our trials at fertilising *A. (S.) astilboides floribunda* with *Spirea Arancus* have always been ineffectual; another reason for separating this plant from the *Spireas*, and rejecting the classification of Maximowicz, *E. L.*

MASDEVALLIA LOWII.

THIS still remains one of the rarest, as it is also one of the most striking, of *Masdevallias*. Belonging to the *M. Chimæra* section, its flowers bear little resemblance to any other member of the group at present in cultivation, although it is doubtless closely allied to *M. trinema*. A healthy plant of *M. Lowii*, possessing about a dozen leaves is in bloom in the collection of R. I. Measures, Esq., Cambridge Lodge, Camberwell. The well-displayed flowers have long triangular equal sepals of a greyish-white tint, profusely spotted with red-purple except at the tips, and bearing at the base of each two or three purple lines. The small, almost flat-shaped, dark purple labellum is a very peculiar feature. It was illustrated in the *Gardeners' Chronicle*, Sept. 6, 1890, p. 268.

ORCHIDS AT MESSRS. JAS. VEITCH & SONS.

IN the Royal Exotic Nursery, King's Road, Chelsea, the waning show of *Odontoglossums*, *Masdevallias*, and other cool-house Orchids, is succeeded by the occupants of the warmer houses, the *Cypripediums*, which are more or less represented here every day in the year, making an exceptionally good display, and the house in which they are arranged is gay with their varied blooms. Among the prettiest are *C. × "H. Ballantine"* (*Fairieanum × purpuratum*), a charming and neat hybrid, as are all the other hybrids of *Fairieanum*; *C. × tessellatum porphyreum* (*concolor × varbatum*), an old but handsome and still rare variety; and *C. × Clinkaberryanum* (*philippinense Roebelinii × Curtisii*), a noble flower which was illustrated in the *Gard. Chron.*, 1893, July 22, p. 86. Among others also we noted *C. × Morgania*, still a leader in its section; *C. × Chas. Canham*, a noble flower; *C. × ænanthum*, and its variety *asperum*, in many varieties; and the forms of *C. × Ashburtonia*, equally numerous; *C. × orphanum*, *C. × Carnusianum*, *C. × Youngianum*, *C. × conchiferum*, *C. × Io grande*, *C. × polystigmaticum*, *C. tonsum*, *C. Chamberlainianum*, *C. Curtisii*, *C. × cardinale*, *C. × leucorhodum*, and others of the *Sedeni* class; and staged with them was a grand form of *Vanda Sanderiana* and other rare species.

IN another house, with *Coelogyne Massangeana* and other species in flower suspended overhead, was a well-flowered batch of the pretty white *Dendrobium Desei*, *D. formosum giganteum*; the glowing rosy-crimson *D. glomeratum*, with a profusion of flowers; *D. Palearctica Schroderiana*, in good examples and great variety; *D. bigibbum*, *D. superbiens*, a small batch of the handsome *D. McCarthia*, some pretty plants of *Saccolabium caeleste*, *Phalæopsis violacea Schroderii*, *Angraecum citratum*, &c. In small groups arranged along the staging was a very effective and showy display of the soft scarlet *Habenaria rhodocheila*; the handsome vermilion *H. militaris*; the flesh-coloured *H. carnea*, which has also prettily-marked leaves; and of *H. c. nivosa*, its pure white form, which has plain green leaves. Also a plant of the pretty *Nephelephyllum pulchrum*, with bronzy leaves and curiously-formed flowers; and other species of botanical interest.

IN the Rockery-house, where a show of Orchids is always maintained, the most striking plants in flower were fine specimens of *Vanda tricolor* and *V. suavis*, the soft cinnabar-scarlet tinted *Epidendrum cinnabarinum*; *Grammatophyllum Ferzianum*, *Sobralia Lucasiana*, *Oncidium microchilum*, and other species of *Oncidium*; *Miltonia Clowesii* and *M. spectabilis radians*, *Paphinia rugosa*, *Odontoglossum grande*, *O. Bictonense* and *O. B. album*, *M. Roezlii*, and some fine coloured specimens of the large-flowered type of *Miltonia vexillaria*.

IN the *Cattleya*-house, the forms of *Cattleya Eldorado* and *C. Loddigesii* are the principal plants in bloom; and the *Nepenthes*-house and the ornamental intermediate-house rockery are very beautiful, a group of the different forms of greenhouse *Rhododendron* well displaying their scarlet-orange, yellow, pink, and white flowers.

COCHLIODA.

THIS small genus is closely allied to *Odontoglossum* and the old *Mesospidium*, which is now

merged with it. The plants belonging to it are evergreen, and require cool treatment; and they are natives of the Peruvian Andes. *Cochlioda Noezliana* is a very handsome and distinct novelty, which was introduced in 1891 by Messrs. Linden of Brussels, through Mr. John Noezli, after whom it is named. It is a most welcome addition to our cool Orchids, being distinct in colour; moreover, the rich orange-scarlet tint of its flowers is one that is very little represented in the Orchid family. In habit of growth it closely resembles *C. vulcanica*, having ovate-oblong, compressed pseudo-bulbs, and long, narrow leaves. The scapes are produced from the base of the completed bulb, and are pendulous, many-flowered, in some instances branched. The flowers are about 1 inch in diameter, and of a soft brilliant orange-scarlet; the lip is trifid, of the same colour as the sepals and petals, with a golden-yellow disc. The column is bright violet-purple, which produces a striking contrast with the scarlet of the remainder of the flower. The flowering period is May and June, and for this reason it should be found valuable as a summer exhibition Orchid. The flower is very enduring, and we have been able to use the same plant at several exhibitions. We have found it succeed best grown in baskets, in a compost of peat and sphagnum-moss, with good drainage. During the growing season it should receive a liberal supply of water. Propagation is effected by dividing the pseudo-bulbs. *Orchid Album*, vol. xi., part 128.

ONCIDIUM ORNITHORINCHUM ALBIFLORUM

THIS was first flowered by the late John Day, Esq., of Tottenham, a most enthusiastic Orchid grower, and whose collection was one of the largest and most complete ever brought together in this country, but unfortunately was dispersed some years ago on the death of its owner. This variety is in the habit of its growth similar to the type, and is quite as floriferous as the species, its beautiful white flowers being produced, in some cases, several together from the base of the leaves, and are pure white, saving the yellow calli at the base of the lip. It is a very useful subject for cutting purposes, and on that account should be eagerly sought after by collectors. It should be grown in a compost of peat and sphagnum-moss in a basket, and placed in the *Cattleya*-house at the shady end, a liberal supply of moisture being required during the growing season, and afterwards only just sufficient water should be given to keep the pseudo-bulbs from shrivelling. This plant may also be grown in the cool-house, but we prefer the *Cattleya*-house, having found that it does better there. It is propagated by division of the pseudo-bulbs. The flowers are produced during the summer months, and last a considerable time in perfection. *Orchid Album*, vol. xi., part 128.

M. VUYLESTEKE'S ORCHIDS.

AMONG these I noted *Miltonia Empress Augusta Victoria*, of unusual habit, bearing a flower of over 4 inches (10½ cen.) in height, by 3½ inches (9 cen.) across; the two lateral sepals are each 4 inches long; the lip measures 3 inches wide by 2½ inches in height. The colouring of this flower is admirable, peculiarly dark rose; the divisions are more pointed than those of the type. I would mention also a plant of *Cattleya gigas*, the very large flowers of which had spreading divisions of an exceedingly delicate colour; the handsome dark lip is about 4 inches long by 3 inches wide. The seedling *Odontoglossum* before noticed continues to thrive. I admired a fine form of *Cypripedium Charles Canham*, good flowers of *C. De Bosscherianum*, *Loochriensiensis*, and other varieties. *Ch. De Bosschere*.

TREES AND SHRUBS.

CUPRESSUS (RETINOSPORA) SQUARROSA.

A FINE plant of this Conifer, seen at Linton Park, near Maidstone, and others a trifle smaller, in Yorkshire, a few days since, remind one of its great beauty and distinct silvery appearance, and prove

that it is quite hardy enough to endure our English climate, even when the thermometer falls below zero. Like most of the genus, it is rather slow in growth, but this is an advantage in some instances, as many of the Pines and faster-growing trees become naked and unsightly after forty years' growth, an appearance which the plant under notice is not likely to have in the same period. *W. H. Divers, Belvoir Castle Gardens, Grantham.*

THE ORANGE, OR GOLDEN-BERRIED MOUNTAIN ASH.

I was very much struck a few weeks since on seeing an avenue of this tree above 100 yards in length. I do not remember having observed it planted in quantity before; indeed, it is a tree rarely to be met with. This variety of *Pyrus aucuparia* should be planted about the gardens and pleasure-grounds as a companion to the red-berryed variety, which is also to be seen in fine berry this season. I was informed by Mr. Goodman, the owner of this avenue, that the birds never touch the berries of this variety until long after they have eaten all the red berries, which is a point in its favour. The specimens sent have been gathered three weeks. *Edw. Bennett, Lyne, Chertsey.* [The bunches of fruit sent by our correspondent were of a beautiful orange tint, and profusely set with berries, showing how favourable the weather had been when the trees blossomed. Ed.]

THE SYLLABUS OF THE SUMMER SCHOOL OF HORTICULTURE AT CHELMSFORD.

The course of elementary instruction in Horticulture was given at Chelmsford during the first three weeks in July. Owing to the size of the class and the nature of the instruction, all the work (with the exception of the three chemical lectures) was carried on in a shed roughly fitted up as an extemporised botanical laboratory—the continuous fine weather making the necessity pleasurable.

As a rule, the scientific part of the instruction was given in the morning, and the more purely horticultural lectures and demonstrations during the afternoon of each day. Visits to nurseries, gardens and seed farms in and around Chelmsford, formed an interesting feature of the programme. The following places were visited:—

1. Private garden of the Mayor of Chelmsford.
2. Trial plots of Mr. Cullen, seed grower, Witham.
3. Seed farm and orchard of Mr. Seabrook, Springfield.
4. Town farm (for the disposal of sewage), Chelmsford.
5. Fruit and general nurseries of Mr. Saltmarsh, Moulsham, Chelmsford (Two visits).
6. Melon and Tomato houses of Mr. Miller, Chelmsford. At all these places the class was received with the utmost kindness and liberality. The students in each case were taken round either by the principal or his manager, and full, interesting and instructive information was given throughout.

At the end of the course an examination was given by Mr. John Fraser and Mr. David Houston.

The following was the course of practical instruction given by Mr. John Fraser:—

DEMONSTRATION I.

THE SOIL AND ITS PREPARATION.

I. Preparation of land for the growth of crops, and practice in the use of implements.

- (a) Garden ground should be trenched every second or third year; part of this should be accomplished every year.
- (b) Take out a trench 2 ft. wide and 18 inches to 2 ft. deep.
- (c) Wheel the soil, as it is taken out, to the far end of the quarter to be trenched.
- (d) Cut the two sides of the trench perpendicularly as the work proceeds, so that no hard ridges may be left to retain water as in a trough in winter.
- (e) Fork or pick up the bottom of the trench so that the sub-soil may be loose and allow superfluous moisture to drain away.
- (f) If the ground is intended for deep-rooting Carrots or Parsnips, put a layer of farm-yard manure in the bottom of the trench.
- (g) For other crops, especially shallow-rooting ones, more manure should be placed in a layer about 9 to 12 inches from the surface.
- (h) Dig the soil of the second trench into the first, and repeat the operation till all the trenches are turned over.
- (i) Fill the last trench with the soil taken from the first.

2. Rolling.

- (a) Roll the garden walks to make them smooth and firm.
- (b) In dry weather it will be necessary to water the walks thoroughly about an hour previously to rolling them, to render them soft, otherwise rolling will have no effect.
- (c) Roll the grass lawns to render them firm and smooth, and to destroy worm casts.

3. Practice in the use of the rake, and preparation of seed beds.

- (a) Level a piece of ground, breaking the clods and raking off the stones with as little soil as possible.
 - (b) Make the surface smooth and ready for seed sowing.
 - (c) Rake off the weeds from ground that has just been hoed, clearing them thoroughly of soil.
 - (d) Wheel the weeds to the rubbish heap, and the stones to another.
- 4. Practice in the use of the Dutch hoe.**
- (a) Push the hoe through the soil about ½ in. to 1 in. below the surface, so as to cut the roots of all weeds.
 - (b) In doing so, be careful not to cut or injure the cultivated plants.
 - (c) Hoeing is also intended to loosen the surface of the soil amongst all growing crops, especially in dry weather; every part should therefore be equally loosened.

**DEMONSTRATION II.
MANURES AND THEIR USE.**

1. Farmyard manure.

- (a) Preparations for the fermentation of fresh farmyard manure.
- (b) With a steel fork, shake up the manure loosely, piling it up into a conical heap.
- (c) Let it lay for four to six days, according to the rate at which it heats.
- (d) Should it be very dry, give it a watering with a rosed watering-pot as the work proceeds. This will assist it to ferment regularly and equally, and prevent violent heating and loss of nitrogen in the form of carbonate of ammonia.
- (e) After four to six days, when the heap has partly subsided, shake it up in a fresh heap, with the raked manure in the centre.
- (f) After a few more days it will be fit for the making of hot beds and Mushroom-beds.

2. Sampling different kinds of artificial manures.

- (a) Note the colour and general character of guano.
- (b) If it smells unusually strong, it is losing nitrogen in the form of ammonia.
- (c) It should always be kept as dry as possible, to prevent loss until about to be used.
- (d) Note general character of sulphate of ammonium.
- (e) If in its crystallised form, it is a highly-concentrated manure containing about 20 per cent. of nitrogen.
- (f) Nitrate of sodium is also in the form of crystals, and contains about 15 per cent. of nitrogen.
- (g) Compare coarse and finely-crushed bones and bone-meal.
- (h) Examine the ground phosphates; ascertain and remember the difference between them and superphosphate.
- (i) Superphosphate has been prepared by treating the original substances with sulphuric acid.
- (j) Coprolites are largely used for the making of it.
- (k) The best superphosphates are made from phosphatic guanos.
- (l) Note the general character of potassium salt, known as kainit, and compare with nitrate of sodium, &c.

3. Preparation of liquid manures.

- (a) Get some pure cow-dung, put it into a tank, and fill up with water.
- (b) Let it stand for a day or two, cover with a guano bag to prevent the manure from rising, while drawing off the liquid for use.
- (c) Dilute it with water according to its strength, until of a pale brown colour and relatively weak.
- (d) Water pot-plants with it every second or third day, and with clear water on alternate days, if necessary.
- (e) Place a bag of soot in a tank of water, and after 24 hours the clear liquid may be used as a stimulant. Soot contains a small quantity of ammonia.
- (f) Another liquid manure may be made by putting a haudful of guano into 4 to 6 gallons of water.
- (g) Use it weak rather than strong, and alternately with the liquid from cow-manure.

DEMONSTRATION III.

PRELIMINARY CULTURAL OPERATIONS.

1. Seed-sowing—vegetables.

- (a) Prepare a compost of two parts of loam, one part leaf mould, and half a part of sand; mix the whole thoroughly.
- (b) Get some seed-pans and drain them carefully; cover the drainage with the rough siftings of the compost.
- (c) Fill the pans with the compost; press it down evenly and firmly, finally making the surface perfectly smooth and level.
- (d) If the soil is relatively dry, give a good watering through a fine rose, and allow the superfluous moisture to drain away.
- (e) Sow seeds of Lettuce or Onions, evenly and rather thinly all over the surface.
- (f) Cover the seeds with a shallow layer (½-inch) of a finer and more sandy portion of the compost.
- (g) Give a light sprinkling of water to settle the compost.
- (h) Stand the seed-pans in a greenhouse, and keep a daily record of the temperature and the date of the first appearance of the seedlings.

2. Transplanting seedlings.

- (a) Transplant the seedlings about 1½ to 2 inches apart each way into other seed-pans or boxes before they get crowded. Carefully lift with all the roots intact.
- (b) The distance between the seedlings may vary according to the natural vigour and size of the kind, and the time they are to remain in the boxes.
- (c) Return the boxes to the greenhouse pit or frame, and place on a shelf or bench near the glass to prevent the seedlings from getting drawn.

3. Planting trees or bushes.

- (a) Lift evergreens with a ball of soil proportionate to the size of the plants.
- (b) Previous to lifting, take out holes of sufficient depth and width to take all the roots when spread out.
- (c) Deciduous trees and shrubs, when lifted in autumn and winter, need not have soil attached, unless of large size.
- (d) Cover the roots (1) with the finer soil, (2) with rougher material; (3) tread firmly when the holes are about half full; (4) give a good watering, and leave them till the water drains away.
- (e) Finally fill up the holes and tread firmly.
- (f) Stake the trees, &c., if necessary, to guard against wind.

4. Mixing composts.

- (a) Make up a compost of three parts fibrous loam, half a part each of leaf-mould and well-decayed cow-manure with a good sprinkling of sand. This will suit *Pelargonium* and other plants of similar character. Break up the loam roughly by hand, and do not sift any portion of it.
- (b) For *Fuchsias*, more sand should be used. The compost in this case should be light and rich.
- (c) Make up a compost of equal portions of loam and peat, with half a part of sand. This would answer for many Ferns.

5. Potting.

- (a) Drain the pots well according to size, covering the drainage with Moss.
- (b) Put a little soil in the bottom of the pots.
- (c) Turn out your plant, remove the crocks and the looser portions of the old soil.
- (d) Pot firmly, and afterwards give a watering with a rosed watering-pot.

6. Staking.

- (a) Stake various plants neatly and effectively, using stakes proportioned to the size of the same.

DEMONSTRATION IV.

VEGETABLE CULTURE.

I. Making sets of Potatoes.

- (a) It is not advisable to cut "round Potatoes" when only 1 in. to 1½ in. in diameter, nor "kidneys" unless more than 2 in. long.
- (b) The eyes at the apex of the Potato are always the strongest, and one of them should be secured in as many cases as possible for each set.
- (c) For the sets obtained from the basal end of the Potato, select the strongest eyes.
- (d) Cut the kidneys longitudinally, so as to get a good-size 1 piece of the tuber for each eye.
- (e) Never cut too close beneath the eye of any set, lest the bud should be deprived of proper nourishment.
- (f) Relatively large sets are better than small ones.

2. Preparing a seed-bed for Onions.

- (a) With a fork, level the surface of the ground, if it has been laid up in ridges for the winter.
- (b) Give a top-dressing of pigeon's or fowl's dung and soot, forking it lightly into the surface.
- (c) Tread the soil all over, firmly and evenly, with the feet, or roll it to effect the same purpose.
- (d) Mark off the ground at each end with pegs 12 in. apart.
- (e) Stretch a line from peg to peg along the ground and with the draw-hoe take out trenches half-an-inch in depth, and along the side of the line which is used as a guide.
- (f) After all the trenches have been taken out, sow the Onion seed, thinly and evenly.
- (g) With the back of the rake, fill in the trenches, beating down the soil lightly with the same.
- (h) Rake the ground smooth along the lines (not across them), so that no clods or stones may obstruct the germination of the seeds.

3. Sowing Peas.

- (a) Ascertain the height of the Peas to be sown, and if it be 3 ft., mark off the ground in lines at least 2½ ft. apart.
- (b) Stretch a line from peg to peg along the ground, and with a draw-hoe take out trenches 3 in. deep.
- (c) Sow the Peas evenly and moderately thickly along the trenches.
- (d) With the rake, fill in the trenches till the soil forms a slight ridge above the Peas. Leave the soil rough, as raking is unnecessary with this crop.

4. Sowing Beans.

- (a) Peg off the ground in lines 2 ft. to 3 ft. apart, according to the height of the Beans to be sown.
- (b) Take out trenches 3 in. deep, and the full width of the hoe.
- (c) Sow or plant the Beans in a double row, placing the seeds 6 in. apart in the lines, and alternately with those of the companion line.

DEMONSTRATION V.
PROPAGATION OF PLANTS.

1. Making cuttings.

- (a) Make cuttings of Gooseberries of young shoots of medium strength and 12 in. to 14 in. long. If longer than this, reduce them by cutting off a part of the apex.
- (b) Carefully cut away or remove all the buds except four at the upper end. This will prevent suckers, and secure a clean stem.
- (c) Prepare cuttings of Red and White Currants precisely in the same way.
- (d) Make cuttings of Black Currants about 12 in. in length. Note of the buds should be removed, as suckers in this case are desirable.
- (e) Plant the cuttings in trenches, covering them to a depth of 5 in., and tread the soil firmly against them.
- (f) Make cuttings of Carnations and Pinks, each 2 in. to 3 in. long.
- (g) Cut them horizontally, immediately beneath a joint, with a sharp knife.
- (h) Remove the lower pair or two of leaves, and slightly shorten the rest if they are very long.
- (i) Treat Pelargoniums in the same way; they may, however, vary from 2 in. to 5 in. in length.
- (j) Remove Rose cuttings with a small heel of the old wood.
- (k) For planting outside, they should be 9 in. to 10 in. long. Remove the lower leaves, but not any of the buds.
- (l) Insert them in trenches 4 in. apart, and in lines 12 in. asunder, to leave room for hoeing.
- (m) Cut the base of the cuttings 6 in. below the surface; cover with soil and tread firmly.
- (n) For insertion in pots under glass or in a hothouse, the cuttings need only be 3 in. to 5 in. long.

2. Budding.

- (a) Bud Roses a little below the surface of the soil, in the case of bushes; and as near the main stem as possible, in the case of standards.
- (b) Make a transverse cut through the bark with the budding-knife, and a longitudinal one about 3 in. long.
- (c) Prepare the bud by inserting the knife a little above it, passing downwards and outwards till a piece of wood and bark $\frac{1}{2}$ an inch in length is removed.
- (d) Cut off the leaf retaining the petiole. Carefully remove the wood from the bark, retaining the core of the bud in all cases.
- (e) Lift the bark of the stock with the thin end of the handle of the budding-knife, and slip in the bud beneath the bark so lifted.
- (f) All these operations should be done as quickly as possible, to prevent injury to the cambium layer by exposure to the air.
- (g) Bind up the inserted bud with raffia, covering all except the bud.

3. Grafting.

- (a) Graft Apple, Pear, and other fruit trees about 3 in. above the soil, except in special cases where it is convenient or necessary to work the trees at a higher level.
- (b) For splice-grafting, cut both stock and scion in a slanting or oblique direction, so that the latter will exactly cover the cut surface of the former. The object is to make the cambium layer of both to coincide.
- (c) In the case of tongue-grafting, make a notch or a deeper slit in the stock, with a tongue in the scion to correspond to the same.
- (d) When perfectly fitted, insert the tongue in the notch, and bind stock and scion firmly together with a piece of raffia.
- (e) Where triangular notch-grafting is intended, take out a triangular groove in the stock, narrowing the notch to a point at the lower end.
- (f) Cut the scion so that it will accurately fit the groove in the stock.
- (g) Insert it, and tie up firmly with raffia.
- (h) Cover the grafts with grafting clay, and that again with moss to keep out drought.

4. Layering Carnations and Shrubs.

- (a) Make up a compost of sandy soil and leaf mould, and spread some of it around the Carnations to be layered.
- (b) Remove the lower leaves of the shoots to be layered.
- (c) Pass the blade of the knife inwards at a node, and upwards for half-an-inch or thereby, being careful not to sever the shoot from the parent plant.
- (d) Peg down the shoots, keeping the tongue or cut open.
- (e) Cover the layered portions of the shoots with the compost, and give a good watering with the rosed watering-pot to settle the soil. Repeat the watering in dry weather until the layers are rooted.

5. Division of herbaceous plants.

- (a) Take a clump of Iris and clear away the soil from it.
- (b) With a knife, remove every crown of leaves with a portion of roots to the same.
- (c) Every portion, thus carefully removed, will form a plant.
- (d) Hundreds of other herbaceous plants may be treated in the same way, with the smallest possible loss or waste of material.
- (e) Never use a spade in the division of herbaceous plants of any kind, but particularly valuable and slow-growing sorts, as it occasions much loss.

I T A L Y.

(Continued from page 325.)

FLOWER-CARPETS.—In Torre-del-Greco is celebrated every year during the month of June a religious festivity called the "Quattro Altari" (Four Altars), when, amongst its principal attractions are to be seen the so-called tappeti di fiori, or flower carpets. On the floor of the churches occupying a space which measures 45 by 40 feet, these carpets are formed. This year there were five of them, representing, "Tobias's Departure," "Thomas of Aquino," who compiled the Liturgy of the Sacrament; "Jesus rescuing Peter on the Waters," "Naomi and her step-daughter."

For the formation of these really artistic carpets, which formed the admiration of all who saw them for the first time, the material employed is cut flowers or their petals, coloured sand, and saw-dust. Could not such "carpets" be introduced by fashion in garden parties, or any such worldly amusements, using secular subjects? We think that they would be a great success. [We hope not. En.]

At the Naples flower-show a similar carpet has been greatly admired. It was of rich design, and contained in the centre the royal arms. It was composed with the produce of the vegetal realm, and the flowers mostly employed were Dahlias, Pinks, Asters, Delphiniums, fruits of Ailanthus, and dust of burnt Vine and dried Chestnut leaves. The green of its border consisted of leaves either entire or minutely cut. The gardener, di Cristi, who had created this carpet was highly complimented.

CANNAS.

About the middle of the long aisle, the numerous visitors stopped admiringly before the gorgeous show of Cannas presented by Messrs. Dammann & Co. of San Giovanni-a-Teduccio. No words can express the beauty of the new varieties. How far behind are left the poor Cannas with small flowers and stiff petals compared with these Cannas both as regards their vigorous growth and the size of their flowers! The label indicated "new varieties of Orchid-flowering Cannas," and, in fact, the large flower outrivals and sometimes surpasses the largest tropical Orchids.

The strong and compact spikes of the variety Austria are covered with enormous flowers, attaining a diameter of 6 inches and more; the yellow-spotted throat of which, and pale-red petals bordered with yellow, present, against the mass of foliage, a most striking sight.

The Canna Italia is a grand plant exceeding 6 feet in height, with Musa-like leaves and enormous spikes of brilliant red flowers bordered with yellow. These are two of the most splendid varieties, which for their beauty, leave varieties like Madame Crozy and others far behind; and yet in future, there will be still more splendid varieties such as Alle-mannior, La France, and others.

The jury interpreting the general admiration, and considering that nothing of the kind had been exhibited before, awarded Messrs. Dammann & Co. the Diploma of Honour. Dr. G. Mottarella, Portici, August, 1895.

of the selenipedium section, may with advantage be repotted or top-dressed as each case may require. Among varieties now in bloom mention may be made of C. Maynardi \times , C. picturatum \times , C. orphanum \times , C. Harrisianum superbum \times , C. Morgania \times , C. Ashburtonia \times , C. Crozianum \times , C. purpuratum, C. ceanthum \times , and its variety superbum. As these plants commence to grow very soon after the flowers fade, no delay should occur after the flowers are past in repotting or surface-dressing them. It is now a good season to take and prick out young seedlings into very small pots, or to give more root-room to those that were taken off last spring; if the work be done at once, they will become well established before winter. When repotting Cypripediums, it is not necessary to raise them above the rim of the pot, therefore keep the compost just below it so as to render watering easy. The pots used should be well drained, and the compost may consist of rough fibry peat and clean picked sphagnum in about equal parts, adding some broken pieces of brick or crocks to keep the soil free and porous. When well rooted these plants may be almost deluged with water the whole year round, but they must be carefully protected from strong sunshine at all times.

CATLEYA-HOUSE.—In the Cattleya-house, Cattleya Bowringiana, C. Alexandrae, and the autumn-flowering varieties of C. labiata, are showing their bloom-spikes, and will require sufficient water to keep the roots moist, but not wet, until the flowers open, when it must be gradually discontinued. Although the weather during the past summer has been exceptionally hot, there are still some plants of Lælia purpurata, L. tenebrosa, Cattleya crispata, and C. lobata, with growths only a few inches high, and fortunately they appear very much stronger than those which started earlier. As these growths will soon commence to make new roots, the plants should be examined to find out if they require more root-space. In every case the roots should have sufficient space to grow inside the pot, therefore when re-potting, allow room for two seasons' growth. During the growing period the plants should be placed in the lightest position in the Cattleya-house, and water very carefully afforded as recommended in former *Calendars* for others of the same genus. Some of the spring-flowering Cattleyas, as C. Trianae and C. Mendeli, have completed their growth, also C. gigas, C. Eldorado, C. Hardyana, C. Macraissa, C. Dowiana, and its beautiful variety aurea, these will consequently require less water at the root, and all the sunlight possible, so that the newly-formed bulbs may become properly matured. The present is a critical time with many Cattleyas and Lælias, and the grower should look over them every day, especially when the weather is dull and damp. He will probably notice that the outer sheath which encircles the pseudo-bulb, especially at its base, will be soft and sappy, clinging so tightly to the bulb as to prevent the ingress of air, which is frequently a cause of decay. Should this occur, slit open the sheath from top to bottom, and keep the plants dry at the root for a few days, and at the same time reduce the amount of atmospheric moisture. When on opening the sheath it is found that the bulb has already commenced to turn black, the affected part should immediately be cut off, or the plant may die altogether. To prevent such decay occurring, careful ventilation, with plenty of sunshine, is necessary.

FRUITS UNDER GLASS.

By RICHARD PARKER, Gardener, Goodwood, Chichester.

PINES.—Suckers which were put into 6-inch pots last month, and plunged in a bottom-heat of 80°, should now have a nice lot of roots. Do not pot these on at this season, as growth made during the winter months is always weak. Keep the young stock as quiet as possible until the spring, when, with lengthening days, growth will be both strong and rapid; only sufficient water should be afforded to keep the bulb fairly moist. The plunging material should be kept well up to the rim of the pots, and quite firm. It is not wise to shift the plants oftener than is really necessary, as there is danger of a check occurring, which may cause the plants to produce fruit prematurely. If the plants can be given a steady bottom-heat of 65° to 70°, and plenty of light, it would be as well not to disturb them until the spring. Shading of all kinds should be dispensed with at once, if this is not already done. Take advantage of bright sunshine to remove and

THE WEEK'S WORK.

THE ORCHID HOUSES.

By W. H. WHITE, Orchid Grower, Burford, Dorset.

CYPRIPIDIUMS.—The present is a good time to look over the Cypripediums which occupy the warmest division, and report those that require it. Such plants as C. Stonei, C. Lowi, C. Lawrenceana, C. selligerum \times , C. Rothschildianum, C. Curtisi, C. Swani-anum, C. Sandermanum \times , C. barbatum, C. super-ciliare \times , C. Hookerae, &c., that bloomed during spring and early summer, will by this time have made considerable growth, and unless any of them are suffering for want of root-room, it will be advisable to let them remain undisturbed until the flowering period is over, but such as have bloomed late, as C. Io grande \times , C. Measuresianum \times , C. Chamberlainianum, C. radiosum \times , C. Pollettianum \times , C. Parishi, C. T. B. Haywood, and those

well wash the roof-lights, so that as much light as possible may reach the plants. Continue to ventilate daily so long as the weather is mild and bright, and the floors may be damped several times during the day. A night temperature from 65° to 68° will be sufficient, and 75° by day with sun-heat. Queens intended to fruit next spring will have filled their pots with roots, and should be prepared for a season's rest, by gradually reducing the temperature of the house, and affording less water at the roots. If the plants are not carefully prepared in this way, they will fail to throw up good fruits when required. See that the plunging material is made firm, and kept well up to the rim of the pots, as this tends to keep the soil moist and save watering. Ventilation and temperature should be the same for these as advised for the young stock. Such varieties as smooth Cayennes and C. Rothschild which are swelling fruit, must be given plenty of heat and moisture. Utilise sun-heat as much as possible, and ventilate but little. Continue to feed the plants with guano, or other stimulant. If the suckers on these plants have become large, they may be taken off at once, potted into 6-inch pots, and plunged in a brick bottom heat; but should they be small, it would be better to reduce the foliage on the old plant, and allow them to grow on until spring.

CUCUMBERS have improved wonderfully since they were planted at the beginning of the month. All fruit and male flowers should be kept pinched off, until the fruit is really required. Surface-dress the border slightly at least once a week, as this keeps the roots from going down into the dung. Stopping and tying of the shoots must receive daily attention. Syringing should now be done on bright mornings, about 9 A.M., and again about 2.30 P.M. Ventilate cautiously, as the least draught may give a serious check. The night temperature must not fall below 70°, or mildew may appear. Keep a sharp look out for green-fly or thrip, and check either at once by fumigating. If the floors and bare spaces are damped down at night with manure-water, it will assist in keeping the foliage free from these pests.

THE FLOWER GARDEN.

By BAILEY WADDS, Gardener, Birdsall Gardens, York.

BEDDING PLANTS.—Preparations should now be made for housing plants which require to be protected during winter. October frosts frequently occur very suddenly, and many varieties of bedding-plants are then unsafe out of doors. Pelargoniums will sustain a few degrees without injury, but Lobelia of the Erinus section, Iresines, Coleus, Alternantheras, and some varieties of Pelargoniums, should be lifted and boxed or potted at once, and placed for a time in close-shaded pits or frames until they have commenced to make roots. Pelargoniums as a rule are now in a better condition for blooming than they have been all through the summer, and may be kept tidy as long as possible, but arrangements should be made to bring them in at short notice. Tuberos Begonias now in good bloom may be lifted, and placed under glass if desired; or they may be left in the beds for some time yet, providing the weather continues dry and fine. Dahlias usually keep well in the ground until November; if they are blackened by the frost before that time, the tops should be cut off 6 inches above the ground. Dahlia Rising Sun is a splendid autumn bedder, and is now a blaze of colour. We have it round a border of Chrysanthemum Madame C. Desgrangs, which is now a mass of bloom. Autumn-flowering Chrysanthemums, Dahlias, and Helianthus, and are blooming profusely. Bedding Dahlias Cloth of Gold and Crimson Queen are excellent for autumn show. Crimson Queen is about the colour of H. Jacoby. Dahlia Rising Sun is the colour of John Gibbons.

FALLING LEAVES will now give additional work. There is nothing more untidy than accumulations of leaves up to the edgings of flower or shrub-beds. They should be swept up every day.

GRASS LAWNS should be kept closely mown, and well rolled when mowing is not required. Mowing is best done in the afternoon at this season, there being usually very heavy dews in the morning. Grass edgings of walks and drives may be kept tidy by clipping, as long as the grass continues to grow; and any which have become uneven and weedy may be edged with the grass edging-knife, which will give them a smart appearance during the

winter. Asphalting of walks with steep gradients, if not already done, should be completed as soon as possible; and walks and roads that require fresh gravel on them should be attended to. Before adding the gravel, give a good dressing of weed-killer. Roll the walks and roads well, and compensate for lack of flowers by extra neatness.

THE KITCHEN GARDEN.

By JOHN LAMBERT, Gardener, Powis Castle, Welshpool.

CABBAGE.—It will soon be the proper time to plant Cabbages in the quarters. If the plants have been growing in nursery beds, they will be strong and sturdy, possessing numerous roots. In this garden Cabbages usually follow an Onion crop, the ground being cleared of this crop at about the right time. It is not necessary to dig light soils before planting. Plants which come out of nurse-beds, and consequently have compact root-masses, require to be planted with a trowel. I always dig the land in this garden, having first afforded it a light dressing of bone-meal and fresh soot. Lime may be used in the place of soot, but I do not care to apply both at the same time. The ground should be nicely broken up whilst digging it, and if dry when the job is finished, it may be trodden evenly all over, and shallow drills drawn, in which to plant. The drills should be about 1 foot apart, and the plants stand at the same distance, each alternate plant being drawn in the spring for the earliest use, which will leave the remainder at 2 feet apart. This planting should consist of early-hearting varieties, such as Ellam's Early and similar ones. Afford the plants a good watering if the soil is dry. Cabbages carefully planted with a trowel soon make good plants, stand the winter well, and do not bolt readily.

CAULIFLOWER.—The produce of the seed sown last month should now be of a proper size for pricking-out in nurse-beds. Various methods are adopted for keeping Cauliflower plants through the winter, and that of planting in cold frames is, I consider, one of the best. It is well to prick-out Cauliflowers twice, first at about 3 inches apart, when, if they are carefully shaded and matured, they soon begin to grow. The next remove should be into the cold frames or handlights, as the case may be. In frames they should stand at 6 inches or a greater distance apart. The number put under handlights may vary from five in small ones to nine or twelve in larger-sized lights. Keep cloas for a few days, and then expose the plants fully till frosts or heavy rains point to the necessity of putting the lights over them. Air must be admitted at all times when there is no frost. The soil should not be so rich as to favour rank growth. Finely-powdered charcoal, a small quantity of lime, road-grit, leaf-mould, spent Mushroom-bed manure, and burnt earth, are excellent for mixing with the staple. The latest succession do well under hand-glasses. Cauliflower plants may also be pricked out at the foot of south walls, and if the winter is not unusually severe, they will survive. Beds may also be provided for them, bending hoops over these to form a support for a covering of bast-mats. Some cultivators sow seed a little later than the usual date, and keep the plants in pots throughout the winter in a cool well-aired place, planting them out in the spring. Those raised from spring sowings will produce nice heads within a short time of others which were autumn-sown, that many growers have now ceased to trouble themselves with autumn-sown plants; and late Broccoli fairly well bridge over the gap between the season of the two kinds of plants.

THE HARDY FRUIT GARDEN.

By W. POPE, Gardener, Highclere Castle, Newbury.

STRAWBERRIES AUTUMN-FRUITING, ETC.—Look over Strawberry plantations, and cut off all late runners that have started since the beds were cleaned. Late bloom is not uncommon this autumn, owing to the premature ripening of the plants during the exceptionally hot weather of the early summer. Any such late flower should be removed at once, and the surface of the soil well stirred with the hoe before the mulching with short rich manure, which should be done at this season. Newly-planted beds may be similarly treated, and if these were planted in good time from the strongest early runners, kept clean, and have been helped by mulchings, they will produce the earliest and finest fruit. Early-forced plants which have been planted to give a supply of fruit in the autumn must be

effectually protected from birds, and the trusses of fruit should be supported by forked twigs, or other device for keeping the fruit clean and well exposed to the benefit of sun and air. If movable span-roof frames are available, they may with advantage be placed over these plants, and if a free admission of air be given, the fruit will be greatly improved. Whatever protection be afforded, it should be removed as soon as the fruit is gathered; if kept on too long the plants will become weak, and unable to withstand a severe winter.

AUTUMNAL RASPBERRIES.—Autumn-fruiting Raspberries are now ripening, and they require some care to protect them from birds and other enemies. If twine netting be used for protection, select nets with a small mesh, small birds being a troublesome as blackbirds, &c. The usefulness of Raspberries in the autumn is so great that the crop is worth considerable trouble to secure. When new canes are planted, a good open situation should be chosen, and the soil trenched if possible, and liberally enriched with good rotten manure. Planting should be done early, the canes being cut down to a few inches of the ground, and well mulched with rather long strawy manure, which is not so liable to be scratched over by birds as short material. When established, the canes must be cut down annually close to the ground as soon as the fruit is gathered. In the spring, carefully select four or five of the strongest canes to each stool, cutting away all others. Train the reserved canes thinly to wires, and keep sucker growth under by using the hoe frequently. The best and most prolific varieties are October Red, Large Monthly, and October Yellow.

PLANTS UNDER GLASS.

By W. H. SMITH, Gardener, West Dean Park, Chichester.

WINTER VIOLETS.—Frames should now be made ready for planting winter-blooming Violets. I have tried several methods of growing these plants, and by far the best results were obtained by planting in frames in which Melons or Cucumbers had been cultivated. These frames or pits are 4½ feet deep, the walls pigeon-holed all round, the frame itself standing on brick piers. Such a frame is about 30 feet long, and round it a walled trench 2 feet wide extends for holding stable-litter. During severe weather, this is kept filled with fresh stable-manure. By this means frost is kept out, and the soil warmed a little, and the plants are kept growing and flowering. The plants should be brought up close to the glass when planted, and a small quantity of fresh loam and leaf-soil added to that in which the Melons, &c., grew. The soil should be made very firm round about each plant, no loose soil being left about the neck of the plant. A good soaking of water should be afforded the bed on completing the planting, and a heavy syringing twice a day in bright weather. The lights may be left off night and day until signs of frost are noticed, when they may be placed over the plants, but tilted unless the frost is sharp. A number of plants may be planted in cold frames, for although they may not give much bloom through the winter, unless it be very mild, they will flower freely in the spring, and prove very useful as a succession to the earlier ones. A few of the best double varieties for early flowering are Marie Louise, Neapolitan, Lady Hume Campbell, Comte de Brasze, or Swanley White; single are, Victoria (this is by far the best for winter work), Welliana, and The Czar. A good hardy double variety for growing outside is Queen Victoria, which has enormous flowers of very dark blue colour and very fragrant.

MARGUERITES.—Should any of these be planted out, a batch of cuttings for flowering next spring may be taken. The cuttings strike readily in sandy soil in cold frames, if kept close and shaded during bright weather. Plants growing in pots should be afforded liberal supplies of manure-water, and they may now be allowed to flower.

SCENTED-LEAVED PELARGONIUMS.—These plants should be taken indoors before the nights become cold, any light airy house being suitable for them. Place them close to the glass, to prevent their being drawn, and afford plenty of plant-food, so as to keep them green and healthy.

CHRYSANTHEMUM SHOW IN BATTERSEA PARK.

—Information reaches us from the Superintendent of Battersea Park that the Chrysanthemum Show will be open to the public in the Frame Ground in that park, near the Albert Bridge entrance, on and after Oct. 5, between the hours of 10 A.M. and dusk.

APPOINTMENTS FOR THE ENSUING WEEK.

SHOW.

SATURDAY, SEPT. 28 { Last day of Royal Horticultural Society's Exhibition of British-grown Fruit, at the Crystal Palace. Essay on the Commercial Aspects of Fruit Culture, at 3.30.

SALES.

MONDAY, SEPT. 30 { Dutch Bulbs, at Protheroe & Morris' Rooms.

TUESDAY, OCT. 1 { Dutch Bulbs, at Protheroe & Morris' Rooms. Clearance Sale of Nursery Stock, at the Saxe Weimar Nursery, Castle Road, St. Edward's Road, Southsea.

WEDNESDAY, OCT. 2 { Dutch Bulbs, at Protheroe & Morris' Rooms. Great Sale of Lillium Harrisii, at Protheroe & Morris' Rooms.

THURSDAY, OCT. 3 { Dutch Bulbs, at Protheroe & Morris' Rooms.

FRIDAY, OCT. 4 { Dutch Bulbs, at Protheroe & Morris' Rooms. Orchids, at Protheroe & Morris' Rooms.

SATURDAY, OCT. 5 { Dutch Bulbs, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—54°.1.

The Fruit Show at the Crystal Palace.

The second show of British-grown fruits by the Royal Horticultural Society, in conjunction with the Crystal Palace Company, was opened on Thursday last, a circumstance that precludes our giving more than a partial report in this issue. The exhibition, so far as we were able to judge at the time of going to press, is a very successful one. There were 180 exhibitors this year in comparison with 140 last year, and the number of entries in the competitive classes are 1800, as against 1300 in 1894. The quality of the fruits exhibited confirm, as we anticipated, the general opinion that the present season has been a very favourable one for most fruits, and particularly the more important kinds from an economic standpoint. Apples may be regarded as the fruit of the season, and the excellent produce staged by many of the exhibitors is an indication of the quantity and quality of the crop generally. We were not surprised to find that Pears are not so splendidly represented as was the case last year; and Grapes though generally in finer condition, contained nothing of so first-rate quality as the best exhibit of last season. In regard to other fruits and the exhibition generally, it may be said that while in quantity the show is greater than last year, the quality is superior also.

As Sir T. LAWRENCE said in his speech after the luncheon, the present exhibition is another proof, if that were necessary, that we are capable of producing Apples in this country that are equal in quality to any in the world, and it may be hoped that such a demonstration may still further tend to induce farmers who are now working the land to little profit, or perhaps at a loss, to turn their attention to "various branches of a small culture," including that of fruit-growing. In view of this, Sir TREVOR LAWRENCE did well to call attention to the subject of fruit-drying, as in a great measure, the financial success of hardy fruit culture will depend upon the adoption of some satisfactory system of preserving in years of glut, that part of a crop over and above what is immediately required for consumption. Much of the loss experienced by the present growers, may be attributed to the fact that when fruit of

any particular kind is unusually abundant, a large amount is allowed to go to waste, because the market prices for the moment will not pay the cost of harvesting and marketing the fruit. Sir TREVOR LAWRENCE attributed our backwardness in this country in regard to this matter to the circumstance that horticulturists do not readily combine, and in order to inaugurate a satisfactory system of fruit-drying, it was necessary that some kind of combination among fruit-growers should be effected for the purpose. Undoubtedly the difficulty in regard to this matter lies here, but, as Sir TREVOR LAWRENCE added, we hope that gardeners are not so blind to the benefits to be derived from co-operation as to prevent an early application of the principle. There are other points than this, however, to which the grower must give increased attention, in order to compete satisfactorily with imported fruits. We still grow too many varieties for market-work, the harvesting of the fruit is not effected with sufficient care, and the present loose system of packing must give place to more careful methods. There must be regular and systematic grading, and everything done to make the fruit as attractive as possible.

Reverting to the present exhibition, it is a matter for congratulation that the Royal Horticultural Society, has established this annual display of British-grown fruits; and especially so, because in conjunction with the exhibition a series of lectures are given upon the subject that are of very great educational value. Now that a first-class fruit-show has been established by the one society capable of making it and keeping it a success, we hope that no lack of enthusiasm on the part of exhibitor or appreciation by the public will prevent its increased development and usefulness. We must, however, add a word of regret, that we are unable to record a departure from the customary style of displaying the exhibits. We are free to admit that a number of exhibits of Apples in single dishes, or of any other fruit in similar classes, admit of a little variety of arrangement, but granting this, surely the collections of numerous varieties might be arranged in some more artistic manner than obtains? Why could they not be shown in such a manner to visitors that they would appeal to them in the same way as does a bouquet or a picture? This might be easily accomplished without in any way tending to deteriorate the quality of the fruits, or to prevent accurate comparison for the purposes of judging.

THE ROCKERY AT WARNHAM COURT, HORSHAM (see Supplementary Illustration).—There is no better way of exhibiting the beauties of most alpine plants and others of low growth, than to plant them on rockeries. The plants are then placed in positions approximating, however distantly, to those in which they grow in their natural habitats. Their necessities can likewise be met in the matter of sunlight, or the lack of it, rapid drainage of the soil, in securing deep crevices in the dampness of which many species of Orchids succeed without soil of any kind about their roots—merely small nodules of some kind of stone—limestone or other taking its place, resembling, in this respect, the epiphytal species of Orchids, Tillandsias, &c. A rockery admits of the more ready use of a variety of soils, according to the claims of the different species of plants; for soils of granitic, limestone, chalk, sandstone, peaty and loamy nature, than a flat border would render possible; the use of rock, artificial or natural, rendering the separation of the various materials an easy matter. There are rockeries

and rockeries, some erring against every canon of good taste in their construction. In the one which is the subject of our illustration, no ambitious attempts, usually abortive, to create an Alpine landscape on flat land, have been made, but dwarf masses of sandstone, with due regard to stratification in the rocks which appear to protrude from the soil, have been arranged over the area with singularly good effect. The walks that lead through the rockery are sufficient to allow of every plant being examined at close quarters, and the whole merges harmoniously into the surrounding pleasure-grounds. We hope in an early issue to give a list of the plants found on the rockery, as well as other particulars of interest to our readers.

THE MANCHESTER BOTANIC SOCIETY AND ALLOTMENTS.—The following letter from Mr. BRUCE FINDLAY appeared in the *Manchester Guardian* of September 20, 1895:—"Sir, Permit me to bring under the notice of your readers the initiation of a forward movement in relation to this most important subject. Its object may be described as one to assist rural effort in connection with the cultivation of the soil. It is well known that during the last few years a very large number of persons have become tenants of small allotments in the neighbourhood of large towns. On the 5th of last month Mr. GLADSTONE, speaking upon this subject, said: 'There never was a period in the history of this country when rural effort in relation to the soil deserved greater support, and those who render help in this direction are public benefactors.' The Council of this Society propose to hold an annual exhibition in the Old Trafford Gardens, on a very large scale, of the productions grown by the tenants of small holdings, at which prizes will be awarded for fruits, flowers, vegetables, poultry, cheese, butter, &c. Prizes will also be given to the growers of window-plants in our large towns. The counties embraced within the sphere of this effort will be Lancashire, Cheshire, and Derbyshire. We are all familiar with the old saying, that 'the hope of reward sweetens labour;' and there can, I think, be no doubt whatever that this special effort will be the means of stimulating the poorer classes of society in their endeavours to excel in producing flowers, fruits, and vegetables. The Council are of opinion that it is the proper and legitimate work of the Society they represent to introduce and carry out this project. In order hopefully to inaugurate this important scheme in a comprehensive way, an annual outlay of £200 will be necessary. To meet this expenditure a special fund is being established, and it is hoped that £5,000 will be raised for this beneficent purpose. It may be added that a donor of £25 to this fund will become a life member, or be entitled to nominate one. Knowing that the lamented Prince Consort forty years ago took a lively interest in this subject, I took the liberty of bringing the matter under the notice of Her Most Gracious Majesty the QUEEN, and had the honour of receiving the following reply:—'Balmoral, September 2, 1895. Dear Sir,—I am commanded by the QUEEN to enclose a cheque for £25, as a donation towards the purpose referred to in your letter of August 21.—I am, dear Sir, yours faithfully, FLEETWOOD J. EDWARDS.' Since the receipt of this letter, and as the result of several letters I have written to ladies and gentlemen interested in the subject, I am pleased to state that nearly £1,000 has been promised. A general appeal will shortly be made to the inhabitants of the districts concerned, together with the list of the donors, and it is hoped that the result will be commensurate with the importance and beneficence of the undertaking.—BRUCE FINDLAY, Royal Botanic Gardens, Manchester, September 19, 1895."

THE BECHUANA CHIEFS AT READING.—On Wednesday, September 18, KHAMA and the other South African Chiefs at present in England visited the establishment of Messrs. SUTTON & SONS, Seed Merchants, Reading. The visit had been brought about by the Hon. EUSTACE WYKEHAM FIENNES, a



THE ROCKERY IN THE GARDENS OF C. T. LUCAS, ESQ., AT WARNHAM COURT, HORSHAM.

resident at Earley, near that town. The visitors, with Mr. WILLOUGHBY, arrived at Reading about 10 A.M. on Wednesday, and were received at the G.W.R. station by the Hon. EUSTACE FIENNES, Mr. M. H. SUTTON (the venerable founder of the firm), Mr. MARTIN JOHN SUTTON and Mr. A. W. SUTTON, Mrs. A. W. SUTTON, and other members of the family, and were driven to the business premises in the Market Place. Here they signed the visitor's book in the usual form, writing their names very clearly in English characters. The visitors were conducted over the various departments, and they also attended the usual 10.30 religious service in the meeting-room on the premises. After a tour of the Market Place, the party were driven to the various nurseries and trial-grounds of Messrs. SUTTON in the neighbourhood of the town. Afterwards the Chiefs were driven over to Earley, lunching with the Hon. E. W. FIENNES, visiting the Biscuit Factory of Messrs. PALMER, at Reading, before taking their departure.

A BI-GENERIC FERN HYBRID.—With this, writes Mr. DRURY, I enclose a frond, one of several recently sent me by Mr. E. J. LOWE, of a most remarkable hybrid which he has raised between *Scolopendrium vulgare* and *Ceterach officinarum*. In this the joint characters of these two very dissimilar Ferns are seen too clearly to admit of doubt, though it is somewhat singular that while the form of the *Ceterach* frond is so evident in the lower two-thirds, the extremely acaly character of that species is entirely obliterated by the *Scolopendrium* parent. The frond sent is the best I have as regards general characters, but in another the sori near the centre of the frond are more clearly seen to be in opposed pairs, affording a most undoubted proof of *Scolopendrium* influence. This can be detected in two small sori near the apex of specimen sent, and it is, moreover, interesting to note how the pinnatifid character of *Ceterach* gradually merges into the simple frond of *Scolopendrium* which forms the termination. As the venation in both Ferns is dichotomous with free ends, I can detect no particular modification in this respect, except perhaps that in *Ceterach* there is a clearer indication of a midrib in the pinnæ. The fructification where not in pairs is distinctly that of *Asplenium*, with a well-developed indusium; the sporangia perfect themselves, but were all burst when the fronds reached me. I found, however, a few spores, but all appeared irregular in shape and imperfect; it is doubtful, therefore, if the hybrid will be really fertile. Mr. BRITTON in his *European Ferns*, p. 137, figures a presumed hybrid between *S. Hemionitis* (or *S. vulgare*), and *Ceterach officinarum*, but this is by no means so clear a case as the one I now bring before your notice, especially in view of the abundance of curious forms that *Scolopendrium* produces without the aid of a cross at all, and some of which resemble strongly the illustration cited.

CHINESE INSECT WAX.—As an illustration of what a State function will sometimes do, it is officially reported from China that the festivities and illumination in connection with the celebration of the sixtieth birthday of H. M. the Empress Dowager caused an increased demand for insect white wax from *Fraxinus chinensis*, which is used for coating tallow candles, and giving them greater consistency, and the export rose from 9133 cwt. in 1893 to 2,934 cwt. in 1894, the price averaging £225 a ton.

JULES LAVERRIER.—This eminent writer on agricultural subjects died suddenly at Lyons on his way home after finishing his duties as a member of the jury at the Vienne (Isère) Agricultural Exhibition. After leaving the Saussie School of Agriculture, where he had been most successful as a student, he translated into his native language a variety of foreign works relating to agriculture, and LAVERRIER went in 1858 to Mexico as Director of the School of Agriculture, and on his return to France, about thirty years ago, he was appointed Librarian to the Société Nationale d'Agriculture in Paris, a post which he filled for the remainder of his life.

TRAGACANTH AND PERSIAN BERRIES IN ANGORA.—Under the name of "Kutiera," the white Tragacanth-like gums of *Cochlospermum Gossypium*, and some of the species of *Sterculia*, are known in India; and according to a recent consular report from Angora, a similar name, "Kitré," is applied to true tragacanth, furnished by a species of *Astragalus*. It is said to be known in commerce as fine white Syrian tragacanth, and appears in the usual forms as leaf, or flaky, vermicelli, or worm-like and mixed, or "sorts." It has the appearance of twisted ribbons, is white or reddish, due apparently to the state of the weather, sunshiny or cloudy and moist; it is nearly opaque, and slightly ductile, especially when fresh. Its adaptability in lieu of borax for giving a lustre to starched linen is perhaps not generally known. The districts where the shrub is chiefly found are Yozgat, Iekilip, Cesarea, Kaledjik, and Angora. Like the Yellow-berry (*Rhamnus infectorius*), this plant is also neglected, owing to the falling off in the foreign demand, and though abundant in the above-mentioned districts, little or no trouble is taken by the peasants to collect the gum; this is done by men specially sent from other parts. It is found growing wild in the fields, on the roadside, and even in hilly parts. On account of its prickly nature, animals avoid it, but it is frequently gathered by the peasants for fuel. Yellow-berries were formerly an article of export of great value for dyeing purposes. Much labour and expense were at one time bestowed on its culture, but the universal use of chemical dyes has reduced its demand to less than one-fourth, and its value to one-tenth of what it realised twenty-five years ago, so that now the cost of gathering is barely covered. Cesarea is the principal centre where it is grown.

CHESHUNT, WORMLEY AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.—The fortnightly meeting of this society was held at Turnford on Thursday, Sept. 19. There was a good attendance, and Mr. JASON FEARS, the secretary of the Hertford Horticultural Society, read an instructive cultural paper on the Dahlia, concluding with a select list of varieties. A hearty vote of thanks was accorded the author for his excellent paper.

THE SALE OF THE STAMFORD HOUSE ORCHIDS.—The collection of Orchids of H. SHAW, Esq., Stamford House, Ashton-under-Lyne, was sold by ARTINGSTALL & HIND in their Rooms, Manchester, on Sept. 19, and upon the whole realised fair prices. Among the chief were *Cattleya Mendeli Bluntii*, which, after some spirited bidding, realised £98 4s.; *Lælia elegans Turnerii*, £27 6s.; *Cattleya Mossiæ Reineckiana*, £16 16s., and another one, £6 10s.; *Cattleya Mendeli Firthii*, £5 10s.; *Lælia Gouldiana*, £4 10s.; *Cattleya Gaskelliana alba*, £4 4s.; and *Odontoglossum crispum*, Stamford House variety, £12 12s.

THE SALE OF W. R. LEE, ESQ.'S, COLLECTION OF ORCHIDS.—WM. R. LEE, Esq., Audenshaw, near Manchester, entrusted Messrs. PROTHEROE & MORRIS to dispose of the whole of his collection of Orchids, which comprised many rare and well-grown species. It might be as well to give the names of the principal lots over £10 that fell to the hammer of Mr. PROTHEROE, showing what the best species and varieties realised. The white form of *Cattleya speciosissima*, called *Sanderæ*, fetched £78 15s.; *Cattleya aurea Hardyana*, £63 5s.; *Cypripedium* × *Winnifred* Hollington, said to be the only plant in commerce, £73 10s.; *Cattleya Mossiæ Reineckiana*, £42; *Dendrobium Læanum*, a good-looking plant of the *Phalaenopsis* type, £42; *Cattleya labiata alba*, with two bulbs and a growth, £68 5s.; *Cattleya Gaskelliana*, £26 5s.; *Lælio-Cattleya Phoebe*, £22 1s.; *Cypripedium Ayllogii*, £23 2s.; *Cypripedium Læanum giganteum*, £17 17s.; *Dendrobium atro-violaceum*, £18 18s.; *Cattleya labiata Warneri*, £15 15s.; *Cattleya Wagneri*, £13 13s. and £11 6s.; *Cypripedium* × *Aubigine*, £13 13s.; *Cypripedium* × *Statleriannum*, £11 11s.; *Dend. Falconeri giganteum*, £21; *Cattleya Trianaei*, £17 17s.; and one named

W. R. Lee, £14 14s.; *Cypripedium insigne*, like *Sanderæ*, £21; *Lælio-Cattleya Arnoldiana*, £15 15s. and £11 11s.; *Dendrobium nobile giganteum* W. R. Lee, £13 13s.; *Lælio-Cattleya* × *Euterpe*, £12 12s.; *Pachystoma Thomsoniana*, £11 11s.; *Dendrobium stratiotes*, £10 10s.; *Cattleya crispata superba*, £11 11s.; and *Dendrobium nobile illustre*, misnamed "illustrus," £10 10s. None of the plants above-named were large, but they were generally in good health. At the second day's sale at Audenshaw, the following prices were realised for plants specified:—*Cattleya aurea Hardyana*, £63; *Cattleya Chocoensis alba-maxima*, £26 5s.; *Cattleya exoniensis*, £21; *Cattleya Mossiæ Reineckiana*, £21; *Cypripedium* × *Ayllogii*, £21; *Dendrobium splendidissimum Læanum*, £12 12s. and £11 11s.; *Dendrobium nobile Hardyana*, £11 11s.; *Cattleya Gaskelliana alba*, £11 11s., and *Cattleya Gaskelliana*, Audenshaw var., £16 16s.; *Cypripedium insigne* of the *Sanderæ* type, £11 11s. The two days' sale realised about £2000.

LUDLOW CHRYSANTHEMUM AND FRUIT SOCIETY'S EXHIBITION.—The town of Ludlow intends to hold its first Chrysanthemum Show on Thursday, Nov. 14 next, which will be supplemented by a competitive show of table-plants, cut flowers, of hardy fruits and vegetables, and Potatoes, divided into the usual three categories—Open, Amateur, and Cottager.

DEATH OF TREES BY SUNSTROKE.—During the late extraordinary warm spell, the writer of this paragraph was called upon to see a large Sugar Maple tree that was supposed to have been destroyed by a leak of the city gas-main at the root; but an examination showed that the tree died, literally, from sunstroke. It is strange that close observers of trees are unable to see when anything is out of the common run of things, and consequently note that something is going wrong. This Sugar Maple had been planted on the street probably a quarter of a century ago, and was about 4 feet in circumference; but the trunk was almost triangular, and yet this peculiarity seemed to attract no attention. The tree was simply triangular because on three sides of the tree the bark and wood had evidently been destroyed years ago, while the outer bark still continued to cover up the injury, and the only live wood was on the angles of the trunk. Only about one-third of the trunk was practically alive. When the exceedingly warm spell came, it was impossible for these limited ducts to supply the moisture required for such a large surface of foliage, and the tree, therefore, literally died from inability to furnish the moisture required for transpiration. It may be always taken for granted, that when the trunk of a tree, naturally cylindrical, takes an angular form, there is something wrong beneath the bark, and an examination should at once be made. The flatter portions will usually be found dead. In this case, the bark should wholly be cut away from the dead portion, and the denuded part painted, in order to check rotting away. In time, the healthy wood may grow over the wound or lifeless part, and the life of the tree be eventually saved. *Mechanics' Monthly for August.*

BOTANY AND THE AMERICAN GOVERNMENT.—Under the title of "The Botanical Work of the Government," Mr. J. M. COULTEA gives in the *Botanical Gazette* for June a brief sketch of the work of the U.S. Department of Agriculture. There are four divisions. That of Botany, under Mr. F. V. COVILLE and seven assistants, includes, besides more purely scientific work, the investigations of weeds, of poisonous and medicinal plants, and the testing of seeds; 38,600 dols. was appropriated for its use in the past year. The division of Vegetable Physiology and Pathology, with Mr. B. T. GALLOWAY as chief, finds work for as many as ten assistants. Potato disease, diseases of fruits and cereals, and the anatomy of galls, are among the subjects to which attention is now being given. The appropriation for the year ending June 30, 1895, was 26,100 dols. The division of Agrostology comes into existence with the first of July, as separate

from the division of Botany. It deals with forage plants and grasses, its function being to instruct and familiarise the people with the habits and uses of these plants, to investigate their natural history and adaptability to different soils and climates, to introduce promising native and foreign kinds into cultivation, and to identify all grasses and forage plants which may be sent in for the purpose. Professor LAMSON SCRIBNER, its chief, is preparing a handbook of the United States grasses. He has two assistants, and the appropriation amounts to 15,000 dolars. The Forestry division is under Mr. B. E. FERNOW, with four assistants. Its main work during the past three years has been the study of the character and value of the woods of "merchantable species." Mr. FERNOW has, however, a much more difficult task in hand, namely, the arousing and organising public sentiment in favour of a rational forest policy. Mr. COULTER'S article brings home the fact that in some things our American cousins have got a long way ahead of us. *Natural Science.*

ROTATION OF CROPS FOR THE GARDEN.

ONE of the most exhausting systems of soil cultivation is that of growing the same crop year after year on the same land, and even on the rich virgin soils of America it is now becoming recognised that rotation of crops offers the advantage of distributing the work of planting, cultivating and harvesting over a greater period of time, so that a smaller force of labour can cultivate and care for more crops in the aggregate than when limited to the short season adapted to one crop. The labour on both farm and garden can be utilised to better advantage when a variety of crops is grown than when but one is planted. Dr. Chas. O. Flagg, Director of the Rhode Island Agricultural Experiment Station, has called attention to this fact in the sixth annual Report of the station.

In the opinion of most gardeners the one thing needful for the successful production of crops is an abundant supply of stable manure, though of late years the value of artificial fertilisers has also been recognised.

The growing of profitable crops without the use of some manurial help is not to be thought of. At the same time it must be remembered that there are other practical and economical methods which must be brought into play in the production of crops.

For example, manuring must stand on the same level with cultivation, drainage, and rotation of crops. The old-fashioned system of cropping in rotation has, however, by the very force of circumstances been almost entirely superseded both on the farm and in the garden.

The idea that the intelligent arrangement of crops into a rotation increases the annual yield and helps improve and preserve the fertility of the soil is not a new one, nor confined to the days of modern horticulture. But if rotation is followed in the garden it becomes necessary to have more than one system, because each gardener must be guided to a great extent by the requirements of the family for which he has to provide vegetables. And the grower for sale has to consider the markets, so that it must frequently happen that some kinds must be produced in large quantities and in untimely seasons.

The primary reasons for rotation are found in the soil, and the different demands for food which the various crops make upon it, as well as difference in capacity of various plants to collect their food. The soil serves to fix the plant, and furnishes a medium through which it may send its roots for food and moisture, in which capacity it acts as a great store-house; and the history of horticulture, so far as we know it, clearly show that a fertile soil is one which has accumulated within it the residue of ages of previous vegetation, and that it becomes infertile as this residue is exhausted. The dark-coloured soil at the surface, varying in depth according to location, is generally due to the presence of organic matter—decaying leaves, stems and roots, with the

decomposing litter from stable manure. This portion of the soil contains by far the larger percentage of plant-food, and is constantly reinforced by whatever fertiliser is applied, by the decay of roots, and falling leaves, &c.

As plants differ widely in their habit of growth above ground, so is there a difference below the surface in the root development. Some have a large mass of fine thread-like roots, which fill the surface-soil; others have large fleshy roots, which penetrate deep into the subsoil, and draw their supplies of food from the lower portions of the soil. In this way the deep-rooted plants grow upon supplies entirely beyond the reach of those having a shallow-rooted system; and herein we find a strong reason for the rotation of crops. Larger crops can be produced by a judicious combination of shallow and deep-rooted plants. Again, plants vary in their ability to secure a sufficient supply of food from the same soil. It is well known that the Cabbage tribe will thrive upon land much too poor to grow a good crop of Onions or Carrots.

The Rothamsted experiments seem to indicate that the Potato is able to avail itself of a less proportion of the nitrogen of the manure supply than almost any other garden crop, and the weight of tubers obtained per acre is consistent in showing how large is the amount of manure required in proportion to the quantity of produce obtained.

Some plants, while having sufficient power to secure an abundance of certain elements, lack the power to extract the small quantity of some other ingredient essential to its growth. The white Turnip and Radishes are a well-known illustration, in that fertilisers or manures containing a relatively large amount of soluble phosphates always give the best crops, notwithstanding the fact that these plants are not especially rich in their contents of phosphoric acid. The Turnip and other root crops simply have a low power of assimilating phosphoric acid from the soil, and unless a liberal amount of that element is supplied in a soluble form the crop is lessened.

In rotations, plants which are delicate feeders should be grown when the soil is full of available plant food, and be followed by strong feeders which will secure and use food left by the preceding crop. For instance, Potatoes may follow Peas, and late Turnips succeed Potatoes. When any crop is removed from the soil it carries certain elements of fertility with it, and repeated removals of the same crop without manuring will sooner or later exhaust most soils of those elements, so that further cultivation of that crop will be unprofitable. The soil is said to be *worn out*. Let that portion of land alone, and very quickly it would grow up to weeds and grass—thus Nature begins the slow process of restoring the ground to a condition of fertility through the growth and decay upon and within the soil of a variety of wild plants. The rank growth of some of these plants is Nature's contradiction as to the worn-out condition of the soil, and proves that the soil is worn out only as relating to the plants requiring the same elements in the same or about the same proportions. A very interesting illustration of this fact is to be found in one of the Rothamsted experiments, in which a piece of land exhausted for Wheat-growing has been uncultivated and left to seed itself since 1882. At the present time (1895) there are found on this portion of land representatives of twenty-one different botanical orders of plants. These are made up of forty-six genera and fifty-one species. The fifty-one species consist of twenty-two annuals, two biennials, and twenty-seven perennial plants. It is also a significant fact that grasses which are of the same botanical order of plants as Wheat, do not flourish so well as those of other orders, also that several leguminous plants have established themselves and grow with great vigour, producing flower and seed in abundance. No cultivated leguminous crop has been sown here for the past sixty years certainly.

We learn from this investigation that the minerals of the soil which are so necessary to the successful growth of leguminous plants still exist in sufficient quantity, whilst the nitrogen which is the ingredient

so essential for cereal crops has become exhausted, and therefore the grasses are poor for lack of suitable food. A good system of rotation with thorough cultivation would go far toward indefinitely postponing the evil day of unprofitable crops.

The same elements serve in the main as food for most horticultural plants, but the relative quantities of each have a wide variation. If 1 ton of each of the following named crops, in the condition in which they are marketed or gathered for home consumption, were taken from the soil, they would remove the amounts of nitrogen, phosphoric acid, and potash stated in pounds in the table. The second portion of the diagram illustrates what would be removed from the soil by taking away 1 ton of the refuse or unealeable portions of these crops:—

Chemical Constituents contained in One Ton of Marketable Produce of the following Crops. Quantities in Pounds.

Constituents.	Potato Tubers.	Onion Bulbs.	White Turnips.	Carrot Roots.	Cabbage Heads.	Broccoli Heads.	Peas Seed and Pods.
Nitrogen ...	8	3	4	5	7	15	80
Phosphoric acid ...	3	1	2	2	2	3	19
Potash ...	13	9	6	7	10	11	33

Chemical Constituents in One Ton of Unsaleable Produce.

Constituents.	Potato Haulm.	Onion Stalks.	Turnip Leaves.	Carrot Leaves.	Cabbage Stems and Leaves.	Broccoli Stems and Leaves.	Pea Haulm.
Nitrogen ...	11	8	7	11	5	6	23
Phosphoric acid ...	3	0	2	2	3	2	8
Potash ...	10	4	5	6	13	3	22

A comparison of the figures shows that there is a considerable variation in the amounts of plant-food abstracted from the soil by the growth of these crops. The quantity of each constituent in the Peas is seen to be very large, but the mineral food of this crop is largely drawn from the lower part of the soil and sub-soil, while it is able to obtain some considerable portion of its nitrogen from the atmosphere through the friendly bacteria which multiply within the nodules upon the roots. The large mass of roots left to decay within the soil, and that of most of the unsaleable portion of the crop (the haulm) which should be returned to the land, adds to the quantity of organic matter, while the mineral elements are left near the surface for the use of other crops, so that, instead of an exhausting crop, Peas and similar leguminous plants, are probably the best renovating crops which can be grown, and hence should find a place as often as possible in every sound system of rotation, whether on the farm or in the garden. In connection with the foregoing statements, it may be observed that Peas and Beans grow more favourably on garden soils that have recently been chalked or limed. These substances favour the development of the pod, and the maturation of the seed. Potash manures and wood-ashes are also extremely helpful in the same direction, and direct experiments appear to show that the immediate supply of potash within the root-range of the plant will probably be sooner exhausted than will that of lime.

Crops which draw heavily upon the supply of phosphoric acid in the soil should be followed by those which require but little of this element.

Cultivation and stirring the soil frequently promote the rapid formation of available plant-food from the supplies of insoluble material in the soil, hence hoed crops have an important place in any rotation as a means of increasing fertility. Broad-leaved plants favour the development of soluble plant-food in the soil by furnishing the conditions necessary for nitrification—that is, partial shade and protection from too great heat, while the surface soil is kept more moist because of less evaporation.

Narrow-leaved plants do not shade and protect

the soil as do broad-leaved ones. It is also a fact that garden crops vary in the season of their growth, some making most of it in the cool weather of autumn and spring, and others only growing during the heat of summer. Here we have another important reason for a rotation of crops. *J. J. Willis, Harpenden.*

FORESTRY.

TREES, SOILS, AND SITUATIONS.

ONE of the most frequent queries put by intending tree-planters is, "What are the best trees to plant

will grow in ordinary soil, providing the latter contains nothing of an inimical nature—but growing and thriving are different terms. Soil, of course, is not the only requisite for healthy vegetable growth, any more than food is the only thing necessary for animals, climate and situation being of equal



FIG. 68.—CACTUS DAHLIA "MRS. WILSON NOBLE": COLOUR, BRIGHT SALMON.

CACTUS DAHLIA
"MRS. WILSON NOBLE."

THE bloom shown in our illustration, fig. 68, was exhibited by Messrs. J. Cheal & Sons, of Crawley, at the meetings of the Royal Horticultural Society held on Tuesday, August 13, and September 5, this year; the variety on the latter occasion receiving an Award of Merit. The flower exhibits most of the points characteristic of the modern race of Cactus Dahlias, as is well shown in the illustration; and the colour is bright salmon-pink.

on this or that particular soil?" Answers to this question are usually plentiful enough, and lists of trees which have proved suitable for every typical soil may be found in every work which deals with arboriculture. The fact nevertheless remains, that nothing is more uncertain than the failure or success of any genus or species of tree in any particular soil, and little short of actual experience, extending over a series of years, enables us to definitely say that a certain species will or will not thrive on a specified site. Generally speaking, any kind of plant

importance as essentials to success. Providing the latter are suitable, the question of soil becomes of less importance, although it must not be forgotten that soil may greatly modify the effects of climate and situation, and *vice versa*, especially in regard to frost, aerial moisture and temperature, rainfall, &c. The species of tree tried has also much to do with these influences, some trees being more affected by soil, while with others climate and situation seem to play the more important part. Our usually imperfect knowledge of the constituents

of the subsoil accounts for a good deal of what appears to be inexplicable. Sudden variations in the lower strata may cause a warm soil to become suddenly cold and wet at a particular spot, or be the means of fertility being replaced by poverty, thus checking and retarding growth. All these uncertainties make tree-planting more or less of a speculation, although in extensive planting operations the occurrence of blanks and failures is always anticipated to some extent, and we are usually satisfied if the general results are good. Where individual trees are particularly wanted, as in the case of an avenue, however, the success of a tree, or a few trees, on a certain site, is often an important matter. Nothing spoils the appearance of a short avenue more than a few stunted trees here and there along its line, destroying, as they do, that uniformity which we look for in a regular design. In long avenues, slight irregularities are inevitable, and do not interfere with the general effect, a case in point being the Long Walk in Windsor Park, where storms have made frequent gaps, and differences in the size of the trees, due to soil, may also be observed. Most persons, again, have their favourite kinds of trees, and when planting, naturally wish them to be represented as much as possible, whether the soil and situation are suitable or not. While in most cases, therefore, species which are evidently not at home may be avoided when planting, or removed when already present, there may be other cases where it may be worth while to take some trouble in order to overcome unfavourable conditions of soil or situation.

How this may be done depends, of course, upon the conditions which it is desirable to bring about or to remedy, as the case may be. In many instances the situation alone is at fault, either through its cold exposure or inclination to the sun. The native habitat and characteristics of growth of introduced trees require careful consideration—more so, perhaps, than they usually receive. Our summers are, as a rule, highly favourable to the growth of all kinds of trees; but our springs and autumns are too treacherous and uncertain to ensure the uninjured growth of the young shoot in the former, and its proper ripening in the latter season. To this fact alone much of the non-success of our introductions may be traced, as when either of these conditions repeatedly fail, the free growth and characteristic form of the tree are destroyed. Most of the Coniferae are shallow rooters, liking plenty of moisture both in the air and soil, providing that in the latter is not stagnant. This is especially the case with the genera *Picea* and *Abies*, both of which are mostly natives of mountain regions with cool and moist climates. For such trees, hot and dry situations are quite unsuited, and on soils of a generally dry nature, cool and shady situations should be given, either on a north slope, or where they are shaded by other trees from the morning and afternoon sun. By reason of its deeper root system, the genus *Abies* is better able to withstand drought and surface dryness. The tendency of the members of this genus to commence growth before the spring frosts are over, however, renders a cool situation desirable in their case also, unless shelter be provided in the shape of surrounding trees. Pines, on the other hand, usually stand drought well, and succeed on dry, gravelly soils, with thorough drainage.

AMELIORATION OF THE SOIL.

Where it is evident that the soil is to blame for the failure of a particular species, the question arises as to whether its mechanical, or chemical nature is at fault. If the first-named, the necessary alteration may often be made by the addition and intermixture of clay, sand, leaf-mould, &c., with the natural soil, according as tenacity or porosity may be its predominating feature. Conifers being shallow rooters, the preparation of the soil to a moderate depth will be sufficient; and if a small area be dealt with at first, it can be gradually extended as growth proceeds. The tree itself will be a good indication of the necessity for this extension, and it may be that, when once thoroughly established, it will be found to accommodate itself fairly well to its sur-

roundings, and further help may be dispensed with. The warmth and moisture of the soil can also be regulated to a great extent by drainage, rough stone drains, a foot or 18 inches below the surface, being sufficient to aerate the soil, and prevent stagnation. The chemical nature of the soil is perhaps the most difficult to alter without going to considerable trouble and expense. Trees often fail because some inimical compound, or an excessive proportion of some element, such as lime, magnesia, iron, or an organic acid, is present, than on account of the absence from the soil of one or more of the necessary constituents of plant-food.

The excessive proportion of any element can be neutralised by the addition of lime or leaf-mould, according as the excess is acid or alkaline in its nature; but as this is only practicable on a small scale, the ultimate result of such work is rarely satisfactory. However carefully a patch of soil may be prepared, the roots are sure to push out beyond it, and get into the unfavourable soil beyond. In such cases, it is only waste of time to plant trees which are evidently unsuited to the soil, and only a careful choice of species will have satisfactory results.

Both on dry and shallow or on unsuitable soils of any kind, much may be done by mulching or top-dressing the surface to modify or contract unfavourable conditions. Almost any kind of loamy or leafy soil, old garden refuse, or turf parings will do for this purpose, and if the known preference of the tree for a particular soil can receive attention, so much the better. The soil should be lightly worked into the surface, but not so much so as to disturb the roots to any great extent. Mulchings of leaf-mould or short grass are also useful in retaining moisture, and improving the mechanical and physical condition of the soil. On lawns or places where a neat appearance is of consequence, these top-dressings must be confined to trees whose branches sweep the ground, otherwise the lawn will be broken and unsightly. This can be avoided, however, by removing the turf and old surface soil to a depth of a few inches, and replacing the former after some good, new loam has been added.

There is little doubt that the freshness and vigour of all specimen trees might be greatly increased by the timely addition of suitable soils and composts to the surface, instead of leaving them to take their chance of growing, lingering, or dying. *A. C. Forbes.*

NURSERY NOTES.

MESSRS. T. RIVERS & SON, SAWBRIDGE-WORTH.

PROBABLY fruit gossip is never indulged in more freely than in the months of September and October. The varying conditions of soil and climate have raised and depressed our hopes alternately many times during the season, but now the result is no longer the subject of speculation or anxiety—the time has come when congratulations may be offered. Much labour has been lately required to harvest the fruit, and the produce already making itself felt in the fruit-room is proof that the present season has been a favourable one—at least, there are few fruit growers who will be disposed to complain in regard to it. A week or so ago the visitor might have seen an excellent crop of Apples at the Sawbridgeworth nurseries of Messrs. T. Rivers & Son; and Pears also, though fewer in number, are a fair average crop, and the fruit is good. Plums have not borne anything like the crop they did last season, but then the yield was enormous. Although this is an aspect of these nurseries that may be less interesting than the inspection and study of the young fruit trees of every description that are being grown for distribution, it is one worthy of remark in passing, because in a measure it shows Mr. Rivers' faith in fruit-growing for profit. To the objection of the inveterate grumbler, that nurserymen produce the trees, attempt to create or foster a market for them, by inducing others to plant them for profit, but who find it more

easy to grow trees than their produce at a profit, Mr. Rivers might say, "But I practise both; much of the land that can be spared is planted with trees in ordinary orchard method, for the very purpose of supplying fruit for marketing." Mr. Rivers is indeed a market-grower as well as a successful nurseryman and fruit raiser. Another fact the visitor may notice is, that in the matter of varieties, and especially in the case of Plums, those which have been planted for the above purpose are to a very large extent varieties which have been raised from seed by Mr. Rivers himself, or his late father.

Turning from this part of the business to that of fruit-tree raising for distribution, the culture is only such as might be expected under the direction of a firm that has been long known for first-class fruit culture, and for extraordinary results in the raising of seedling varieties of fruit.

Apples being rightly regarded as the most important of domestic fruits, are grown in very large numbers. Different formed trees, suitable for orchard culture, or for the garden, and even the suburban villa garden, abound, and the training they receive, whether the trees are intended for orchard standards or half-standards, garden pyramids or bushes, or for planting at the foot of walls, as well as the differently trained espalier trees, is such as has been found by long and wide experience to be best, and the young trees look well and healthy. It is hardly needful to say that all good standard varieties are included in the collection, but in addition to these there may be seen a good seedling variety named Rivers' Codlin, excellent for cooking purposes, of large size, attractive colour, rich in flavour, and firmer in flesh than Codlins in general. The fruit can be used from September until December, and the tree is a good grower. Early Rivers, which is recommended as an improvement upon Lord Suffield, and Rivers' Early Peach, almost similar to Irish Peach, but rather earlier, may be mentioned.

Pear trees are looking in the best of health; many of the youngest trees have made quite average growth, others are a little shorter, owing to the discouraging character of early summer. Taking the promise at the end of June, however, with the actual facts in September, the result is surprising. The pyramidal system of training is very popular as applied to Pears, and numerous good examples of this style are noticed, but for many kinds no training is more satisfactory than the bush. Amongst an excellent lot of trees intended for walls and espaliers, Cordons looked very fine. In June these trees are looked over, and the more robust shoots stopped to four or five buds, leaving all others intact. Early in October all the shoots are pruned down to three eyes. Such is the pruning that Mr. Rivers' has found successful. Some of the seedlings raised at this nursery are among the best kinds in commerce and include Conference, Fertility, Dr. Hogg, Beacon, and Magtate. Dr. Hogg and Beacon require to be double-grafted, but with this attention they give abundant satisfaction.

Plums can only be placed second in importance to Apples, and the growth upon these was even better than that on any of the fruit trees if we except Cherries. Mr. Rivers has raised numerous varieties of Plums, and all of them are well known for their value. Of dessert varieties we need only mention Grand Duke, Late Rivers, Monarch, The Czar, and Early Favourite; and of kitchen varieties, Early Prolific, Late Prolific, Sultan, Autumn Compote, Blue Prolific, and Bittern. Early Transparent Gage is earlier by about ten days than the old Transparent, but fruits of Golden Transparent and Late Transparent were still hanging, and luscious rich fruits they were. We were shown a new variety upon several young trees, at present without a name. The fruits were quite hard, will ripen in October, and being like Monarch in appearance, but longer, the value of this seedling may be considerable. The flavour is described as good, and the stone very free. Cherries, we have already remarked, looked strong and well. All fruit inside and out has been long gathered, but mention

deserves to be made of Early Rivers, a seedling raised by Mr. Rivers, and one of the very best for market, and for a general crop in July, or in orchard-houses a month earlier. Apricots are grown almost exclusively for planting against walls, or as bushes in pots, and an excellent lot of the latter were of splendid appearance.

Peaches and Nectarines, as everyone knows, receive a large share of attention from this firm, and trees of most kinds are prepared for planting in out-of-door positions. Damsons, Raspberries, Quinces, Crabs, Strawberries, Gooseberries, Currants, and Nuts are all looked after, but we must pass from the out-of-door department to orchard-house subjects.

FRUIT TREES IN POTS.

If favourable terms are used in describing the general condition of the trees outside, and the success of the methods of culture adopted there, what must one say when speaking of the orchard-house trees here? How highly must we praise the pyramidal Peach trees in pots, the Apples and Pears in pots, and the marvellous pot Vines. Here we are dealing with the specialties of the firm, and with culture that is frequently imitated, but has never been surpassed in any other place. Let us look at a couple of excellent span-roofed houses full of pyramidal Peach-trees, really pyramidal in shape, each shoot as regular as if placed, yet as perfect in its way as the old-fashioned pyramidal Azaleas that were trained with such precision. Of course, the fruit-tree has shoots all quite free of each other, but the regularity of the growth, and the altogether unique appearance of those trees from 8 to 11 feet high, must be seen to be believed. Then what crops they carry! A tree of Salway was still ungathered, the fruits being not yet ripe, and upon this specimen there were about seven dozen fruits, and of good quality. It may be useful to remark that these trees are potted into two-thirds loam and one-third decomposed manure, and they are afterwards top-dressed twice during the season with kiln dust and horse-droppings. None of the trees are rooted through into the borders, but they have all a mass of fibrous roots at the top of the pots, attracted there by the surface dressings. These roots are treated as annual, and if the plant is not to be repotted the following season, they are taken away, and as much of the top-soil removed as possible, and fresh added. On the other hand, if the tree is to be repotted, it is taken out of the pot, and the ball reduced by about one-third by a special tool; and unless it is to be grown on to larger size, it is then put back into the same pot, which is well cleaned and thoroughly drained. In this way it is remarkable that trees are kept in robust health and capital bearing condition for years and years. It is very interesting to view the original plants of many of Messrs. Rivers' seedling Peaches and Nectarines, such as Lord Napier and others that have been in commerce many years, yet the original seedlings bear freely now in pots. The list of Peaches raised from seed by Messrs. Rivers is far too long to be given here, but we are indebted to this firm for many standard varieties; and the Nectarines, with same origin, are almost as numerous, and include Rivers' Orange, Spencer, Lord Napier, Stanwick Elruge, Pine-apple, Humboldt, Albert Victor, and last, but first in importance, Rivers' Early, raised by Mr. T. Francis Rivers, and certificated in 1892. It is said to ripen twenty-one days before Lord Napier. Already this variety has become well distributed, and Messrs. Rivers are preparing an immense stock, as the value of the variety deserves. Trees of all sizes, in pots, of Peaches and Nectarines, and trained in excellent manner as far as they have grown, were noticed. On Apples, Pears, and Plums, we cannot now dwell, but all of them are well done.

A large house of young Fig trees in pots we would mention in order to recommend this crop to those who have never tried Figs under suitable conditions. There is no more prolific crop, or one which will better repay labour and expense, providing the fruit is liked. Plenty of heat, moisture,

and air, with some method of restricting the roots, and a simple method of pruning, which consists chiefly in thinning the shoots out by removing the least desirable ones altogether, and a little stopping of gross growths during summer, constitute satisfactory culture. We have only briefly mentioned the Vines in pots for forcing early next season. When these are seen, the fact that their culture has become specialised here is comprehended at once. It is not safe to quote figures, but something like 3000 have been grown this season, and the well-ripened, short-jointed, strong canes tell their own tale, and are their own recommendation. Much more that we might say of this establishment must be omitted; our notes are already longer than we had intended.

METHOD OF VENTILATING TOMATO-HOUSES.

A NEW ventilator, designed by Mr. F. D. Woolf, Severn Nursery, Shirley, Southampton, for use in early Tomato, Vine, and other houses, is illustrated by the following figures:—

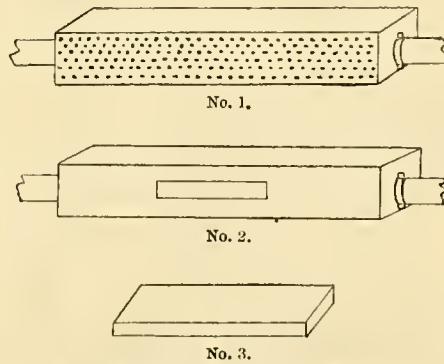


FIG. 69.—A VENTILATOR FOR EARLY FORCING-HOUSES.

No. 1 represents the front view of the ventilator when fixed to the hot-water pipe, and shows perforated front 18 by 6 inches, through which heated air passes into the house.

No. 2 represents the back of the ventilator when fixed, and shows an aperture 9 by 2½ inches, through which the cold air passes from No. 3.

No. 3 has one end fixed into the outside wall of the house, from which a brick is removed, the other end passing through the opening at back of ventilator shown in No. 2.

The cold air passes through No. 3 from the open into the back of ventilator, and is heated to the temperature of the house before passing through the perforated front shown in No. 1.

The ventilator is made in sections, and can be applied to any existing house having a service of hot-water pipes near the front wall of a lean-to and both walls of a span-roof house.

The patentee, Mr. F. D. Woolf, Severn Nursery, Shirley, Hants, claims that by its use a constant and efficient circulation of warm air can be maintained night and day at all seasons of the year, and that it will prove of great worth as a preventive of disease in Tomatos.

ARISTOLOCHIA ELEGANS IN AFRICA.

ARISTOLOCHIA elegans, Masters, was first described and figured in the *Gardeners' Chronicle* (n. s., xxiv. (1885), p. 301, fig. 64), from a plant cultivated by Mr. William Bull, who introduced it from Brazil. Dr. Masters states, in the place cited, that the plant is a native of Rio, where it was collected by Glaziou (n. 13,163), whose specimens are in the Kew Herbarium. He also goes on to say:—"It is singular that, so beautiful a plant, native of so well-known a botanical district, should not previously have been introduced or described."

But it would appear not to be a native of Rio Janeiro, or even of the province of that name, notwithstanding the specimens in the Kew Herbarium labelled "Environs of Rio Janeiro." It is now well known that many of Glaziou's specimens labelled thus at Kew are from distant provinces, and some are from cultivated plants. Besides Glaziou's specimens there is one at Kew, undoubtedly of the same species, from the distant interior of Brazil. It is labelled: "On the Parana, 26° to 27° S. lat., D. Parodi." This was received at Kew early in 1883, but the specimen being a poor one, was not recognised by Dr. Masters, or more probably not seen by him.

Aristolochia elegans is then, in all probability, at home on the banks of the Parana River, some 700 or 800 miles westward of Rio Janeiro. It is true that Parodi's specimen is doubtfully referred to this species in the *Botanical Magazine* (t. 6909), but I see no reason for the doubt.

The most remarkable fact in the history of this plant is to come. A few days ago Sir John Kirk, who has lately returned from his special mission to the Niger Protectorate, brought to Kew specimens and seeds of what struck him as a highly-ornamental *Aristolochia*, which he collected near the landing-place at the mouth of the Brass River, W. Tropical Africa. It was so unlike any *Aristolochia* in the herbarium from Africa, though from a locality where one would have expected it to have been collected before, that Sir John Kirk was questioned as to the probability of its being introduced. He replied that it was growing plentifully in the grass, and had every appearance of being indigenous. At first it seemed likely that it had been introduced with ballast from Brazil; but if it is a native of the interior only of the latter country, this explanation seems hardly sufficient. On the other hand, it is exceedingly unlikely that it is a native of Africa and Western Brazil. There is little doubt that several American plants have reached West Africa accidentally, and have become so thoroughly naturalised as to have every appearance of being at home. Is this one? *W. Botting Hemsley.*

STRAWBERRIES.

As far as blooming was concerned in these parts, it has been a marvellous year; some of the large Strawberry plantations were more beautiful than usual, and where they were fortunate enough to get rain, there must have been a paying produce, while in others, the long drought seriously affected the crop. It was so with my garden, there being no rainfall for weeks, and so the large quantity of blossom set badly, and in most instances, the plants suffered, and the fruit was deteriorated.

I am induced to make a few remarks, after reading Mr. G. Wythes' note on the subject. My soil is a light stony one, resting on gravel, &c., therefore dry naturally. It suits British Queen, and the plants not only grow strongly, but this year threw up an immense quantity of flowers, and though owing to the hot dry weather a number "went blind," still I had a good crop of fairly large deliciously-flavoured fruit, and fine in colour—but now comes the curious part to notice. Mr. G. Wythes calls the British Queen a late sort, and yet it ripened some of the berries before and equal with the Vicountess Hericart de Thury growing in a bed adjoining, while the latter was not half the size, and of decidedly worse quality. I have dug up the whole bed. I never cared for it never found it equal to some others, and shall not plant this variety again. It is over-estimated. Another good Strawberry generally, Vicountess, this year would not grow out, though the fruit was by no means small; still, the drought and heat had such an effect, that the points were not only not coloured, but absolutely dry and hard, and even green in some cases. Still, as it is usually a good bearer of rich-coloured, well-flavoured berries, I have left it for another year. Now of Waterloo. As to its worth generally, I may say I like it much, and it has done well, the fruit being delicious. One thing I may mention is this: I have known persons able to eat this variety without the inconvenience that has too often arisen after partaking of Sir Joseph

Paxton, Sir Charles Napier, and some others. However, this year "Waterloo" was fairly burnt up. It broiled in the sun, and was nearly useless. I think it is an uncertain "doer," and wants the soil and season "just right," and then, in my opinion, it is distinct, well worth having, and by its peculiar flavour, "stands alone." Of this I have made a fresh bed, and hope for better things next year.

Now I come to another sort, "White Knight." This seems to be a capricious variety, for Mr. Bauyard, and some others, have taken it out of their catalogue as "useless." And yet with me this grew strongly, bloomed freely, and bore some very fine, excellent, and well-flavoured berries. Everyone that tasted it wanted more, and I may add that it was quite equal to, if it did not surpass, British Queen. So pleased am I, that I have planted several more rows. The colour is a light bright vermilion on the sunny side, the rest a blush to clear white, with white flesh. Perhaps the season and soil both suit; but however that may be, it was "very good," and early.

Of course, for next year I have put in a few plants of Royal Sovereign, also Laxton's Latest of All, A. F. Barron, and a sort I have generally found worth growing, Sir Charles Napier, bright, handsome and useful; and a seedling of my own, with very ugly berries, but of excellent flavour. It is covered closely with seeds, and dull in colour, but with rich red pulp. Is a very strong grower, and hardy, and I like it. My object in writing is to point out that as soil, position, and seasons vary so much, is it not well to try some sorts that even have "a bad name" as delicate growers, and amongst these are some of the best, such as British Queen, Dr. Hogg, and with me White Knight? *Harrison Weir, Sevenoaks.*

HOME CORRESPONDENCE.

A SUNDAY MORNING AMONG THE WASPS.—On the afternoon of Saturday, September 7, there came such a raid of wasps (*Vespa vulgaris*) into our Peach-case, making such an onslaught on our Peaches and Nectarines, more especially the latter, as almost to threaten their speedy disappearance, that made me resolve when Sunday morning came to gather the fruit. I am almost ashamed to confess that by the time we got there the sun was already high in the meridian, and our Peach-case very much more in possession of the enemy than it was the evening before. So firm and multitudinous a footing had they obtained, that it was completely out of the question to attempt to gather fruit with any reasonable degree of safety. There was no time to lose, and it was evident that if any of the fruit was to be saved, the enemy would have to be dislodged. Therefore to this end it occurred to me that I might treat them to a dose of "NL All" vaporiser. Two of these fumigators were procured, lit, put into position, and the house shut up as closely as we possibly could. We stood safely outside, exceedingly interested, watching through the glass the gradual discomfiture and final death in this lethal chamber of those hosts of wasps. It was curious to note how, when the wasps found there was something amiss, they left off feeding, took to wing, flew wildly against the glass, and finally dropped dead. There were also in the house a number of blue-bottle flies (*Calliphora vomitoria*). These fought against the nicotine fumes much longer than the wasps, being evidently much stronger or less sensitive in their respiratory organs. On this point, some entomological reader might kindly throw some light for our edification. Whilst looking on, I observed one of the vaporising pans was about empty, and being desirous of continuing the vaporising a little longer, I went in, passed to the far end of the house (75 feet), where the bottle containing the essence of nicotine had been left; by the time I got back and poured some into the pan I had more experience than I cared for of its potency. It got into my nose and throat, and made my eyes run with water, so that I was only too glad to rush out into the fresh air. Needless to say, that after this we gathered the fruit comfortably, nor was it a bit the worse for the vaporising fumes which had so effectually cleared the house of wasps. *W. Miller, Combe Abbey, Sept. 13.*

FRUIT-TREES ON OUR HOUSE-TOPS.—Your recent leader on this subject recalls many efforts in this direction made through a considerable portion of the last half-century. The majority of these proved so abundantly successful, that I advocated a roof culture of fruit strongly in many directions as a ready means of paying the rent of cottages by cultivating the enlarged areas and improved sites over our heads. For one striking advantage of roof culture is that the most grasping landlord can hardly charge any additional rent of the tenant for clothing his roof with plenty of fruit, and thus adorning his property with higher beauty. As you, however, very properly observe, tenants need greater, longer security of tenure and against disturbance, as well as simpler, easier means of obtaining compensation for unexhausted improvements before they can be expected to invest much money or skill in adding to the value or beauty of other people's property. In most of the rural districts where courses of lectures have been given on fruit culture, the more intelligent of the working classes are becoming experts, more or less, in fruit, vegetable, and flower-growing. And what with continuation-classes in all directions, in which horticulture and agriculture may be taught and horticulture adopted, as a subject for praise and pay in all our elementary schools, it may be hoped that every householder or his children will soon be sufficiently taught in the mysteries of plant life and the secrets of successful culture as to be able to make the most and best of his small holdings, allotment gardens, and house-tops. The latter, though so seldom turned to practical and profitable account, are by no means the least important. It may surprise some to see vegetables named in connection with roof culture or clothing. But surely our warmest aspects are admirable for Tomatoes, and just the place to waken them up out of the sleepy disease if anything can do it. And the Aubergines, or Egg-plants, seem coming in at last. Who shall say how soon they may startle the natives by growing their useful eggs of all shapes, colours, sizes on the house-tops. How grand and gorgeous our Marrows and Gourds would look on our house-tops, while scarlet and other runners would have garlands of beauty, as well as send down bushels of sweet plenty from the same coign of vantage. Those who have seen and smelt the indescribable medleys of fragrance and beauty running wild on house-tops from Roses, Honey-suckles, Jasmies, Clematis will hasten to clothe their roofs with flowers. Profit, however, may be gathered, as well as pleasure, from flowers on roofs. Covered with *Maréchal Niel* or other Tea Roses, such as *Gorge*, *Wm. Allan Richardson*, *Nipheto*, climbing *Devoniensis*, *Honoré*, &c., house-tops might be covered and coined into gold. Then as to fruit. Our roofs are so varied in size, so different in aspect, that the whole of them may be clothed with fruits of some sort from the luscious Grape and Fig to the winsome Plum and the acid Morello Cherry. Hardest for the north and east, tenderest to the south and west. Apples, Pears, Plums, Peaches, Nectarines, Apricots, Grapes, Gooseberries, Currants, Blackberries may all be mounted and marshalled to good purpose on or over the roofs of our dwelling-houses, factories, stables, cow-sheds, and other buildings. Of course, the lower the buildings the nearer the roofs are to the ground, and the easier it is to reach them. Roofs may also be posted so much and so completely in the teeth of the wind that only the hardiest plants could grow to much or any good progress. But on average roofs, most of our fruit grow to profit, certainly into verdure and beauty. Certain cautions, however, are needful to command success. Careful selection of varieties for localities, and for house-top sites. Skillful preparation of suitable root-runs. The raising of the trees from 6 inches to a foot clear of the roof, 9 inches is a good average. Otherwise during scorching hot days on house-tops, leaves and fruits alike will often be scorched. Pears, Figs, Grapes, Plums, are particularly liable to this on summer and autumn days, without a speck of cloud from dawn to dark. There is yet one more danger, and that is from cutting draughts on house-tops. On the sides or ends of prevailing cold or strong winds a deal or pine shelter should be run up from the roof to the level of the fruit trees or bushes, flowers, &c. I observe you advocate protection for Fig trees on roofs. My experience is that they are far hardier, safer, more fruitful without it. The zero frosts of last February, and the sad havoc it has made among fine outside Figs, has not modified my opinion; for my latest observations show but little difference between the present state

of Figs with and without protection through February. But what difference there is seems in favour of the out-of-door Figs that have had no protection for years. Our roof and wall Figs in the open under rational treatment, that is, a starving regimen, suffer less from the frosts of winter, however severe, than the chills and changes of spring. And everyone will admit that the protected Fig finds itself in a very much worse vital and physical condition to contend with our erratic springs than the unprotected one, which has already withstood the winter in the open. *D. T. Fish.*

THE CHISWICK VEGETARIAN LUNCHEON.—I notice in the *Gardeners' Chronicle*, September 14, a menu of a "vegetarian" luncheon given at Chiswick at the last meeting of the Royal Horticultural Society. In looking through it, I find such things as eggs, cheese, and butter, not to mention milk and cakes. Now I always like to learn, and although I know that some fowls make better "layers" than others, and might consequently come under the care of the National Carnation and Picotee Society, still, will some one kindly inform me how they (the fowls), cows, and goats flower, and the best way to raise them from seed or cuttings. *W. M.*

DOUBLE DAISIES.—The chief cause of the neglect of these hardy flowers in spring bedding, is no doubt their average lateness in blooming. Could anyone introduce a variety that would begin to bloom from the middle or end of March onward, then a great gain would result; commonly they begin to flower from the middle or end of April, and are usually at their best during May, that is too late for bulbs, most of which bloom in April. No bedding plant for producing a carpet of colour can be better than is the blood red. The Giant White and Mottled are also effective. We can easily have *Myosotis disitiflora*, our earliest Forget-me-Not, which should always be raised from seed, in bloom throughout April; also coloured Primroses, selected early Violas from old plants, *Abrietas*, *Arabis*, *Doronicum plantagineum*, and some other pretty hardy things, and to have Daisies a month later is annoying. If there were not summer bedding exigencies, it would matter less, but where those exist, then Daisies are too late. *A. D.* [The plant reverts largely after a few years, if not so much in regard to colour at least in doubleness; and although a "double" flower, the whole of the organs of propagation are not suppressed, hence the plants fill the flower-beds with seedlings which of itself becomes in time a nuisance. *Ed.*]

OAK-GALL AND OAK-APPLE.—In last week's answers to correspondents it is stated that these terms are synonymous. Of course, an Oak-apple is an Oak-gall, yet I venture to think that a distinction is commonly drawn from a popular point of view. The spongy Oak-gall (produced by *Teras terminalis*), sacred to the memory of King Charles, is the true Oak-apple, whereas the hard round gall (produced by *Cynips Kollar*), which first appeared in this country about forty years ago, is more usually called the Oak-gall, although not unfrequently also designated Oak-apple. Moreover, there are many native kinds of Oak-galls which would never be called Oak-apples. Your reply was right, and it was wrong. It all depends upon the nature of the query, or what was intended thereby. *R. McLachlan.* [Our correspondent's inquiry related to the Oak-apple, as we thought, but the wording was not too clear on that point. *Ed.*]

PEACHES AND NECTARINES ON THE OPEN WALL.—During the past few years we have heard much less than formerly of failures of Peaches and Nectarines on open walls. It is not so long ago the cry went up, and I believe there were many gardeners of the opinion, that owing to adverse seasons it was not worth the trouble to cultivate the Peach on unprotected garden walls. Whether or not there was generally in the south any reason for this opinion being held, I am enabled to vouch for the correctness of the statement that for the last twelve years, with two or three exceptions, the crops at Mereworth have been exceptionally heavy, and the quality of the fruits good; and, on the whole, the Peach trees have cropped as well as Pear and Apple trees, or, in fact, as any other kind of fruit grown in these gardens. I can see no reason why, with ordinary attention, the same should not continue. One thing, however, is certain; it is of no use depending upon old trees for throwing good crops of fruit; but young trees of good varieties, if well attended to, will afford, in the majority of years, good

results. In the less favourable parts of the country a full south aspect is necessary, and the latest varieties should be discarded, the fruit not ripening satisfactorily, excepting in warm gardens. Here I may mention we have 420 yards, 210 yards in each stretch, facing south-east, and which never gets any sun after 2 P.M., and it is from the trees on these walls that the best fruits are gathered. One of these walls is planted with the trees on the level, and those on the other on a raised border. Those trees which are planted on the level border always do the best, keeping freer from insects, and requiring less water at the roots and overhead syringing—in fact, it is seldom that water is artificially applied; neither do we mulch the roots with manure, but afford a good sprinkling of poultry-manure, carefully picking it in during the early spring. This dressing benefits the trees wonderfully. This training is another point of importance which is practised, so that the wood, not being crowded together, gets well ripened. I always disbud very gradually, extending the operation over many weeks. Very little pruning is required, and the trees suffer no check. Thanks to Messrs. Rivers, we have now many good early and late varieties of Peaches and Nectarines, which prolong the season considerably. The early American varieties have several points in their favour. Waterloo and Hale's Early are very useful fruits; that valuable variety, Rivers' Early York, follows quickly, and Early Louise ripens at a useful time, while Alice and Condor are not to be despised. The best of the mid-season Peaches are Dymond, Royal George, Stirling Castle, Grosse Mignonne, and Goshawk. Noblesse, Royal Charlotte, Barrington, Gladstone, and Admirable are useful to follow these. Of Nectarines, Lord Napier, Elruge, Stanwick, Pine-apple, Humboldt, and Pitmaston Orange are marvels of goodness. Another early Nectarine, and one which, in my opinion, has a future, is Early Rivers, which ripens about ten days earlier than Lord Napier, which appears to be very free. The fruits are very luscious, and resemble those of Lord Napier. Peach trees require plenty of space, as will appear when I state that some trees planted eleven years ago at 21 feet apart, now cover the entire allotted space and more, some being fully 28 feet across. When these trees had been planted four years, I was advised to lift them, but as I was anxious to get the walls covered, I left them alone, with the result that as the trees grew they soon began to fruit with great freedom. That the Peach thrives and produces the best fruit and keeps freer from insect pests when growing in a firm soil I have had ample proof. It is said by some gardeners no manure should be applied at the time of planting the young trees, but this depends entirely on the nature of the soil. If it be poor, something should be added to encourage free but not gross growth. Well-decayed manure should at all times be incorporated with the soil, but should the loam be somewhat heavy, a less decayed manure is better together with plenty of lime rubbish. All good cultivators understand the value of drainage wherever these fruits are grown, and the amount of this should always be regulated in accordance with the nature of the soil. *H. Markham, Mereworth, Maidstone.*

EXTRAORDINARY SINGLE LEAVES ON THE VICTORIA REGIA.—From the measurements given in a recent issue of the *Gardeners' Chronicle* of leaves of the *Victoria Regia* in the Royal Botanic Society's Garden, Regent's Park, London, it would appear as though some of the leaves upon a plant of the same species growing in the Sheffield Botanic Garden are still larger. I have never seen a more vigorous plant, or one with finer leaves, than the Sheffield specimen. The tank in which the plant is growing is 28 feet in diameter, and even this width is insufficient for the leaves to develop fully, as they get damaged by being squeezed against the sides of the tank. The surface of the water is entirely covered with leaves; the flowers are large and numerous, and at the time of writing there are flower-buds in various stages of development showing above the surface of the water. To-day, September 24, the largest leaf measured was 7 feet 3½ inches in diameter, inside measurement, with a turned up margin 3½ inches high, which gives the full measurement of 7 feet 10½ inches diameter. The next largest leaf is 7 feet 2 inches. Then there are three of 7 feet 1 inch, and two of 7 feet; two younger leaves, each 6½ feet, and another 5½ feet. There are also upon the plant three smaller ones. Four leaves have been cut from the plant, each of which measured

upwards of 7 feet in diameter. All the above measurements were taken inside, without calculating the rims, which vary from 3 to 4 inches in depth. *William Harrow.*

THE CHISWICK TRIALS.—I can quite understand "A. D.'s" reluctance to abolish or reduce frivolous and unproductive "trade" trials at Chiswick, and deal instead with what Mr. W. T. Thielton Dyer, in his address, calls "fundamental questions," which he considers a noteworthy feature of modern vegetable physiology. The occupation of the committees would in some cases, I fear, be gone. Mr. Thielton Dyer's paper, of absorbing interest, reads like a romance; and who knows but that when "A. D.'s" Committees rise to the occasion and perform similarly interesting and careful work in the sphere of horticulture, we may yet live to read papers as entertaining from Chiswick, where the materials might, I think, in time be found. At present, many of the deliberations there are, to say the least, "drumlie," and one would not wonder if in the re-organisation contemplated by the Council, the committees come in for some share of attention and admonition. A "wake-up" might do good. We can imagine "the wrangle" over that Bean, and the "purposeless result" described by "A. D." The Cucumber puzzle in prospect, I do not expect much from. The fact is, raisers of new varieties of common things depend largely for trade on their novelty, and could no more get on without them, than the milliners and dressmakers could without constantly changing fashions; but to prostitute Chiswick as an advertising medium to the business, because of "so many claimants for honours being in the field," is too bad. Chiswick should and could select and arrange its own work annually if it chose to try, and hardly ever will keep its expenses within bounds, and its work up to the mark, till it adopts the plan in force in most well-conducted country establishments, of forecasting and estimating the work beforehand. Some reasonable proportion, I submit, should exist between the expense and trouble connected with the so-called "trials" and the results; but how does the matter stand? Take the 500 Phloxes, for example: of that number, the bulk, according to a contemporary, was supplied by one member of the trade. A fraction of the 500 received three and two marks when the committee went over them last year, but the most of the work appears to have been sorting out the much larger number of inferior "duplicates," and "varieties too much alike." Is such game worth the powder to any one but the man who sells the plants? I noticed that no sooner had the committee done their work, than a report of it, bald as it was, was at once prominently appended to the lists of the vendors who encumbered Chiswick with the trials—the parties mainly benefited. Numbers of the vegetables "tried" can only be proved by cooking. Were they tested in that way? If not, the verdict of the committee is not worth anything. *Head.*

MR. A. H. SMEE'S LETTER.—Permit me to say that the "heckling" to which Mr. Smees proposes to subject the Council on the Chiswick business may, probably, cut both ways, if persisted in; and I hope, as an outsider, that the Council will speak out without reserve, if forced, no matter what happens. I trust also that everything will be published for the benefit of that multitude of horticulturists "throughout the country," who, we are told, are consumed with anxiety on the subject, but of which there is no sign, if we except the small section who are making all the fuss. Provincial horticulturists of all degrees take but a languid and casual interest in Chiswick at present, but they might be induced to take more under different circumstances. I am sure also that you would greatly oblige your numerous readers by telling them precisely what the functions and powers are of the different "Councils," "Boards," and "Committees," which we hear so much about. When Chiswick is reorganised, I hope there will be at least three competent and able men at the head of affairs who will know how to conduct the business of the Society, and keep meddlers in their proper place. I have never been able to make out how the business of the Royal Horticultural Society was conducted; but I do know that other business concerns, involving much vaster interests, depend mainly for their success on the chairman, the secretary, and the manager, with an occasional quorum, and who, while doing their duty, would certainly not brook that dictation from irresponsible members, which a few "fellows" of the Royal Horticultural Society seem to regard as their special

privilege. It is, no doubt, dreadful to think of what may happen if Mr. Smees should be deprived of judges from Chiswick for local shows. But to restore his confidence, I would advise him to take a trip to the provincial local shows anywhere, where he will see the awards dealt out before a discriminating public, in a manner above suspicion, whether as regards "local influence" or good judgment. I await the Council's justification of its proceedings in regard to Chiswick, and I have confidence that it knows what it is about, and hope it has a good scheme in view. Of one thing I am confident, and that is, that the Council have nothing to fear from the general body of horticulturists throughout the country if it acts wisely and fearlessly. At present the reported general agitation and "indignation" is an utter sham in my belief. *Head.*

SOUVENIR DE LA MALMAISON CARNATIONS AT EATON HALL, CHESTER.—Being in Chester a few days ago, and in the company of a friend, I took the opportunity of visiting the gardens of Eaton Hall. Mr. Barnes, the head gardener, himself kindly conducted us over the more interesting parts of the gardens. Amongst the many fine things to be seen here we were particularly struck with several houses filled with plants of *Souvenir de la Malmaison Carnations*; every plant (and there must be several thousands) was in perfect health—not a sign of disease or any kind of insect to be seen upon them. They are grown principally, Mr. Barnes informed us, to supply cut bloom during the London season. Such a grand lot of plants as these Carnations were could with difficulty be found anywhere else. *B. Ashton, Glosop Hall Gardens, Derbyshire.*

SEEDSMEN'S TRADE MARKS.—There is an important point in connection with the seed case that came before the Southampton magistrates last week that seems to have escaped notice, for no reference is to be found to it in the lengthy reports in the local papers. It is assumed that the plaintiff registered as a trade mark a certain device embodying the words "Shepherd's Kale" as applied to that particular seed, and the Patent Office have taken his money in return for a right, which by virtue of their certificates professes to give him protection upon all parcels that he distributes. The Kale gains in popularity, and local farmers save their crops for seed, some finding its way into the hands of another seed-distributor still bearing the original name. Many will say it is still Shepherd's Kale, and so it may be, but my contention is that when a trader goes to the expense of controlling a specialty according to the law, he seems to be quite within his rights to do his utmost to hinder his name being hawked everywhere without some qualification attached that will show the buyer what he is purchasing; if not, what is the use of a registered trade mark at all? The seed was never in his possession, the crop may not have had the necessary care bestowed upon it, and although there may be no secret means adopted to keep it true, any one who has had to do with the seedling of the Brassica tribe knows how readily a variety will revert if not planted in a proper situation, and rogued and re-selected each season by experts. To make comparisons of Sangster's Peas, Wheeler's Imperial Cabbage, and Brown's Monarch Swede, is beside the question altogether, from the fact that the old-fashioned growers who raised these varieties probably never had any idea of protecting their rights under the Trade Marks or any other Act, and as a consequence, their goods are everybody's property. If there is nothing in "selection," will someone kindly tell me why it is the custom with all the best houses in the trade to supply what is known as "stock seed" when they require farmers to grow for them? Ask Messrs. Carter or Sutton if they would allow any one of the Cabbage tribe to go out for seeding again that was "one year only" grown from their private stocks! I have no knowledge of the parties in this case, but these matters seem to me to require elucidation. *Agri-Horti.*

RED-FLOWERED DENDROBIUMS.—I have read with interest Mr. C. Woolford's note at p. 337, with respect to the rare and almost forgotten *Dendrobium arachnites*, Rchb. f., which I have known ever since 1887, when it flowered in the collection of Baron Schroder, at The Dell, Egham. Previously, I had only known it by description. Whether the plant still exists, and whether others are known, I cannot say. Fortunately, all the dried material is not locked up in the Reichenbachian herbarium, though it cannot be said that the species is yet adequately

known. Why Mr. Woolford should have thought I am unacquainted with this species, I cannot imagine. It certainly has not crimson flowers. Reichenbach called it "cinnabar-red," and unless my memory is at fault, "cinnabar-orange" would have been more strictly correct. This colour occurs in several others, though they are seldom seen in cultivation. My remarks referred to a "crimson-flowered" *Dendrobium*, and the colour is repeated in the description. The phrase is not applicable to *D. arachnites* at all, which in colour is about as much like *D. sanguineum*, as *Lælia cinnabarina* is like *Broughtonia sanguinea*. *D. sanguineum* is the only species yet known to me with blood-red flowers. *R. A. Rolfe.*

THE RETIREMENT OF MR. BARRON.—It is much to be regretted that Mr. Barron's name should have lately become the subject of general conversation, and the Council so much censured for what may yet meet with the approval of all well-wishers of horticulture, and those apparently interested in the Royal Horticultural Society. Why all this warmth has been manifested is not quite clear to me. It should be borne in mind that the present Council has enjoyed universal confidence, and brought the Society to a much better position, both publicly and financially, than at any time previously, and for which I am grateful, as I think others should likewise be. I have been connected with every one of the Council, either in committee or else in some business capacity, and I therefore repose with all confidence, that when the proper time arrives for them to give an account of their stewardship, they will show how wrong it is to question their integrity; therefore, before a general condemnation is passed, I think it is only right we should wait patiently for an explanation of their parting with their Superintendent, for in all probability that which is so bitterly complained of may have made the contemplated alterations absolutely necessary, and ultimately prove of great advantage to horticulture generally. I am not in possession of any cabinet secrets, neither do I desire to shield the guilty of any wrong actions whatever, but it must be plain to all, looking at the useful and important work being done, and the amount of money expended by the County Councils and several colleges in various parts of the country, that our young men emanating from Chiswick and Kew are in great danger of losing prestige and position in the eyes of ladies and gentlemen requiring skilled gardeners. In my opinion, Chiswick should be, without delay, made a college for the highest attainments in horticulture, not only where youths are to be employed and instructed, but where professional gardeners seeking situations should be centralised and be usefully employed; and when waiting for appointments they should have the opportunity, during that time, of still further practising and seeing the highest class of gardening carried out. Whenever a gardener is required, he would then be readily found, and a suitable man quickly engaged. It may yet prove that something of this kind is in contemplation, and if so, I am of the opinion that great good is likely to follow. In my opinion, it is one of the most pressing requirements at the present moment for gardeners when out of situations, particularly when their discharge is brought about through no faults of their own—that there should be some horticultural centre for them to go to. Ladies and gentlemen also made aware of their being in readiness could personally see and select what they required. It seems to me that Chiswick and Kew are where they might very conveniently be located and be usefully and temporarily engaged; of course, under wise regulations I consider this a project of great importance. At present, when a gardener through the decease of his employer or other eventualities is under notice to quit, in all probability he is more often than not 5 or 10 miles away from any town or city, he hesitates where he had better move to, and eventually takes the nearest house-to-let. Now all depends upon good luck in advertising and his distant friends; nothing comes at all suitable; time rolls on, and after awhile he finds his hard-earned savings gradually dwindling, and in many cases a real good man at last is compelled to accept something quite different to his deservings and requirements. He gradually becomes forgotten, and after weeks of inactivity he gets disheartened and disgusted with the profession; whereas, if located in the neighbourhood of the above-mentioned gardens, with a scheme set on foot for this purpose, gardeners would be within touch of those requiring them, and would probably soon obtain suitable employment according to their ability; at all events, I think it is quite possible for

the Council to establish a kind of Bureau for professional gardeners, ready and capable to undertake the management of either large or medium-sized places, at once if required, and which would certainly often be a convenience to proprietors. I would gladly double my subscription, and no doubt many others would do the same, to enable the Council to organise such an institution as I have foreshadowed or suggested. It would be a boon to many. I am repeatedly asked for a certain class of man—and time is all important. After writing and communicating with several men out of place, scattered about, I hear the place is filled, more often than not, by some incompetent person, because the skilled man was not at hand, or could not easily be seen, being so far from London; whereas, if engaged from such an institution, he would have a higher standing, and would also be independent of the nurserymen, and would allow him to be far more free as to his future dealings. *Henry Cannell, Swanley.*

—By an advertisement in the *Gardeners' Chronicle* I notice the Royal Horticultural Society of London is in want of a new Superintendent, one having a thorough practical and scientific knowledge of all branches of horticulture. Salary £200 per annum. To an ordinary gardener this amount seems liberal, but to a scientific man I should say it is decidedly small. A scientific education is not obtained without some considerable expense, either to the individual himself or to someone else. Self-taught men of course can be had, and men, like most gardeners, can be had in any quantity to work for the mere love of it. Of the £200, £50 at least would have to go towards the rent of a decent house. There would be rates, taxes, &c., in addition, leaving less probably than £150 to live upon, not much certainly to maintain a man and family, before the glaring light of a very exacting horticultural world. Of the two, I should much rather prefer the retiring-money offered to Mr. Barron, though, as far as yet explained, I fail to see the wisdom of a poor society retiring so strong, so active, so practical, and so horticulturally scientific a man as Mr. Barron on £180 a year. It will take the subscriptions of a good many Guinea Fellows to make up this sum. Then there is the £200 for the new man—£330 in all. True, as Mr. Barr says, there are rich men among the Fellows, and one or other of these may come forward and say, "We will pay it all," but this much has not yet been offered, and until it has been said, we are obliged to fall back upon the old proverb, "It is easy to be liberal with other people's money." Had Mr. Barron retired of his own accord, the probability is, they would not have offered him so much; nor do we know how much of this is what may be called solatium or hush-money, to keep the horticultural world quiet, and to hide the "inner council" over a piece of almost unpardonable work; and this to a man who has done more, perhaps, than either any inner or outer council ever did to keep Chiswick Gardens together—at a time, too, when the Society had almost reached that stage of dissolution known as *mors extrema*. Mr. Barron's name and personality at that time was a power in itself, and for any existence the Society now has, it owes to Mr. Barron—at any rate, when the Society's proceedings were at the lowest possible ebb. That is the opinion we gardeners in the country had of it. Why now Mr. Barron should be turned out is a conundrum to us. Well, Mr. Barron will retire with all honours, carrying with him the sympathy and hearty good wishes of his fellow horticulturists; and when he shakes the Chiswick dust from off his feet, and walks out of those gardens, he will have a warm welcome amongst his many horticultural friends, whether they be scientific or merely common-place practical. It takes all sorts of men to make up even a good-working horticultural community. From my point of view, I thought a good practical man was what they most wanted at Chiswick. The science of plant culture and botany is well cared for in the Royal Gardens of Kew with its handsome national grant of £21,779 a year. Is the inner Council of the Royal Horticultural Society jealous of its colossal neighbour? if so, and it perseveres to emulate, it may, in the near future find itself very much in the position of the frog in the fable. Mr. Barron induced me to become a Guinea Fellow. I derive no benefit from the Society. True, they sent me some tickets of admission to their shows, of which I was not able to avail myself; and, by-the-by, I also got the Society's *Journal of Horticulture*, though I never could see that a paper is so much better for being read before a Council than it is when communicated to us through the medium of the

many weekly horticultural periodicals, through which it would reach us sooner, and be more widely diffused. Pity anything should happen to the Society in its present unique position, for without it and its Drill Hall—a place I have never yet seen—what would become of the outlet for the many little exhibits brought there from such people as the Veitchs of Chelsea, the Bunyards of Kent, the Laings of Stanstead, the Cannells of Swanley, the Pearsons of Nottingham &c., amongst nurserymen. Then there are besides a tribe of gardeners locally planted in and around London. To all these and sundry others the Society deals out its Knightian, Banksian and other Bronze Medals, Certificates of Merit, Votes of Thanks, &c. To us gardeners in the country far away, who have not a chance of even a look through the window, the farce is all the same—exceedingly laughable. *W. Miller, Combe Abbey, September 17.*

LATE STRAWBERRIES.—I have this day (September 22) picked twenty-three full-sized fruits of *Vicomtesse Héricart de Thury*, equalling in flavour the summer produce. I shall be able to pick again about twenty-eight more fruits from plants put out last year. *J. May, The Gardens, The Red House, Leatherhead.*

THE HERBACEOUS BORDER.

ASTER CORYMBOSUS.

This belongs to the small-flowered section; and so small is it that many persons might consider it an insignificant plant, it being but $1\frac{1}{2}$ feet high. It is, however, very useful for mixing with other flowers of a larger and stiffer habit of growth, its slender sprays lightening up and improving the appearance of other things. It is a plant of easy culture in the herbaceous border. *W. H. Divers.*

ERITRICHUM STRICTUM (p. 336).

This plant grows freely here, coming up wherever seed was dropped the previous season; and, unlike *E. nanum*, there is not much fear of losing the plant when once it gets established. It is much admired for its pretty blue flowers, and is useful for cutting for filling vases—for effect by daylight—when *Myosotis* is not obtainable. I may have it under the wrong name, but it was grown at Kew last season under this name, and seed of the plant is also offered for sale by several English firms. The scent of the flower approaches, in my opinion, that of the *Woodruff* (*Asperula odorata*), but it is less powerful. *W. H. Divers, Belvoir Castle Gardens, Grantham.*

Obituary.

HERMANN STENGER.—Hermann Stenger, formerly a familiar figure in the horticultural world, died suddenly at his residence, 33, Chancellor Road, West Dulwich, on Monday, the 23rd inst., at the age of sixty-seven years. A native of Erfurt, one of the principal centres of the nursery and seed industries in Germany, Stenger came to this country upwards of forty years ago, and first took service under Messrs. Veitch at Exeter. He was subsequently traveller for Messrs. Veitch at Chelsea, and then for Messrs. Henderson of the Pine-apple Place. For a short time he was associated in partnership with Mr. Herbst at the Kew Road Nurseries, Richmond. Following upon this, he became manager of Messrs. James Carter & Co's nurseries, at Forest Hill, and afterwards, about twenty years ago, he entered the service of Messrs. Vilmorin & Co., representing that firm in this country. But after four or five years' service, the slow paralysis that had been coming for some time, rendered him quite helpless in the legs, and for the last fifteen years, or thereabouts, his travelling has been limited to a wheel-chair. In spite of his affliction, he was cheerful to the last, for he enjoyed good general health, and, thanks to the great liberality of Messrs. Vilmorin, he ended his days in comparative comfort.

ISIDORE VERVAET.—The death of this well-known nurseryman, of Ghent, on the 21st inst., is announced.

SOCIETIES.

ROYAL HORTICULTURAL.

GREAT EXHIBITION OF BRITISH-GROWN FRUIT AT THE CRYSTAL PALACE.

September 26, 27, 28.

THE Show was opened by the Sheriffs of the City of London, Alderman and Sheriff Samuel, and Sheriff Hand, who drove down to the Palace in State, and were received at noon by Sir Trevor Lawrence, the President of the Royal Horticultural Society, and members of the Council, and conducted over the Exhibition.

A gardeners' luncheon subsequently took place in the Grand Saloon, the President of the Society in the chair. The loyal toasts were duly honoured, the President referring, amid applause, to the fact that Her Majesty was a patron of the Society, and took a deep interest in its welfare, as evidenced by the magnificent display of hardy fruit from Her Majesty's gardens. The President, in giving the health of the "Sheriffs of the City of London," said they were in hopes of having the Lord Mayor present with them that day; but as they were all aware, his lordship had been engaged in an exhausting series of enjoyment and dissipation in France. However, in the absence of the Lord Mayor, they were very glad indeed to have the presence of the Sheriffs of the City of London, who had been kind enough, not only to drive down to the palace, but to do so in state. They all knew what important duties the sheriffs of London discharged, and they were much obliged to the sheriffs for being present. The senior sheriff (Mr. Samuel) was a member of the Gardeners' Company, and they welcomed him in that capacity, as well as sheriff of London. He believed they had that day shown the Sheriffs such fruit as they had never seen before, as he considered a finer collection of hardy fruit had never been tabled in any exhibition in the Kingdom. He need hardly say how much they were all obliged to gentlemen from all parts of the kingdom who had been kind enough to contribute to the show. He was quite sure that the importance of fruit cultivation in this country would receive a very considerable fillip from the show. He thought they had successfully proved that they could produce in this country hardy fruit which could not be beaten in any part of the world. Referring to the correspondence which had been going on in the subject of fruit drying, the President said we in this country had never done much in that direction; that, however, was partly due to the fact that we did not readily combine for operations of that sort, which needed co-operation rather than individual effort. When there was a glut like there had been during the present year, and when there was a difficulty to find a profitable market for even good samples of fruit, it would be a great advantage if the surplus fruit could be dried, if only for domestic consumption. Recently there had been statements made about the quantity of butter imported to this country, representing about £10,000,000 annually. Whatever could be said about fruit-drying, there was no doubt that we could produce butter of the highest quality. When farming was so precarious, it did not say much for the farming classes if they could not compete with the foreigner in the matter of butter.

Alderman and Sheriff Samuel responded. He said that, in justice to their civil chief, he must tell them that his lordship was that day attending a meeting of the Court of Common Council, and he was quite sure when the Lord Mayor heard of the reception that had been accorded to the sheriffs, he would regret, as much as they all did, that he was unable to be present with them. The City of London had always, by their guilds, taken a deep interest in anything that could tend to the supremacy and the welfare of the country at large. It was one of the most pleasant functions of the sheriffs to attend on such occasions as the present to testify by their presence how much they desired to see British industries flourish.

Sheriff Hand proposed the Royal Horticultural Society. He dwelt upon the growth of the society, and said there was no knowing what would be the result of the next twenty-five years' work if even only one half of the 3,500 Fellows did their level best.

The President responded. He said the Society was in a satisfactory condition, and was the acknowledged head of the horticulture of the United

Kingdom. He bore testimony to the excellent work done by all concerned, especially mentioning the valuable services rendered by their Assistant-Secretary, Mr. John Weathers, in the regrettable absence through illness of their Secretary, the Rev. W. Wilkes. The President thanked the authorities of the Crystal Palace for their efforts to make the show a success, which he sincerely hoped it would be financially, and otherwise.

The President next gave the toast of "The Judges," and thanked those gentlemen for all they had so kindly done.

Mr. Dunn, gardener to the Duke of Buccleuch, responded.

Mr. Pearson, of Chilwell, proposed the toast of "The Press—Horticultural and General." Mr. Barnes, *Standard*, responded; and the proceedings ended.

THE SHOW.

The schedule is divided as follows: Division I. containing seventeen classes, for fruits grown under glass or otherwise, open to all. Division II., including six classes, open to nurserymen only. Division III., containing twenty-eight classes, for fruits grown in the open air, open to gardeners and amateurs only. Division IV., containing sixty-four classes, for single dishes of fruit grown in the open air (amateurs and gardeners only). Division V., containing five classes for dried fruits, not preserved in fluid or sugar, the fruit to be grown and dried in the British Islands; and Division VI. containing six classes, for which special prizes were offered. Below we give a report of the first three of these divisions, and the other three, together with important exhibits by the trade, must be deferred until next week.

DIVISION I.

FRUITS GROWN UNDER GLASS OR OTHERWISE, OPEN.

The leading class in this open division was one arranged for a collection of twelve dishes of ripe fruit, not fewer than six kinds, nor more than two varieties of a kind. Three exhibitors contended for honour here, and the successful one in obtaining 1st prize was Mr. J. McIndoe, gr. to Sir JOSEPH PEASE, Bt., M.P., Hutton Hall, Guisborough, Yorks. His three bunches of Foster's Seedling Grapes and Gros Maroc Grapes were good, not phenomenal. Pears, Pit-maston Duchess, and Doyenné Boussoch admirable; Peaches, Golden Eagle and Exquisite, excellent in colour and size excepting one, perhaps, in the dish of Exquisite, which was not quite equal. Yellow Magnum Bonum Plums and Bryanston Green Gage were good; Figs (Brown Turkey) very good; and Apple (Gascoigne's Scarlet) and Melon (Yorkshire Beauty) completed the collection.

The 2nd prize was taken by C. E. KEYSER, Esq., Stanmore, who had Black Alicante and Muscat of Alexandria Grapes, Victoria and Pineapple Nectarines, Thames Bank, and Sea Eagle Peaches, Brown Turkey Figs, a seedling Melon, and Hero of Lockinge Melon, and a Ripley Queen Pine weighing 6 lb. 10 oz. Plums, Golden Drop, and Pear Bauré Hardy, completed the exhibit, which was good in general quality, but not equal to Mr. McIndoe's.

Mr. Goodacre, gr. to the Earl of HARRINGTON, Elvaston Castle, Derby, was 3rd, and his fruits were of no mean quality.

The collection of eight dishes, including four kinds, and not more than two varieties of a kind—Pines excluded—was very well won by Mr. Geo. Reynolds, gr. to Messrs. de ROTHSCHILD, Gunnersbury Park, Acton, Middlesex, Gros Maroc Grapes with large well-coloured berries, Muscat of Alexandria fairly good, but with a few bad berries; capital Sea Eagle and Thames Bank Peaches, Pine-apple Nectarines, Sutton's Al Melon, Ribston Pippin Apples, and rather poor Coe's Golden Drop Plums were included. Mr. F. Harris, gr. to Lady H. SOMERSET, Ledbury, took 2nd position, in whose exhibit we remarked very commendable Gros Maroc Grapes, capital Golden Drop Plums, Pine-apple Nectarines, with high colour; and a very fine dish of Gladstone Peaches. Mr. W. J. Empson, gr. to Mrs. WINGFIELD, Amptill, was 3rd.

GRAPES.

Mr. GOODAORE staged thoroughly good, if not extraordinary, Grapes, in the class for six distinct kinds, two bunches of each, and well secured first place. His varieties were Lady Downes, Gros Colmar, Muscat of Alexandria, one bunch, capital; Barbarossa, Mrs. Pearson, and Alicante. The only other competitor was Mr. REYNOLDS, and he took 2nd prize for Chasselas Napoleon, Alicante, Trebbiano, Mrs. Pince, Muscat of Alexandria, and Gros Maroc, all of good average quality.

Three distinct kinds, two bunches of each.—This class was won by Mr. R. Grindrod, gr. to P. J. PHILLIPS, Esq., Whitfield, with half-dozen bunches, chiefly remarkable for an exceptionally large bunch of Black Alicante, and the berries also good and well coloured; but unfortunately some of the berries had been disfigured by rubbing. Two commendable bunches of Gros Colmar were included, but the Lady Downes were poor. Mr. A. Belcher, gr. to Sir E. H. BARNETT, Bt., Cranleigh, Surrey, was 2nd, with moderately good Grapes.

Black Hamburg, three bunches.—Mr. Wm. Taylor, gr. to C. BOYER, Esq., Forest Hill, London, was 1st in this class with moderately-sized bunches, of good quality for the date of the season; 2nd, Mr. W. MITCHELL, Chilworth Manor, Romsey, Hants; 3rd, J. A. TULK, Esq., Cowley House, Chertsey (gr., Mr. Newman). There were four other entries.

Madresfield Court, three bunches.—Mr. J. Day, gr. to G. J. MASSEY, Esq., Carlisle town, won in these classes, but he was very little before Mr. W. Taylor, gr. to C. BOYER, Esq., Forest Hill, who had shorter bunches with much larger berries. 3rd, Mr. J. Gibson, gr. to Earl COWLEY, Chippenham. There were four entries.

Gros Maroc, three bunches.—Mr. J. GIBSON won this class with very highly-coloured berries, and moderately sized compact bunches. Mr. DAY was only a little behind him, and the 3rd place was secured by Mr. Newman, gr. to J. A. TULK, Esq., Chertsey. There were five other entries.

Alicante, three bunches.—Three well-finished bunches staged by Mr. G. REYNOLDS, won in this class, but very much larger bunches less pretty, highly coloured, but the berries small were staged by H. TATE, Esq., Park Hill, Streatham Common (gr., Mr. W. Howe), and a little dissatisfaction was expressed. The 3rd prize treble came from Mr. J. BURY, Byfleet. There were six other exhibits.

Any other Black, three bunches.—Three excellent bunches of Mrs. Pince (Black Muscat) won in this class, and were staged by Mrs. W. MITCHELL, Romsey, Hants. The 2nd prize was awarded to Lady Downes, exhibited by C. S. S. DICRENS, Esq., Coolhurst, Horsham, Sussex (gr., Mr. A. Kemp); and the 3rd to an exhibit including an enormous bunch of Grasse Guillaume, hardly finished, and exhibited by C. BOYER, Esq., Forest Hill (gr., Mr. W. Taylor). There were five other exhibits.

Muscat of Alexandria.—The finest bunches in this class, in which there were seven entries, came from Mr. W. Tidy, gr. to W. D'ARCY, Esq., Stanmore. These had fine berries, well finished. Mr. W. Taylor, gr. to Alderman CHAFFIN BATTE, was 2nd with very large bunches, rather wanting finish, and Mr. Empson, gr. to Mrs. WINGFIELD, Amptill, was 3rd with smaller examples.

Any other white.—Mr. Taylor, gr. to C. BOYER, Esq., Forest Hill, was well 1st, having splendid Buckland Sweetwater, the berries showing very fine finish. Mr. Reynolds, gr. to the Messrs. ROTHSCHILD, Gunnersbury Park, was 2nd with excellent Chasselas Napoleon; and Mr. Robinson, gr. to W. LAWRENCE, Esq., Sittingbourne, was 3rd with Buckland Sweet water.

TOMATOS.

These were in wonderful form, there being ten lots of four varieties, though in some cases the likeness between so-called varieties was too discernible. Mr. Howe, gr. to H. TATE, Esq., of Streatham Common, was 1st, with a rather large, but deeply-coloured Trophy, Frogmore selected, Hackwood Park, and Sutton's Perfection; Mr. A. RYDER, Orpington, was 2nd with very handsome Duke of York, Ignouton, Mayflower, and Trophy; Mr. CARRAWAY, Pulbrook, coming 3rd.

There were sixteen single dishes, Mr. HELMAN, Lewes, having the best in very handsome Polegate; Mr. M. C. SANDERS, Tring, coming 2nd, with Ham Green Favourite; and Mr. Richards, gr. to R. SUMMERS, Esq., Streatham, with Perfection was 3rd.

The class for six clusters brought nine lots, of which Mr. J. GORE, Polegate, had the best, in good but not large ones of that variety; Mr. Wells, gr. to F. G. ARBUTHNOT, Esq., Bexley, was 2nd, with the Old Bed, capital clusters; Mr. J. HILL, New Malden, being 3rd, with Conference.

ORCHARD-HOUSE FRUITS.

There were four large collections shown in the class for hardy fruit, grown partly or entirely to illustrate orchard-house culture, although the bulk seemed to have come from walls or the open. Here Mr. C. Blick, gr. to M. W. SMITH, Esq., Hayes, was 1st, with fifty-four dishes of Apples, Pears, Peaches, Plums, Nectarines, Cherries, and all very fine. Mr. Potts, gr. to Sir MARK COLETT, Sevenoaks, was 2nd, also with very fine and somewhat similar fruit; Mr. McIndoe, gr. to Sir J. PEASE, Guisborough, being 3rd, with forty dishes, all good.

DIVISION II.—NURSERYMEN ONLY.

The first prize for a collection of fruit trees bearing fruit in pots in this important class, was won by Messrs. T. RIVERS & SONS, Sawbridgeworth, who staged a magnificent collection of fruit trees in pots. In the centre was a pyramidal tree of Salway Peach which had borne upwards of eighty fruits, but some of which had fallen during transit. Then there were well grown trees of Apples, including Wagener, Cox's Orange Pippin, Beauty of Kent, Pea-good's Nonsuch; Pears, Louise Bonne of Jersey, Parrot, Princess, Conference, St. Lezin, &c. Grapes, Trebbiano, Golden Queen, Black Alicante, Directeur Tisserand, and White Tokay; besides Peaches, &c., and other fruits.

Messrs. GEO. BUNYARD & Co., Midstone, were 1st in the class 19 for a collection of hardy fruits grown partly or entirely under glass to illustrate orchard-house culture. The collection was staged on a table, in the centre of which were some fruit trees in pots, carrying crops of good fruit. Apples, Baumann's Red Winter Reinette, Cornish Aromatic, and Rosemary Russet; Pears, Bauré Superfin, Madame Lye Baltet; Figs, Violet Sepor, Brown Turkey, and others; also Peaches, Princess of Wales and Sea Eagle were represented in this manner. On the tables the fruits in dishes were of capital quality, and included Apples, Pears, Crabs, Figs, Peaches, Plums, and Grapes, of very high quality.

Messrs. GEO. BUNYARD & Co. also won 1st honours in the class for a collection of not more than 100 distinct varieties of hardy fruits grown in the open. The produce was exhibited in dishes and baskets; in the centre of the larger baskets was a Palm, and the surface covered with a mound of Apples, while the centre-piece consisted of a cone of different coloured Apples, and surmounted with a Dracæna. The Apples, Pears, and fruit generally were excellent, and were effectively displayed by the inclusion of such high-coloured fruits as

Worcester Pearmain, Akera, Duchess of Oldenburgh, Mère de Méage, Lady Sudeley, Duchesses's Favourite, Colville Rouge, Précoce, and others.

Class 21 was for a similar collection of hardy fruit, to include not more than five varieties, and the 1st prize was taken by Mr. H. BERWICK, Sidmouth Nurseries, Devon, who staged a magnificent lot of fruit. Apples, such as The Queen, Peasgood's Nonsuch, Emperor Alexander, Cox's Pomona, Blenheim Grange, Cellini Pippin, Bismarck, Golden Noble, Worcester Pearmain, and many others were large and excellently coloured. Pears of Beurré Clairgeau, Louise Bonne of Jersey, Souvenir du Congrès; Peaches, Plums, &c., were alike good.

The best collection of fifty distinct varieties of Pears was won by Mr. J. WATKINS, Pomona Farm Nurseries, Hereford, who did well, considering the more difficult task of exhibiting Pears than Apples during the present season.

There were five collections in class 23, some very fine fruit being staged; and Messrs. GEORGE BUNYARD & Co., nurserymen, Maidstone, were awarded the Silver-gilt Medal for a collection conspicuous for the fineness and finish of the samples, and their brilliant colour. There were grand fruit of Mère de Méage, Peasgood's Nonsuch, Warner's King, Bramley Seedling, Tyler's Kernel, Blenheim Orange, Bauman's Red Winter Reinette, Brabant Bellefleur, Swedish Reinette, Washington, &c.

FRUIT GROWN IN THE OPEN AIR.

DIVISION III.—GARDENERS AND AMATEURS ONLY.

This [comprised much that had great interest for those interested in Apple and Pear culture in this country. Visitors accustomed to see Apples of Colonial production, were found asking if the grand fruits staged were English-grown, and seemed grateful that it was so. Many of the culinary Apples were very fine, and in not a few cases grandly coloured, and a feeling of exultation that such fine specimens were the products of English gardens was justifiable.

Culinary and Dessert Apples.—In the class for eighteen dishes, twelve culinary and six dessert, there were eight competitors. Mr. G. Woodward, gr. to Major WARDE, Barham Court, Maidstone, was 1st with really superb examples of Tyler's Kernel, Lord Derby, Peasgood's Nonsuch, Stone's, Emperor Alexander, Belle Duboise, Bismarck, Belle Pontoise, Gascoyne's Scarlet Seedling, Washington, Mère de Méage, Warner's King, and The Queen; of dessert varieties, Cox's Orange Pippin, Baumann's Red Winter Reinette, Wealthy, Ribston Pippin, King of Pippins and Cornish Aromatic, all grandly coloured. 2nd, Mr. Geo. Goldsmith, gr. to E. G. LODER, Esq., Horsham, who had very fine Emperor Alexander, Gloria Mundi, Peasgood's Nonsuch, Lord Derby, Mère de Méage, Cox's Pomona, Bismarck, Cellini Pippin, very fine; and The Queen; and of dessert varieties, Wealthy, King of Pippins, Cox's Orange Pippin, and Ribston Pippin. 3rd, Mr. W. King, gr. to J. COLMAN, Esq., Gattin, Reigate, also with some very good fruit.

With twelve dishes, eight cooking and four dessert, there were fourteen competitors, Mr. T. W. STARTUP, Maidstone, taking the 1st prize with excellent examples of Warner's King, Lord Derby, Gascoyne's Scarlet Seedling, very fine; Peasgood's Nonsuch, Beauty of Kent, New Hawthornden, The Queen, and Stone's; and of dessert varieties, Mahbot's Pearmain, Ribston Pippin, Bauman's Winter Reinette, and Cox's Orange Pippin; 2nd, Mr. A. T. KILLICK, Maidstone, who had of culinary varieties, Lord Derby, Peasgood's Nonsuch, Bismarck, Gascoyne's Scarlet Seedling, Mère de Méage; and of dessert, Worcester Pearmain, Ribston Pippin, and Cox's Orange Pippin; 3rd, Mr. W. G. PRAGNELL, gr. to J. K. D. WINGFIELD DIGBY, Esq., Sherborne Castle. Admirable fruit was shown in this class.

There were sixteen competitors with nine dishes of apples, six cooking and three dessert. Mr. T. Turton, gr. to J. HARGREAVES, Esq., Maiden Erlegh, Reading was 1st, who had finely-finished fruit of Emperor Alexander, Mère de Méage, Peasgood's Nonsuch, Warner's King, Cox's Pomona, and Loddington Seedling; and of dessert Apples, Ribston Pippin, King of Pippins, and Cox's Orange Pippin; 2nd, Mr. S. H. GOODWIN, Warwick, also with capital fruit of Peasgood's Nonsuch, Cox's Pomona, Blenheim Orange, and Yorkshire Beauty; and of dessert fruit, King of Pippins and Worcester Pearmain; 3rd, Mr. R. GRINDROD, gr. to R. S. PHILLIPS, Esq., Whitfield, who had very fine Peasgood's Nonsuch, Mère de Méage, Emperor Alexander, and Warner's King.

Culinary Apples.—There were thirteen collections of six dishes. Mr. WOODWARD taking the 1st prize with magnificent examples of Warner's King, Emperor Alexander, Lord Derby, Stone's, Belle Duboise, and Peasgood's Nonsuch. 2nd, Mr. S. J. WRIGHT, gr. to C. LEES CAMPBELL, Esq., Gleston Court, Hertfordshire, who had very fine Warner's King, Peasgood's Nonsuch, Lord Sniffield, Belle Duboise, Lane's Prince Albert and Ecklinville. 3rd, Mr. J. E. BARTON, gr. to Sir E. PAUL BACK, Twickenham, who had very fine Winter Hawthornden, Lord Sniffield, Peasgood's Nonsuch, and Emperor Alexander. The best three dishes out of twelve competing collections came from Mr. B. C. SANDERS, gr. at Halton, Tring, who had wonderfully fine Peasgood's Nonsuch, Emperor Alexander, and The Queen. 2nd, Mr. A. T. KILLICK, with very fine Peasgood's Nonsuch, Warner's King, and one unnamed; 3rd, Mr. W. JONES, gr. to J. R. BROUGHAM, Esq., Carshalton.

Dessert Apples.—There were nine entries of six dishes. Mr. WOODWARD again being 1st, with fine and superbly coloured examples of Washington, Ribston Pippin, Red Winter Reinette, Cox's Orange Pippin, Lady Sudeley, and Calville Rouge Précoce; 2nd, Mr. G. GOLDSMITH, with Cox's Orange Pippin, King of Pippins, Egremont Russet, Ribston Pippin, Adam's Pearmain, and Gravestein; 3rd, Mr. BANNISTER, gr. to H. ST. VINCENT AMES, Esq., Westbury-on-Trym. With

three dishes, Mr. ATKINS, gr. to O. S. S. DICKERS, Esq., Horsham, was 1st out of thirteen competitors, having excellent fruit of Ribston Pippin, American Mother, and Cox's Orange Pippin, all finely finished; 2nd, a collection which bore no exhibitor's name, the varieties King of Pippins, Cox's Orange Pippin, and Ribston Pippin; 3rd, Mr. T. TURTON with the same varieties.

Dessert Pears.—Some very fine Pears were shown, though they lacked the relative size and finish seen in the Apples; the best eighteen dishes, there being four competitors, came from Mr. G. GOLDSMITH, who had Souvenir du Congrès, Duchesse d'Angouleme, Pitmaston Duchess, General Todleben, Sylvestre d'Automes, Van Mons Leon le Clerc, Princess Beurré Alexander Lucas, Marguerite Marillat, Beurré Diel, Marie Louise d'Uccle, Louise Bonne of Jersey, Madame Treyve, Doyenne Boussouch, Maréchal de la Cour, Beurré Superfin, Doyenne du Comice, and one unnamed. 2nd, Mr. WOODWARD also with good fruit of Durondeau, General Todleben, Grosse Calebasse, Pitmaston Duchess, Marguerite Marillat, Emile de Heyst, Fondante Therriott, Marie Benoit, Triomphe de Vienne, Beurré Diel, Doyenné Boussouch, Beurré Superfin, Brockworth Park, Reine des Tardives, Princess, &c. 3rd, Mr. SPENCER, gr. to H. C. MOFFATT, Esq., Goodrich, Herefordshire, who had fine fruit of Marie Louise d'Uccle, Durondeau, Doyenné de Merode, Souvenir du Congrès, and Beurré Bachelier.

There were eight exhibitors of twelve dishes. Mr. Cotterill, gr. to Sir W. GEAR, Tonbridge, was 1st, with good examples of Beurré Clairgeau, Gen. Todleben, Pitmaston Duchess, Marie Louise, Maréchal de la Cour, Duchesse d'Angouleme, Brockworth Park, Doyenné du Comice, Beurré Bosc, Beurré Superfin, Gansel's Bergamot, Madame Treyve, and Beurré Rance. 2nd, Mr. W. PRAGNELL, with Beurré Clairgeau, General Todleben, Pitmaston Duchess, Marie Louise, Louise Bonne of Jersey, Marie Louise d'Uccle, Beurré Diel, Doyenné du Comice, Maréchal de la Cour, Beurré Superfin, and Winter Nelis; 3rd, Mr. A. OFFER, gr. to J. WARREN, Esq., Handcross Park, Crawley.

There were seven exhibitors of nine dishes of Pears, Mr. J. GIBSON, gr. to Earl COWLEY, Chippenham, taking the 1st prize with good fruits of Beurré Clairgeau, Duchesse d'Angouleme, Pitmaston Duchess, Flemish Beauty, General Todleben, Triomphe de Vienne, Durondeau, Alexandre Lamhre, and Louise Bonne of Jersey; 2nd, Mr. J. E. BUXTON, who had Pitmaston Duchess, Flemish Beauty, Brockworth Park, Durondeau, Louise Bonne of Jersey, Marie Louise, very fine; and Marie Louise d'Uccle; 3rd, Mr. G. W. JONES.

With six dishes there were eight competitors, Mr. W. BANNISTER taking the 1st prize with Pitmaston Duchess, Madame Treyve, Maréchal de la Cour, Beurré Superfin, Marie Louise, and Durondeau, all very finely coloured. 2nd, Mr. SLOGROVE, gr. to Mrs. CRAWFORD, Reigate, who had Pitmaston Duchess, Doyenné du Comice, Triomphe de Vienne, Brockworth Park, and Doyenné Boussouch. 3rd, Mr. RICKWOOD.

There were eight exhibitors of three dishes, Mr. G. Fennell, gr. to W. M. CAZALET, Esq., Fairlawn, Tonbridge, was 1st with Marguerite Marillat, Pitmaston Duchess, and Souvenir du Congrès; 2nd, Mr. R. EDWARDS, gr. to G. H. FIELD, Esq., Bushey Lees, Sevenoaks, with Doyenné du Comice, Madame Treyve, and Pitmaston Duchess; 3rd, Mr. C. THOMPSON, gr. to Messrs. W. & E. WILLS, Hounslow.

Steeping Pears.—There were eight exhibitors of three dishes, Mr. WOODWARD taking the 1st prize with Vicar of Winkfield, General Todleben, and Catillac; 2nd, Mr. W. COTTERELL, with Uvedale's St. Germans, Vicar of Winkfield, and King Edward; 3rd, Mr. G. GOLDSMITH. With a single dish, Mr. J. MASTERSON, gr. to the Countess of CAMPERDOWN, Shipston-on-Stour, was 1st, with Uvedale's St. Germans; Mr. J. GIBSON, Chippenham, came 2nd, with Vicar of Winkfield; and Mr. B. EDWARDS 3rd, with the same.

Peaches.—There were twelve collections of three dishes, Mr. WOODWARD taking the 1st prize with very good fruit indeed of Nectarine Peach, Sea Eagle, and Princess of Wales. 2nd, Mr. C. HERRIN, gr. to C. M. FORTESCUE, Esq., Dropmore, Maidenhead, with Sea Eagle, Barrington, and Walburton Admirable. 3rd, Mr. J. MCINDOE, gr. to Sir J. W. PEASE, Bt., Hutton Hall, Guisborough, with Golden Eagle, Princess of Wales, and Exquisite. The best dish of any one variety of Peach was Barrington, from Mr. Richards, gr. to R. SUMMERS, Esq., Streatham; Mr. Markham, gr. to Viscount FALMOUTH, Mereworth, was 2nd, with Princess of Wales. There was but one collection of three dishes of Nectarines, from Mr. GOLDSMITH, who was awarded the 1st prize with unnamed fruit. Only one dish was staged in the class for a single dish, and the first was quite unripe.

Plums.—There were five exhibitors with four dishes of Plums, Mr. MCINDOE taking the 1st prize, with excellent fruit of Monarch, Golden Drop, Jefferson's, and Bryanston Green Gage; 2nd Mr. G. Day, gr. to C. J. MASSEY, Esq., Garlistown, who had Kirke's Golden Drop, Reine Claude de Bay, and Lawson's Golden Gage; 3rd, Mr. J. MASTERSON.

With one dish of dessert Plums other than Gages, Mr. C. HERRIN, gr. to the Hon. G. M. FORTESCUE, Dropmore, was 1st with very fine Coe's Golden Drop; Mr. RICKWOOD, gr. to Lady FREAKE, Twickenham, being 2nd; and Mr. Fennell, gr. to W. M. CAZALET, Esq., Tonbridge, being 3rd with same variety.

Mr. J. Day, gr. to C. J. MASSEY, Garlistown, had the best four dishes of Plums, with Pond's Seedling, Goliath, and Victoria; Mr. MCINDOE coming 2nd with Pond's Seedling, Magnan Bonum, Monarch, and Grand Duke; Mr. J. NOWELL, Abergavenny, was 3rd.

In the single dish class of cooking varieties, Mr. EMPSON was 1st with fine Grand Duke; Mr. W. C. SANDERS coming 2nd with Monarch, and Mr. TEBBUTT, Isleworth, 3rd, with Belle de Septembre.

Then in the single dish class for Gages, Mr. Hill, gr. to C. W. ADEANE, Esq., Cambridge, was first with Reine Claude; Mr. MCINDOE coming 2nd with Bryanstone Gage, and Mr. NOWELL was 3rd with Golden Gage.

Only two dishes of Purple Gages were staged, but neither secured an award.

Damsons were largely shown, the best three dishes coming from Mr. FENNEL who had Cluster King, and Prune varieties; Mr. KILLICK, Maidstone, was 2nd with Prune, Farley, and the Old Damson; Mr. Royall, gr. to Major DUGDALE, Stourminster, being 3rd. The best dish of Bullaces came from Mr. TEBBUTT, Mr. WELLS coming 2nd; and Mr. FENNEL, 3rd.

Cherries.—The best Morello Cherries were from Mr. MASTERSON, gr. to the Countess of CAMPERDOWN, Shipston-on-Stour; Mr. NOWELL and Mr. DAY coming 2nd and 3rd.

Nuts.—Mr. Turton, gr. to JOHN HARGREAVES, Esq., Marden Estate, was 1st for ten dishes, and Mr. J. GOODWIN, Mereworth, was 2nd with six dishes—fine Kentish Cobs and Filberts being prominent. Mr. G. HILMAN, Lewes, was 3rd.

Quinces.—There were fourteen lots of Quinces, the best coming from Mr. MITCHELL, Romsey, Hants; Mr. King, gr. to J. COLMAN, Esq., Galton, Reigate, 2nd, and Mr. GARAWAY, Bath, 3rd.

(To be continued.)



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Table with columns for DISTRICTS, TEMPERATURE (ACCOMULATED), RAINFALL, and BRIGHT SUN. It contains numerical data for various districts across the UK.

The districts indicated by number in the first column are the following:— 0, Scotland, N. Principal Wheat-producing Districts— 1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. Principal Grazing, &c. Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; "Channel Islands."

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending September 21, is furnished from the Meteorological Office:—

"The weather continued very fine and dry over the Kingdom generally, but a considerable amount of rain was again experienced in the north of Scotland, and some slight falls occurred in most other localities about the middle of the week."

"The temperature continued above the mean, the excess ranging from 1° to 3°. The highest of the maxima were registered in most places on the 18th, and varied from 76° or 77° in most of the English districts, to 66° in 'Scotland, W.', and to 64° in 'Scotland, N.' The lowest of the minima were recorded either on the 20th or 21st, when the thermometer fell to 31° in 'Scotland, W.', 33° in the 'Midland Counties,' and to between 35° and 40° in most other districts; in the 'Channel Islands' the lowest reading was 48°. At the inland station the diurnal range of temperature was very large."

"The rainfall exceeded the mean in 'Scotland, N.,' but was less in all other districts. Over the greater part of the Kingdom the fall was extremely slight."

"The bright sunshine was again very prevalent in all districts, excepting 'Scotland, N.' The percentage of the possible duration ranged from 71 in the 'Channel Islands,' and from between 46 and 54 over England, to 33 in 'Scotland, E.' and to only 15 in 'Scotland, N.' The highest percentage recorded at any individual station was 80 at Jersey."

MARKETS.

COVENT GARDEN, September 26.

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

OUT FLOWERS.—AVERAGE WHOLESALE PRICES.

Table listing various flowers and their prices, including Arums, Asters, Bouvardias, Carnations, Chrysanthemums, Eucharis, Gardenias, Gladioli, Lapageria, Lilium Harrisii, Lilium lancifolium, Lily of the Valley, Maidenhair Fern, and Marguerites.

ORCHID-BLOOM in variety.

FRUIT.—AVERAGE WHOLESALE PRICES.

Table listing various fruits and their prices, including Apples, Cobs, Damsons, Figs, Filberts, Grapes, Melons, Peaches, Pears, Pine-apples, Plums, and Guernsey.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

Table listing various plants in pots and their prices, including Adiantum, Aspidistra, Asters, Chrysanthemums, Coleus, Cyperus, Dracæna, Evergreen Shrubs, and Ferns.

VEGETABLES.—AVERAGE WHOLESALE PRICES.

Table listing various vegetables and their prices, including Beans, Cauliflowers, Cucumbers, Marrows, Mushrooms, Tomatoes, and Potatoes.

POTATOS.

Snowdrops, 90s. to 100s.; Beauty of Hebrons, 60s.; Bruce and Megnums, 50s. to 70s., according to sample and quality; Blackland Megnums, 30s. to 40s. On account of the very mild weather, trade dull. J. B. Thomas.

SEEDS.

LONDON: Sept. 25. — Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., state that the reports received from all the Clover and Grass seed-producing countries indicate abundant crops, and of good quality; low prices all round are consequently anticipated during the approaching season. The sowing demand for Trifolium is now dying off. There is no change in seed Rye. The new Pess and Haricot offer reasonably; the abnormally hot weather now prevailing naturally limits, for the moment, the sale of these articles. As regards Bird-seeds, there is no fresh feature. Scarlet and White Runner Beans are quoted cheap. No alteration is shown in either Mustard or Rape-seed. New English Wheat, suitable for seed, come forward slowly.

CORN.

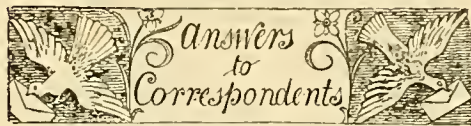
Averages. — Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending September 21, and for the corresponding period in last year: — 1895: Wheat, 22s. 7d.; Barley, 24s. 2d.; Oats, 13s. 3d. 1894: Wheat, 19s. 8d.; Barley, 23s. 5d.; Oats, 15s. 2d.

ENQUIRIES.

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

CANON TRISTRAM, in his book on Japan, speaks in high praise of a creeping Pyrus japonica. What is this? I never heard of it, and it is not mentioned in the Japanese nurserymen's lists. E.

LADY-GARDENERS' ASSOCIATION IN THE MIDLANDS. — A correspondent desires the address of this association. Can any reader kindly furnish it?



Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.

PLANTS, FRUITS, ETC., TO BE NAMED. — Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.

ABNORMAL FLOWER OF ODONTOGLOSSUM GRANDE: H. C., Surrey. The specimen sent consists of two flowers of Odontoglossum grande joined together on a fasciated stem. Both flowers are perfect. The occurrence is not uncommon, and plants on which such abnormal growth takes place are liable to do the like again. In some the peculiarity becomes fixed.

ADDRESS BOOK: H. & Son. There are two, one being published at the office of the Journal of Horticulture, 171, Fleet Street, E.C., and the other at the office of The Garden, 37, Southampton Street, Strand, W.C.

BOOKS: Hurst & Son. Practical Forestry, by A. D. Webster, 2nd edition; published by W. Rider & Son, Limited, 14, Bartholomew Close, E.C. Price 5s. Twenty-one illustrations. A much larger work treating of the scientific, as well as the practical sides of Forestry, is Dr. William Schlich's Manual of Forestry. It is published in three volumes by Messrs. Bradbury, Agnew & Co., 8, 9, and 10, Bouverie Street, E.C. It is well illustrated, and is the standard work on the subject. A new edition of Brown's Forester has also recently been published. — Sir C. S., Boynton. Fruit Culture, by J. Cheal, contains just the kind of information the gardener stands in need of. Published by Messrs. G. Bell & Sons, York Street, Covent Garden, W.C.

BUSINESS OF MARKET GARDENER, &c.: H. H. A. No premium would be required. If you have no acquaintance with growers for market, you should make use of our advertising columns. The business cannot be learned in less than six months in it. "Read, mark, learn" should be your motto.

CARNATION: W. J. G. A monstrosity known as the Wheat-ear Carnation, often figured in our columns. It is not very uncommon.

DAHLIAS: J. Corderoy. The flowers sent are very singularly marked; indeed we do not remember to have seen any quite like them. It is no unusual occurrence to have flowers of dissimilar colours on the same plant in single and double-flowered varieties, the Dahlia being much given to sporting. You may be lucky in reproducing the particular varieties from seed, and fixing their characters.

DONATION. — Mr. A. J. Keen sends postal-order for 2s. 6d. as a donation to the Royal Gardeners' Orphan Fund, which we gladly forward to the secretary, Mr. A. F. Barron.

EARLY MELONS AND CUCUMBERS: S. T. K. To describe in full the various practices of cultivators would occupy too much of our space, and we would advise you to buy the manual entitled Cucumber and Melon Culture for Amateurs, by W. J. May, published at the Bazaar Office, 170, Strand, price 1s.

FLY: L. Dawes. The fly is Chlorops scularis, the larvae feed in the straw of cereals. R. McL.

GREASE BANDS FOR FRUIT TREES: Joe. Cart grease answers very well. It should be smeared on waterproof paper passed three or four times round the stem. Broad bands of zinc with the upper part for the space of an inch bent over at a right angle, if smeared in the same manner, are an effectual stop for the wingless members of the Winter-moth. Means should be taken to prevent the grease running on to the bark; and the application of grease must be renewed occasionally, as it tends to get hard, allowing the moths to cross the band without hindrance. Put the bands on early in the next month.

HORSE-CHESTNUT: J. D. Large and coarse things have often the prefix "horse" attached to them. The vessels of the leaf-stalk are arranged in the form of a horseshoe. The nuts are also supposed to be beneficial in some diseases of the horse.

INSECTS: G. P. 1. The leaves of the Morello appear to be attacked by the grub of a saw-fly. 2. Grubs of the common cockchafer. — Interested. Wire-worms are not at all particular as to whether the roots are sound or not.

MELONS AND CUCUMBERS: S. T. K. The two varieties you mention of the first-named fruit are suitable; you might add the following: — Eastnor Castle, Frogmore Seedling, Golden Perfection, Gunton Orange, Read's Scarlet-flesh, and The Countess. Telegraph Cucumber, as you say, is excellent, so are Market Favourite, Tender and True, and Allan's Favourite.

MINA LOBATA: W. P. It is a half-hardy annual. It may be obtained of W. Thompson, Tavern Street, Ipswich.

* * * The applications to name flowers, and especially fruit, are so numerous at this season as severely to tax our resources. They entail an expenditure of time, labour, and money, of which our readers have no idea. We are always willing to oblige our correspondents as far as we can, but the editing of the Gardeners' Chronicle is our business, to which everything else must give way. Correspondents are respectfully requested to observe the rule that not more than six specimens be dealt with at a time. If more are sent, it would be a graceful act on the part of the sender, to send also a small contribution to the Gardeners' Orphan Fund. Delay in any case is unavoidable.

NAMES OF FRUITS: D. W. C. McIntosh. 1, Worcester Pearmain; 2, Cox's Orange Pippin; 3, send later; 4, not recognised; 5, Claygate Pearmain. — A. J. K. 1, Doyenné du Comice; 2, not recognised; 3, Gregoire de Bourdillon; 4, not recognised; 5, Marie Louise; 6, not recognised; 7, Conseiller de la Cour. — L. A. 1, Verulam; 2, Marie Louise; 3, not recognised; 4, Triomphe de Jodoigne; 5, Emile d'Heyst; 6, Beurré Clairgeau. — W. E. N. 1, New Hawthornden; 2, Lane's Prince Albert; 3, not recognised; 4, too small to be recognised; 5, Blenheim Orange; 6, Reinette du Canada. — J. P. 1, Lane's Prince Albert; 2, Lord Suffield; 3, Cox's Orange Pippin; 4, Wellington; 5, not recognised; 6, Annie Elizabeth; 7, King of the Pippins. — W. R. F. 1, Power of Glamis; 2, Emperor Alexander; 3, not recognised. Cherries: J. N. L. Fruit quite smashed, therefore not recognisable. — J. W. 1, Trumpington; 2, Rosemary Russet; 4, Dumelow's Seedling; others unrecognised. — W. E. T. Pear Beurré d'Amanlis; 2, Jersey Gratioli; 3, Lane's Prince Albert; 5, Landeberger R-inette; 7, Pine-apple Russet; 6, Blenheim Orange. — M. H. Wilford. 1, Dutch Codlin; 2, Cellini; 4, Keawick Codlin; Pear, a worthless sort, unknown. — G. T. Colea. 1, Lord Grosvenor; 2, King of the Pippins; 3, Sam Young; 4, Beespool; 5, Court of Wick. — A. Reid. 1, Lord Derby; 2, Forge; 3, not recognised. — Tavistock. 3, King of the Pippins; 4, Lord Derby; 5, Golden Noble (?); 6, Biemarck. — Old Subscriber. Pears, 1, Doyenné Boussoch; 3, Thompson's; 4, Lord Derby; 5, rotten; Apple, 6, Stone's. — Sir C. Strickland. Pear greatly bruised, most probably Beurré d'Amanlis. — Joe. 1, Mank's Codlin; 2, Lord Suffield; 3, Yorkshire Beauty; 4, Calville St. Sauveur; others not known. — W. S. T. Souvenir du Congrès.

NAMES OF PLANTS: Correspondents not answered in this issue are requested to consult the next number. — W. K. 1, Oncidium excavatum; 2, Oncidium prætextum; 3, is a leaf of Oncidium Jonesianum we should say, although O. Cebolleta, a yellow species having similar leaves, is imported with O. Jonesianum. — S. S. B. The flower is not of the species known in gardens as Cattleya amethystoglossa (C. guttata Prinzii). It seems to be a small form of C. Leopoldi. Some varieties of C. elongata (Alexandrea) resemble this, and it is possible that yours may be that species, if so, the inflorescence will be carried up on a long stalk. If you would

like the question definitely settled, kindly send a full-length inflorescence when it is fading.—*A. G.* 1. *Smilax asper*; 2. *Arabis lucida variegata*; 3. *Sedum stoloniferum* (syn. *S. spurium*); 4. *Myrtus communis* (large-leaved); 5. *Helianthemum* var. (Rock Rose); 6. *Pyrus* sp.; 7. *Helianthus decapetalus multiflorus*.—*G. R.* 1. *Miltonia Clowesii*; 2. *Cattleya Forbesii*; 3. *Hæmanthus coccineus*; 4. *Aspidium aristatum variegatum*; 5. *Casuarina stricta*; 6. *Pelargonium grossularioides*, or a cross from it.—*G. W.* *Cassia corymbosa*. Fruit next week, if possible.—*F. W. B.* *Crataegus sibirica*, sometimes called *sanguinea*.—*S. J.* 1. *Pandanus graminifolius*; 2. *Anthurium cordifolium*; 3. *Hibiscus rosasinensis striata plena*; 4. *Saccharum officinarum* (Sugar-cane), so far as we can judge by the specimens sent; 5. *Parietaria officinalis*.—*F. B.* 1. *Helianthus decapetalus multiflorus*; 2. *Helianthus rigidus*; 3. *Aster novæ-belgii*; 4. *Helianthus lœtiflorus*; 5. *Cyrtomium falcatum*.—*T. T., Leeds.* 1. female flowers of *Catasetum purum*; 2. *Dendrobium secundum*; 3. *Dendrobium Leeanum*; 4. *Dendrobium Phalæopsis*, a very handsome and distinct light form; 5. *Odontoglossum* species of the *O. odoratum* section, but seemingly distinct.—*A. M., Brixton.* A broken leaf of some grass, with the seeds of some plant adhering to it.—*John Dimmick.* *Salvia Horminum*.—*W. H. G.* 1. *Polygonum cuspidatum*; 2. *Helianthus multiflorus*; 3. *Silphium perfoliatum*; fruit next week, if possible.—*H. R.* *Kalmia angustifolia*.—*E. H. C.* 1. not recognised; perhaps *Indigofera*.—2. *Pyrola minor*; 3. *Melilotus officinalis*, white variety.—*C. G.* 1. *Polygonum Fagopyrum*; 2. *Salvia Horminum*.

NURSEYMAN: *E. J.* You should stick to the business. The wages paid are not everywhere so low as you are receiving. Endeavour to better your position, advertise, &c. We do not think that floral decorators, unless they have special abilities, are better remunerated than men in your branch.

PEARS WITH FITTINGS AT THE SURFACE: *H. S. W.* The result of a check to growth, arising, probably, from the roots being in an unfavourable soil. Take up the tree and replant it on another site in loamy soil, a little manure, lime rubbish, crushed bones. See that the drainage is good; or if too large for successful transplanting, destroy it, and plant a new tree of another variety; putting a layer of chalk, 1 foot thick, rammed hard, coal-ashes or concrete below the roots at not less than 3 feet from the surface. This should not be less than 3 yards square.

PECCAN NUTS: *J. B.* A species of *Carya* or Hickory, not grown in this country for commercial purposes.

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TOMATOS: *S. T. K.* No cure for the "spot" on the fruits of this plant. Remove all affected fruit without delay, and burn them forthwith.

VARIEGATED HOP: *W. P.* The Hop is not an annual; at least, it is not treated as one in this country.

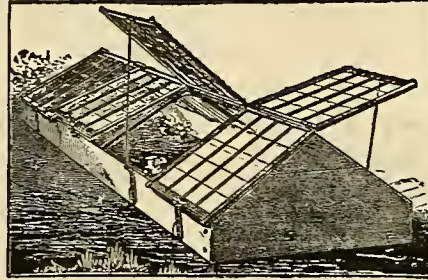
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COMMUNICATIONS RECEIVED.—*W. W.* (many thanks).—*E. L. B.*—*Melville.*—*C. S. G.*, Boston.—*E. L.*—*J. K.*, Hanley (many thanks).—*C. A.*, no one received. Was it a large branch?—*J. D.*—*H. L.*—*J. B. G.*—*C. O.*, Ochertyre (many thanks).—*H. W. W.*—*P. W.*, Russia.—*Keynes Williams & Co.*—*W. H. P.* (next week).—*H. J. V.*—*W. E. G.*—*W. T.*—*Laing & Mather.*—*E. H. J.*—*P. A.*—*Ottolander.*—*E. L. H.*—*R. A. R.*—*A. D.*—*E. Nicholas.*—*M. T.*—*J. Anderson.*—*Wild Rose.*—*R. D.*—*S. H.*—*H. W. W.*—*J. I.*—*J. R. J.*—*E. C. S.*—*A. F. B.*

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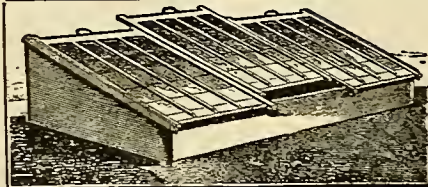
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A Weekly Illustrated Journal

(ESTABLISHED 1841)

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LAWRENCE, Sir Trevor, Bart., M.P., President, Royal Horticultural Soc.
LINDEN, Lucien, Brussels.
LOTHIAN, the Marquis of.
O'BRIEN, James.
PEITZER, Prof., Heidelberg.
REICHENBACH, Prof., the late.
RENDLE, A. B., Brit. Mus.
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BAINES, T., Southgate.
BENNETT, W., Rangemore Gardens.
BLAIR, T., Shrubland Gardens.
CLAYTON, H. J., Grimston Park.
COLEMAN, W., Eastnor Castle Gardens.
COOMBER, J., The Headre, Monmouth.
COOMBES, A., Himley Hall.
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MACLEOD, Dover House, Roehampton.
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MILES, G. T., Wycombe Abbey Gardens. (Fruit.)
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THE GARDENERS' CHRONICLE

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Advertisements for the current week MUST reach the Office by first post, Thursday morning.

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements,
41, WELLINGTON STREET, STRAND, W.C.

GARDENING APPOINTMENTS.

Mr. T. H. USHER, late Gardener to General Sir B. HARRISON, Hawley Hill, Blackwater, as Gardener and Bailiff to Mrs. WAINWRIGHT, Hoe Place, Woking, Surrey.

Mr. WILLIAM E. CLOSE, for the past three years Manager to Messrs. FREWER, BROS., Stowmarket, and formerly Head Gardener at Thorington Hall, Suffolk, as Head Gardener to J. D. COBBOLD, Esq., Holy Well, Ipswich.

Mr. JOHN SCOWSE as Head Gardener and Estate Superintendent to Lady GORDON CATHCART, Titness Park, Sunninghill, vice Mr. THOMAS DUNCAN, who has resigned.

Mr. J. T. SHANN, late Gardener at Plas Power, Wrexham, Denbighshire, as Gardener to THOS. BITCHIE, Esq., Maplewell, Woodhouse Gardens, Loughborough, Leicestershire.

Dorset County Council.

WANTED, an INSTRUCTOR in HORTICULTURE.—For particulars, apply SECRETARY, Technical Instruction Office, Dorchester.

WANTED, a Gentleman, to join a thoroughly practical Man with small capital, to carry on profitable Market Gardeners' Business. Glass, growing Tomatoes, Grapes, Peaches, &c.; also Garden of about 1 acre, which may be added to. Situate on the South Coast; easy access to town.—A. H., 4, Royal Exchange Buildings, E.C.

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BUDDEERS.—WANTED, TWO or THREE first-class ROSE and FRUIT BUDDEERS, with Nursery experience. Winter-work, Packing, Potting, Knifework, &c. Permanent employment. Wages, £7 per month and annual rise. Passage not paid.—J. C. NELSON, Cambridge Nurseries, near East London, Cape Colony.

WANTED, for the Cape of Good Hope.—Expert BUDDER and GRÄFTER of all kinds of trees. Liberal wages, passage paid. Only those that have testimonials of the highest order need apply. ALSO, young MAN for a home Nursery, who well understands Stove Plants, Ferns, Orchids, &c. Apply first, in own handwriting, to H. CANNELL & SONS, Swanley.

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WANTED, an experienced WORKING FOREMAN, to Manage and Develop a Horticultural Business. Married man preferred. Character must bear strict investigation. Wages 21s. per week, to be increased by results. House partly furnished; garden, and coal.—Address to HORTUS, 41, Wellington Street, Covent Garden, W.C.

WANTED, a WORKING FOREMAN, or MAN experienced in general Outside Nursery Work, and able to take Charge of Branch Nursery, in absence of Owner. No Glass.—State wages required, experience, and all particulars, to LANE, Nurseries, St. Mary Cray, Kent.

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T. CHALLIS, Nurseryman, Florist, &c., Keot House, Beckenham, Kent, has a VACANCY for a SHOP ASSISTANT, about 18. Must have some knowledge of the business, and good references.

NURSERY MANAGER.—WANTED, an active, working Nursery Manager, who thoroughly understands all departments of Nursery Work. One with a trade connection preferred.—Apply, stating wages and all other particulars, to WM. WATT, Nurseryman, Cupar, Fife.

WANTED.—Young MAN (age about 21), with some experience of Shop Trade and Salesman. Wages 20s. per week.—Apply, stating experience and references, to T. K. INGRAM, Parkstone Nurseries, Dorset.

WANTED, MAN and WIFE, as Under Gardener and Landress. Ages over 35.—Apply to F. MCKENZIE, The Warren, Loughton, Essex.

WANTED, MAN and WIFE, without family, age about 45; Man must have a good knowledge of Kitchen Garden; Wife to act as Caretaker; good wages; must have excellent testimonials.—Apply, by letter, to HEAD GARDENER, Chorleywood House, Rickmansworth.

SEED TRADE.—WANTED, a thorough energetic MAN, not under 30 years of age, well up in Garden and Farm Seeds, to take Charge of Warehouse, and see to the Execution of all Orders.—Apply, with copies of testimonials, stating age, wages required, &c., to M., Messrs. Hurst & Son, Hounslow, London, E.

INVOICE CLERK.—WANTED, the services of a MAN who has been brought up to the Nursery and Seed Business, capable to take charge of all the Invoice-work of a large firm, applicants stating age, salary required, references, &c., may be made to ALPHA, Gardeners' Chronicle Office, 41, Wellington Street, Strand, W.C.

WANTED, a SHORTHAND CLERK, to Conduct the Correspondence of a Nursery and Seedsman. A preference will be given to those having a knowledge of the business.—Apply, with full particulars, giving experience, expectation, &c., to SEEDS, Gardeners' Chronicle Office, 41, Wellington Street, Strand, W.C.

WANTED, LEDGER-KEEPER or INVOICE CLERK.—One that has had some experience in the Horticultural or Seed Trade.—Apply, by letter, stating age and salary required, to W. WOOD AND SON, Wood Green, London, N.

WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

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

F. SANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—F. SANDER AND CO., St. Albans.

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

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

GARDENER (HEAD), where three or four are employed.—Age 30; thirteen years' thoroughly practical experience in all branches; successful Fruit and Plant Grower. Abstainer; excellent references.—F. DEANES, Great Horkeley, Colchester, Essex.

GARDENER (HEAD); age 37, married.—T. HOBDAK, late Gardener to the Earl of Yarborough, desires engagement with Lady or Gentleman. Thoroughly practical and trustworthy. Life experience. Highest references.—T. HOBDAK, Clarence Park, St. Albans.

GARDENER (HEAD).—Age 39, married, one child; a GENTLEMAN can thoroughly recommend qualified all-round Man, practical plant-grower, very sober, honest, industrious; nine years good personal character last place.—G. JOHNSON, Netherbyres, Brunswick Road, Sutton, Surrey.

GARDENER (HEAD, or ORCHID-GROWER).—Age 39, married. Successful Exhibitor. Ten years' character from last employer.—JOHN EVANSON, General Post Office, Wrexham.

GARDENER (HEAD).—Age 30; seventeen years' practical experience in all branches. Highly recommended.—WILLEY, Mr. Wood, Head Gardener to Lord Boston, Hedsor Park, Maidenhead.

GARDENER (HEAD).—Mr. E. MOLYNEUX, Swanmore Park Gardens, Bishop's Waltham, will be pleased to recommend a really good hard-working Head Gardener, well qualified in every way. A comfortable small place not objected to. Address as above.

GARDENER (HEAD).—Age 37, married, no family; life experience in large establishments. Thoroughly practical in all branches. Highly recommended.—G., 2, Southwood Lane, Highgate, N.

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GARDENER (HEAD WORKING, with one or more under him); age 33, married, one child (age 9).—Mr. C. W. CATT wishes to highly recommend his Gardener. Nineteen years in the same family. Well up to his business in all its branches. Leaving because Garden is being given up. Church of England.—C. W. CATT, 52, Middle Street, Brighton.

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GARDENER (HEAD WORKING).—Age 32, married; seventeen years' experience in Gentleman's establishments. Excellent references forwarded.—J. KEMP, 121, Gladstone Road, Wimbledon, S.W.

GARDENER (HEAD WORKING).—Age 32; thoroughly experienced in Orchids, Stove and Greenhouse Plants, and Fruit, Flower, and Kitchen Garden. Excellent testimonials.—J. BROOKS, Hallow, near Worcester.

GARDENER (HEAD WORKING); age 35, married.—Mrs. COWBURN wishes to recommend her Gardener to any Lady or Gentleman requiring a thoroughly experienced, practical man. Eight years in present place. Highest references.—J. CLUTSOM, Tidenham, Chaptaw.

GARDENER (HEAD WORKING OR SINGLE-HANDED).—Age 31, married, one child; good practical experience in all branches; good excellent character.—R. H., Wheatsheaf Cottage, West Malling, Maidstone.

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GARDENER (HEAD WORKING); age 40, married.—A Gentleman wishes to highly recommend his Gardener. Thoroughly experienced in all branches; been awarded several Medals and high class prizes for Orchids. Excellent testimonials.—DUNCAN TUCKER, Esq., Mount Pleasant, Tottenham, London, N.

GARDENER (HEAD WORKING), age 30, to any Lady or Gentleman requiring a practical, energetic all-round Man. Thoroughly competent and trustworthy. Excellent references.—SCRAQQ, Hatchford Park, Cobham Surrey.

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GARDENER (SINGLE-HANDED), or where help is given.—Age 29, single. Total abstainer; good character. Life experience.—LOVE, Burghfield Hill, near Mortimer, Berks.

GARDENER (SECOND).—Age 28, single; experienced in the cultivation of Vines, Peaches, Melons, Cucumbers, Stove and Greenhouse Plants; excellent character.—A. PAYNE, Tandridge, New Oxted, Surrey.

GARDENER (SECOND).—Age 28; practical experience in Vines, Peaches, &c., Stove and Greenhouse Plants, and Flower and Kitchen Gardening; excellent character.—G. LEWENDON, 22, Edinburgh Road, Reading.

GARDENER.—F. C. CAPEL, Esq. (who has given up country house) recommends his late Gardener, who has been with him seventeen years, to any Lady or Gentleman requiring the services of a thoroughly efficient Man; Glass, Flowers, Vegetables, Fruit. Age 47; family.—Address, first instance, WM. ODLE, Wilmington, Dartford, Kent.

GARDENER (age 24) seeks situation in Kitchen, Flower, and Plain Gardens.—Two years' character.—W. WITTHALL, Aldwick, near Bognor.

GARDENER requires Situation; thoroughly up in All Branches of the Profession; glass preferred. Testimonials on application to HORTUS, "Star and Garter" Inn, Crouch, near Sevenoaks, Kent.

GARDENER (UNDER), where two or three are kept.—Age 22; three years in present situation, five previous; excellent references.—CLUES BROTHERS, Seedsmen, York.

GARDENER (UNDER), or IMPROVER, in a good Garden or Nursery.—RECTOR strongly recommends a young Man who has been in his garden for several years. Premium can be paid.—RECTOR, Alford, Billingshurst.

GARDENER (UNDER).—Age 21; seven years' experience Inside and Out; two and three years good characters from previous employers.—E. S., 63, Broadway, Ealing.

GARDENER (UNDER).—Age 22; seeks situation, Inside and Out. Seven years' experience. Good character.—T. MATTHEWS, Thorley, Bishop's Stortford, Herts.

GARDENER (UNDER).—Age 19; six years' experience. Mr. TULL, Nurseryman, Chalvey, Slough, will be pleased to recommend a strong, active young man as above. Four years' good character.

To Nurserymen.

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To Market Growers.

MANAGER.—Thirty-five years' practical experience in all kinds of Fruit-growing under Glass, Plants, and Cut Flowers. Good references. Five years last place.—CLARK, 1, Trinity Cottages, Crossbrook Street, Waltham Cross.

Agricultural Seed Trade.

MANAGER.—Engagement wanted; eleven years' practical knowledge in all branches. Seven years with London house. Would not object to travel.—CLOVER, 41, Wellington Street, Strand, W.O.

GROWER, or Under, age 25.—Ten years experience in London Nurseries among General, Softwooded and Foliage Plants, Ferns, Roses, &c.—G. S., 36, Dover Street, Sittingbourne, Kent.

GROWER.—Age 23; used to Ferns, Carnations, Bunching, and general Nursery Work. Eight years' experience. Good references.—B., The Gardeos, Aspden, Buntingford, Herts.

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PROPAGATOR and GROWER; age 27; Thirteen years' experience; Softwood, Ferns, Stove, General Market St. ff; Tomatos; Cucumbers Good References.—H. C., Vine Cottage, North Cray Road, Bexley, Kent.

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TO GARDENERS.—FOREMAN, or JOURNEYMAN (FIRST), seeks situation in a Nobleman's Garden. Five years' good reference.—H. MARSHALL, 19, Tucker Street, Wells, Somerset.

TO NURSERYMEN.—Good Outdoor man; age 29. Propagating, Budding, Grafting, Pruning, Planting, Growing. Fourteen years' experience.—WOKS, Plat, Boro' Green, near Sevenoaks.

TO NURSERYMEN.—WORKING FOREMAN, age 25, well acquainted with general outside Nursery work; good Budder and Grafter. Also good SALESMAN requires situation. Three years' excellent character from last situation.—W. H., 41, Wellington St., Strand, W.C.

NURSERY FOREMAN (Outside), Twenty-eight years' experience, Fourteen as Foreman; Fruits, Roses, Ornamental, or General.—State terms, &c., G. DAVIES, 29, Norfolk Street, King's Lynn.

FOREMAN.—A. FRENCH will be pleased to recommend a Man, age 26, to any Gardener in want of an energetic Man.—Ford Manor Gardens, Lingfield, Surrey.

FOREMAN, in good establishment; age 30.—S. LYON, Gardener to Viscount Bridport, highly recommends Walter Gough as above. Has lived with him two years in same capacity. Formerly at Powis Castle, Tatton Park, Wentworth, and other good Gardens. First-class Decorator, &c.—The Gardens, Cricket St. Thomas, Chard.

FOREMAN, Inside, where three or more are kept.—Age 27; twelve years' practical experience in the general routine of Indoor work.—G. C., 31, Abbey Foregate, Shrewsbury.

FOREMAN, or JOURNEYMAN (FIRST), Inside.—Age 27; ten years' experience. Two years as First Journeyman in last place. Well recommended from last and previous places. Abstainer.—F. BRESON, 3, Gladstone Cottages, Buckhurst Hill, Essex.

NURSERY FOREMAN.—Well up in the general routine of Nursery-work. Would take charge of a branch. Over twenty-five years' experience. Good references.—F. T., 37, Orchard Place, Belmont Road, Uxbridge, Middlesex.

To Nurserymen.

FOREMAN (GENERAL, Outdoor), or Ornamental Tree and Shrub.—Over twenty years' experience. Good references from present and previous employers. Midlands preferred.—SCOTSMAN, 98, Wellington Street, Slough.

TO NURSERYMEN.—FOREMAN, age 27; has good experience Inside and Out; well acquainted with general Pot-stuff, Cucumbers, Tomatos, Mushrooms, Chrysanthemums, &c.; good references.—H. P., 6, Oak Terrace, Manor Road, Chigwell, Essex.

FOREMAN, Inside.—Age 28; fourteen years' experience in Plant and Fruit Houses, &c. Previously as Foreman. Good references.—GEO. WHITE, Gatehouse, Westwell, Ashford, Kent.

FOREMAN.—Age 26; good experience in Plant and Fruit Houses, and general Garden Work. Highest references.—W. CAFFYN, 15, Stafford Road, South Beddington, Wallington, Surrey.

JOURNEYMAN (Inside), in good Gardens.—Age 23.—Can be confidently recommended by J. MALTBX, Denton Manor, Grantham.

JOURNEYMAN (INSIDE).—H. FENNELL, gardener to Lord St. Oswald, Appleby Hall, Doncaster, can with confidence recommend E. Dodson, age 22, who has been with him eighteen months, to anyone requiring the above.

JOURNEYMAN, in a good establishment.—Age 23; good Decorator. Good references from first-class establishments.—M. V. SEALES, Vine Nurseries, Sevenoaks, Kent.

JOURNEYMAN, in good Establishment.—Situation wanted by a young man, age 22, as above. Five years' experience. Can be well recommended.—HEAD GARDENER, Newlands, Teyham.

JOURNEYMAN (FIRST).—Wanted, by Gardener's Son, with excellent references, a situation as above. Life experience in Plant and Fruit Houses, and general routine of Gentleman's Garden.—JOURNEYMAN, Mr. Rae, 1, Oxford Villas, Wormley, Herts

JOURNEYMAN (FIRST).—Age 23.—A. TRAIL, The Gardens, Fulshaw Hall, Wilmslow, wishes to recommend as above. Seven years' experience.—T. BURGESS, Chapel Road, Alderley Edge, Cheshire.

JOURNEYMAN (Inside).—Age 22; eight years' experience; two years in present situation; good references.—P. W. A P S H O T T, Taplow Court Gardens, Maidenhead.

JOURNEYMAN, Inside, or Inside and Out.—Age 20. J. THOMPSON, Norton Stoke, Under Ham, would be pleased to recommend J. PITMAN, as above. Six years' experience. Abstainer.—Norton Stoke, Under Ham.

TO GARDENERS.—A young Man (age 15) seeks situation as IMPROVER in Gentleman's Garden or Nursery. Experienced Inside and Out. Good references.—C. FRANKLIN, 52, Kilburn Park Road, Kilburn, N.W.

IMPROVER.—Mrs. WEBB, Milford House, Godalming, recommends a youth of 18 as above.

IMPROVER.—Mrs. HENRY RITSON can with confidence recommend William Watson. Age 18; three years' experience. Both preferred. Would pay small premium.—WILLIAM WATSON, Sea View Lodge, Sunderland.

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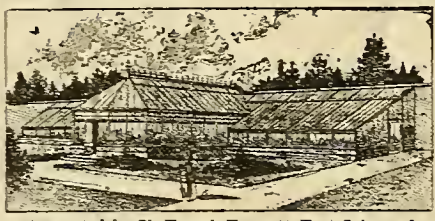
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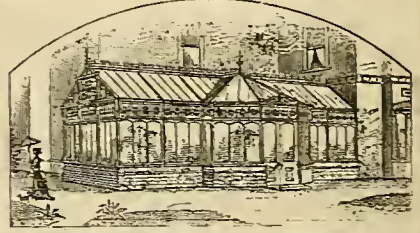
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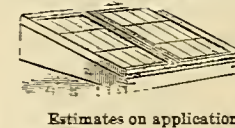
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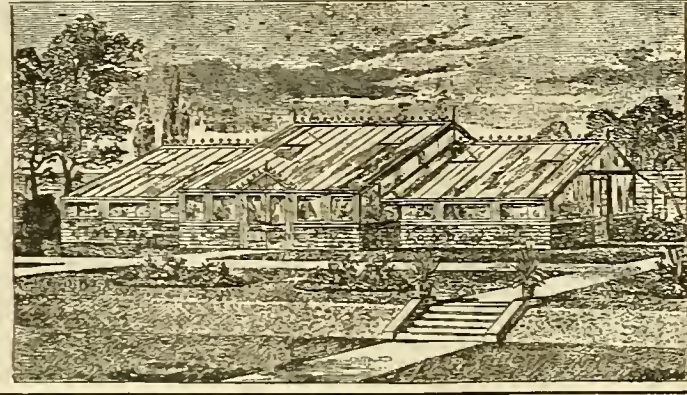
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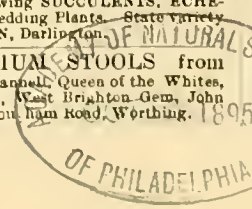
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MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, Arches Farm, Framfield, near Uckfield, on TUESDAY, October 15, at half-past 12 o'Clock, 15,000 Dwarf and Climbing ROSES, embracing the leading sorts of Hybrid Perpetuals, Gloire de Dijon, and other Teas; 100,000 MANETTI STOCKS, 6000 Standard, Pyramid, and Bush APPLES, in all the most profitable kinds; 6000 Standard PLUMS and DAMSONS, very fine trees; PYRAMID PEARS, 1500 Hybrid and Pontic RHODODENDRONS, 1 to 2½ feet, many of them large bushes; 1500 PINUS AUSTRALIACA, 3 to 9 feet, quartered trees, all recently transplanted, &c.

May be viewed. Catalogues can be obtained on the Premises; or of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

NOTE.—The whole of the Stock is in splendid condition, and the Vendors invite an inspection by intending purchasers. Messrs. William Paul & Son will carefully lift, pack, and put any lots on rail at cost of labour and materials.

WEDNESDAY and THURSDAY, October 16 and 17.

The SECOND and MAIN PORTION

of the well-known

COLLECTION OF ORCHIDS

of the Firs, Lawrie Park, Sydenham, S.E.,

To be SOLD by AUCTION, without the least Reserve.

MESSRS. PROTHEROE AND MORRIS have received instructions from C. Dorman, Esq., who is giving up the cultivation of Orchids, to SELL by AUCTION, on the Premises, The Firs, Lawrie Park, Sydenham, on WEDNESDAY and THURSDAY, October 16 and 17, at half-past 12 o'Clock precisely, without the least reserve, the SECOND and MAIN PORTION of his well-known COLLECTION, comprising—

- Odontoglossum Alexandrae, the very best varieties, white and spotted forms
Pescatorei
Hybrids of exceptional beauty and scarcity, of which many have received F.C.C.
vexillarium superbum
leucoglossum
Cobbianum
rubellum
Dormanianum
Schroderianum
pulchellum Dormanianum
Rothschildianum
Humeanum
lyroglossum
ramosissimum liliiflorum
Marshallianum
Oncidium Mantini (see plate)
Polletianum (see plate)
pyramidenae
macranthum hastiferum
angustifolium
Cecylogynus cristata alba
Lycasta Skinneri alba, several plants
Anguloa eburnea, from the original plant
Lælia Fernii alba (not nivea) the pure white form
Cattleya Arthuriana (hybrid), only two plants in existence
calamata magnifica
Mossie Reineckiana
Wagneriana
Arnoldiana
Dormaniana
Duke of Marlborough
Morganie
Skinneri alba
Schroderi alba
Ex
Lawrenceana
gigas Dormaniana
Triangli Eboracensis
magnifica
Sunrise
alba
Hntleri
Empress
Rueschiana
Backhouseiana
ruba
gigantea
Dormaniana
Chocoesis alba
Gaskelliana alba
Empress Frederick
Emperor Frederick
Delliense
superbissima
Virginalis

May be viewed. Catalogues on the Premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Chilwell Nurseries, Notts.

In consequence of the approaching Expiration of Lease, of a portion of their Nurseries, Messrs. J. E. Pearson & Sons will offer a portion of their Stock of Fruit Trees, &c., by Auction, viz.:—30,000 FRUIT TREES, comprising 15,000 Standard Apples, for Orchards; 7000 Pyramid Apples, in fruiting condition, mostly carrying fruit this season; principally worked upon the Paradise Stock, for which the Nurseries are so well known; 2100 Standard, Pyramid, and Dwarf Plums, in all the best varieties; 550 Cherries, the best varieties in the Midland district; 1350 Damsons, Farleigh Prolific and the Prune; Standard and Dwarf Pears; also 3500 FANCY HOLLIES, Green and Variegated; and 500 STANDARD LIMES and ELMS, fine straight trees, suitable for Avenue or Street-planting.

To be SOLD by AUCTION, by

MESSRS. PROTHEROE AND MORRIS on the Premises, Chilwell Nurseries, near Nottingham. The Nurseries are 1½ miles from Beeston Station, Midland Railway, 10 minutes from Nottingham or Trent Junction, there being a frequent service of trains from both places, on THURSDAY NEXT, October 10, at 11 o'Clock precisely.

May be viewed. Catalogues may be had on the Premises, and of the Auctioneers, Estate Agents and Valuers, 67 and 68, Cheapside, E.C., and Leytonstone, E.

Lincoln.—Absolutely without Reserve.

IMPORTANT TWO DAYS' CLEARANCE SALE of exceedingly well-grown GENERAL NURSERY STOCK and FRUIT TREES.

By Order of Messrs. Pennell & Sons, who require a portion of the Land for the purpose of Seed Growing, in consequence of the increase of their Seed Business.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, Bracebridge, near Lincoln, about 2 miles from either of the Lincoln Railway Stations, on THURSDAY and FRIDAY, October 17 and 18, 1895, at 12 o'Clock precisely each day, without reserve, a portion of the exceptionally well-grown

NURSERY STOCK,

The whole of which has been carefully transplanted, and is now in first-class condition for removal. The Stock comprises 4000 Evergreens and Conifers, 1 to 4 feet, suitable for boxes, pots, and growing-on; 400 Specimen Conifers, 2 to 8 feet, in the borders. These specimens have all been grown with great care, and are now adapted for immediate effective planting. 900 Green and Variegated Hollies, 1500 Green and Variegated Box, 1½ to 2½ feet; 300 new Golden Box, 1½ to 2 feet; 2500 Austrian Pines, 1 to 2½ feet, good plants; 1000 Laurels, best varieties, 1½ to 3 feet; 2500 oval-leaved Privet, 3 to 4 feet; 1000 Standard Trees for Street and Avenue Planting; 100 Acer Negundo variegata, 5 to 6 feet; 1500 Flowering Shrubs and Forcing Plants, 3000 Berberis aquifolia, 1 to 2 feet; 600 Dwarf Roses of the best varieties, 800 Ivies and other Climbing Plants, Herbaceous Plants, 2500 Standard and Pyramid Apples, 5-yr. Trees, all true to name; 3500 transplanted Crabs, and other Stock.

NOTE.—The Auctioneers desire to call special attention to this important Sale. The whole of the Evergreens have been transplanted within two years, and have been allowed plenty of room, and have also been pruned. The Standard Trees are straight, and everything has been grown solely for a high-class retail trade. Messrs. Pennell & Sons will undertake to carefully lift and despatch any lots, charging only the cost of labour incurred and material used. Goods may be transmitted from the Lincoln stations to any part of the Kingdom without change of truck.

May be viewed any day prior to the Sale. Catalogues may be had on the Premises; at the Seed Shop, High Street, Lincoln; at Messrs. PENNELL AND SONS' Chief Offices and Seed Warehouses, Gowt's Bridge, Lincoln; and of the Auctioneers, Estate Agents and Valuers, 67 and 68, Cheapside, London, E.C.

Hollamby's Nurseries, Groombridge, near Tunbridge WELLS.

GREAT UNRESERVED SALE of NURSERY STOCK, by order of the Executors of the late Mr. Edwin Hollamby.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, as above, close to the Groombridge Railway Station, on THURSDAY and FRIDAY, October 24 and 25, at 12 o'Clock punctually each day, 45,000 CONIFERS, named and other Rhododendrons, Azaleas, Laurels, Larch, Scotch Firs, Ash, Spanish Che-nuts, strong, transplanted Quick, Hardy Climbers, Dwarf, Climbing, and other Roses, the whole in splendid condition for removal; also Seakale, extra strong for forcing, and other Stock.

May be viewed any day prior to the Sale. Catalogues may be had at the Nurseries; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Brixton, S.W.

CLEARANCE SALE of well grown healthy NURSERY STOCK, specially adapted for London and Suburban Planting, by order of Messrs. Ponsford & Son, who purpose converting the Land into Lawn Tennis Grounds.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the premises, the Loughborough Park Nurseries, Brixton, S.W., near the Loughborough Park Station, on FRIDAY, Oct. 18, at Twelve o'Clock, 1000 LIMES, PLANES, and POPLARS, 500 Box Aucubas, 1000 Privet, 3000 Euonymus, 1000 Laurels, 500 Rhododendrons, 1500 Lilacs, Syringas, &c., 2000 Mulberries, for which these Nurseries are so noted, including many very fine trees, 500 Hardy Climbers, 2000 Palms, 2000 Ferns, 1000 Chrysanthemums, and other stock. May be viewed any day prior to Sale. Catalogues had on the premises, and of the Auctioneers, 67 & 68, Cheapside, London, E.C.

A DEPARTURE IN THE NURSERY TRADE.

CHARLES NOBLE has decided to OFFER, by AUCTION, the very cream of a life's selection of Specimen RHODODENDRONS, GHENT and other AZALEAS, GOLDEN RETINOSPORAS, GOLDEN HOLLIES, and Select HARDY TREES, from 2 feet to 10 feet high. SIX DAYS' SALE. Much of the Stock is Unique, and all in fine condition.

SALE, OCTOBER 21, 22, 23, 24, 25, and 26.

Catalogues may be had of the Auctioneers, MESSRS. PROTHEROE AND MORRIS, 67 & 68, Cheapside, London, E.C.;

CHARLES NOBLE, THE NURSERIES, BAGSHOT.

SALES BY AUCTION.

Wednesday Next.

IMPORTANT CONSIGNMENT OF 50 CASES OF LILIUM HARRISII,

Comprising—
10 Cases extra large Bulbs.
25 " 9 to 11 inches.
10 " 7 to 9 " and
5 " 5 to 7 "

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, October 9, at 2 o'clock.
On view morning of Sale, and Catalogues had.

Wednesday Next.

4000 AFRICAN PEARL TUBEROSES.

Just received from the Cape.

Also 400 NARCISSUS EMPEROR.

MESSRS. PROTHEROE AND MORRIS will include the above in their SALE on WEDNESDAY NEXT, October 9.

On view morning of Sale, and Catalogues had.

Wednesday Next.

FIRST GREAT CONSIGNMENT OF 60 CASES OF LILIUM LONGIFLORUM (Japanese), just received from Japan, and comprising 7300 BULBS; for Sale without the slightest reserve.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, October 9, at 2 o'clock.

On view morning of Sale, and Catalogues had.

Wednesday Next.

A Consignment of PALM SEEDS, TREE FERNS, and ARAUCARIAS,

Received Direct, comprising—

40,700 KENTIA BELMORBANA
1,400 CANTERBURYANA
72 Plants, ARAUCARIA EXCELSA
20 " DICKSONIA ANTARCTICA, 26 feet
24 " " 50 feet

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, October 9, at 12 o'clock.

On view morning of Sale, and Catalogues had.

DUTCH BULBS.

GREAT UNRESERVED SALES.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., EVERY DAY, at 12 o'clock, large consignments of NAMED HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other BULBS from Holland, lotted to suit the Trade and Private Buyers.

Also ROMAN HYACINTHS, LILIUM CANDIDUM, SNOWDROPS, &c.

On view morning of Sale and Catalogues had.

WEDNESDAY NEXT.

IMPORTANT to GROWERS of DUTCH BULBS.

MR. J. C. STEVENS begs to announce that he will hold a SPECIAL SALE OF DUTCH BULBS, at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY NEXT, October 9, at half-past 12 o'clock precisely, and will include—

A GRAND COLLECTION OF CHOICE HYACINTHS, specially lotted for Glass, Pot, Bed, or Border Cultivation, comprising many of the best sorts, from a trustworthy Nurseryman.

LILIUMS of sorts. Choice and rare NARCISSUS.

A great assortment of

TULIPS, CROCUSES, SNOWDROPS, SCILLAS in the finest possible order, lotted for all buyers.

Also—

ROMAN HYACINTHS, ITALIAN HYACINTHS, Forcing NARCISSUS, &c., from France.

500 LILIUM HARRISII, 1000 SPIRÆA JAPONICA, and other varieties; DIELYTRA SPECTABILIS, FRESIA REFRACTA ALBA, well-grown PALMS, STOVE PLANTS, &c.

On view morning of Sale, and Catalogues had.

DUTCH BULBS—DUTCH BULBS.

Sales nearly every day, in Large and Small Lots, to suit all Buyers.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, nearly every day, at half-past 12 o'clock, first-class consignments of Choice HYACINTHS, TULIPS, CROCUSES, NARCISSUS, and other BULBS arriving daily from well-known farms in Holland, in the finest possible condition.

On view morning of sale, and Catalogues had.

Birmingham.

DUTCH BULBS EVERY THURSDAY.

THOMAS B. JAMES & CO. hold SALES of First-class BULBS only, at their City Sale Rooms, 35, Temple Street, Birmingham, at 11.30 A.M. Catalogues post-free.

Birmingham.

THOMAS B. JAMES & CO. will hold a Large SALE at their City Sale Rooms, 35, Temple Street, Birmingham, on THURSDAY NEXT, at Half-past Twelve o'clock, of ESTABLISHED and IMPORTED ORCHIDS, by order of Messrs. F. Sander & Co., St. Albans.

To Gardeners and Florists.—To be sold as a going Concern, FREEHOLD NURSERY PREMISES, being 26, Union Terrace, Mawson Road, Cambridge, comprising small Dwelling-House, and Garden adjoining, with two Vineries, Greenhouses, Propagating House, &c. Frontage 72 feet, depth 93 feet. Established 25 years. Rapidly increasing neighbourhood. Owner retiring. Half purchase-money can remain.

To be SOLD by AUCTION by

MESSRS. CATLING AND SON, at their Rooms, Corn Exchange Street, Cambridge, on WEDNESDAY, October 16, 1895, at 7 o'clock in the evening.

Further particulars of the Auctioneers, or of H. Barley, Esq., Solicitor, 51, Regent Street, Cambridge.

GREAT SALE OF ORCHIDS.

ALL OF WHICH ARE IN FLOWER, AND SHOWING FOR FLOWER.

JOHN COWAN & CO.

(LIMITED),

Are Selling (by Private Treaty), during next week, a large and splendid Collection of ORCHIDS, as above, all of which are in the finest condition. Many splendid specimens, suitable for exhibition and other purposes, are included, and all are offered at extremely low prices. Descriptive and Priced Catalogues post-free on application to the Company.

THE VINEYARD and NURSERIES, GARSTON, near LIVERPOOL.

WANTED TO RENT, a SMALL NURSERY, with from 400 to 600 feet of Glass. Modern, No Stock. Within 15 miles of London.—R., 41, Wellington Street, Strand, W.C.

WANTED TO RENT, on Lease, several acres of ARABLE and PASTURE LAND, with some Glass preferred. Full particulars to C. T., Gardeners' Chronicle Office, 41, Wellington Street, Strand, W.C.

To Nurserymen and Florists commencing business.

HAMPTON-ON-THAMES, on THE MARLING PARK ESTATE, free from London fogs, a deep rich loam, the favourite neighbourhood for Growers, FREEHOLD LAND for SALE, on easy system of payment. Excellent sites for residences.—For full particulars apply to Mr. FREDK. G. HUGHES (Surveyor), the Estate Office, Hampton-on-Thames.

NURSERY, PLANT, FRUIT GROWING, and CUT FLOWER BUSINESS for DISPOSAL. In favourite neighbourhood, in Devonshire. Saug House, ample Glass and Premises; 24 acres rich Land. Fine connection, lucrative trade. A fortune in energetic hands. Proprietor retiring. Incoming valuation. Full particulars from THOMPSON, RIPPON AND CO., Estate Agents, Exeter.

TO BE SOLD, an old-established NURSERY and FLORIST'S BUSINESS, with good Seed Trade, Jobbing, &c., in main thoroughfare in S.E. suburb. Apply to—H. DEAL, 49, Queen's Road, Peckham, S.E.

FOR SALE, a small FREEHOLD NURSERY, partly heated, together with 5000 Strawberry Plants ready for forcing. One mile from station. Particulars from—W. BUDD, Raglan Road, Belvedere, Kent.

A MARKET GROWER'S FREEHOLD NURSERY to be DISPOSED OF.

With two Glasshouses and Pits, with $\frac{1}{4}$ to 2 acres of Land. If desired, part of purchase-money can remain.

Ten minutes from Station.

Particulars of ROBERT ELCOCK, Auctioneer, Wimborne.

FOR SALE, a small valuable long leasehold NURSERY, 8 miles from Covent Garden. Seven large Greenhouses, well stocked; two Vineries, Cucumber-house, Plant-houses, five-roomed Cottage. Low Ground Rent. Lease eighty-six years to expire. Eighty-five feet Glass. Facing main road. All particulars of FLORIST, 11, Dafforne Road, Tooting, Surrey.

BOXMOOR.—FOR SALE, Two FREEHOLD COTTAGES, Stable and Gardens, fronting main road; and small Orchard, with another frontage, full of bearing Trees, and Three Glass-houses. Space to build a Show Conservatory. Fine opening for Florist or Jobbing Gardener.

J. H. F., City News Rooms, Ludgate Circus, E.C.

TO BE LET, or SOLD.—Large Premises (now, and for nearly 40 years, used as Horticultural Building and Engineering Works). Area, 2080 yards. Situate in the centre of Loughborough, and near to three railway stations.—For particulars, apply to—T. G. MESSENGER, Loughborough.

Channel Islands.

TO BE SOLD or LET, with Immediate Possession, in the most fertile part of Jersey, extensive VINERIES and TOMATO HOUSES, and about 4 Acres of LAND, with well-stocked FRUIT TREES. Good DWELLING-HOUSE. The Houses are heated by new powerful Boilers, and the Vines healthy and in full bearing. Inexhaustible water supply. For full particulars, address OWNER, Advertiser Office, Leicester.

SOUTH COAST, SOUTHSEA.—In a principal thoroughfare of this important town. TO BE LET, imposing SHOP and PREMISES, specially adapted for FLORIST and FRUITERER. Splendid opening. Excellent accommodation. Electric Light. The Shop has a frontage of 20 feet, by 54 feet in length, with back entrance, and ample living accommodation over.—Particulars of Messrs. PROTHEROE AND MORRIS, 67, and 68, Cheapside, London.

KENT.—Ten miles from London, in an important and rising town. TO BE LET, or FREEHOLD would be SOLD. Splendid opening for energetic person. Capital Nursery, with Seed-shop, Greenhouse, and about $\frac{3}{4}$ -acre of Land. Moderate rent. No stock need be taken.—Full particulars of PROTHEROE AND MORRIS, Estate Offices, 67, Cheapside, London.

Hooton Estate, Cheshire.

TO NURSERYMEN, FLORISTS, and OTHERS.

TO BE LET, the productive gardens of HOOTON HALL, extent nearly 5 acres, having an excellent stock of Standard Apple and Pear Trees. The glass comprises Greenhouse, three Vineries, Peach Orchard, Tomato, Cucumber, and Melon Houses; there are the usual Potting Sheds, Fruit Room, Office, Gardeners' Bothy, Stabling, &c., also good Gardener's House.

For further particulars, apply to Messrs. SMITHS, GOBE AND CO., 16, Whitehall Place, London, S.W., and 6, Newgate Street, Chester.

FLORIST ESTATE (Freehold), with Valuable Retail Cut Flower and Seed Connection. Established over quarter of century. Good Lancashire town (Owner leaving district), consisting of 2 acres Frontage Land, six-roomed Dwelling-house, Stables, &c.; 26,000 feet of Glass, well heated with over 8000 feet of pipes; stocked with valuable Plants. All in perfect condition and going Concern. Part purchase can remain on mortgage at 4 per cent.

T. S. HARGREAVES, Fishergate, Preston.

TO BE LET, or the LEASE SOLD, HILLSIDE NURSERY, TENBY.

Comprising Residence, Seedroom, Office, Glass-houses, Stables, Sheds, and Outbuildings; also 3 a. 2 r. 0 p. of Nursery Ground, stocked. A really good opening for a pushing man.

Further particulars on application to Mr. C. W. R. STOKES, Town Clerk's Office, Tenby.

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

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

SPECIAL LINES of JOB LOTS of BULBS.
Cheapest in England. Send for Special List. 500 for 10s.; 2500 for 40s. free.
POPE AND SONS, Nurserymen, Birmingham.

MYOSOTIS DISSITIFLORA, 3s. per 100, 25s. per 1000; *Dracana Cordylite australis*, 3-inch seedlings, 5s. per 100, 30s. per 1000. Carnations, Old Red Clove, 10s. per 100; Sinkins, 10s. per 100, 4s. per 1000. Wallflower, red, 3s. per 100, 25s. per 1000; Arums, 3-inch pots, 12s. per 100, 43 per 1000; German Iris, pale mauve, sweet, 3s. per dozen.
MANAGER, Mill Gardens, Ashford, co. Wicklow.

MUSHROOM SPAWN.
BUY OF THE MAKERS.
Upon receipt of Postal Order for 2s., we will forward 1 bushel (16 cakes) of our celebrated Mushroom Spawn; with full instructions for Making-up Beds, &c. Established 1835.
Messrs. ELPHICK AND ALLEN, Mushroom Spawn Makers, 7, Beaconsfield Road, Willesden, Middlesex.

Hyacinths, Tulips, Crocus, Lilies, &c.
C. G. VAN TUBERGEN, Jun., Haarlem, Holland. Wholesale CATALOGUE now ready, and may be had free on application to—
Messrs. B. SILBERAD AND SON, 25, Savage Gardens, Crutched Friars, E.C.
N.B.—Many new, rare, and interesting plants and bulbs will be found in this Catalogue.

BARR'S ENGLISH DAFFODILS.—The most beautiful and fashionable of Spring flowers. New Descriptive Catalogue now ready, sent free on application.
BARR'S SPRING-FLOWERING BULBS.—Send for full Descriptive List, ready September 1.
BARR'S AUTUMN-FLOWERING CROCUSES, MEADOW-SAFFRONS, CYCLAMEN, SCILLAS, SNOWFLAKES, &c. List free on application.
BARR'S SEEDS for Present Sowing.—Catalogue on application.
BARR AND SON, 12, King Street, Covent Garden, London.

FERNS and DECORATIVE PLANTS!—
(TRADE).—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 12s. 100; ditto large, in 4½", 10 best selling sorts, 6s. doz.; strong seedlings, 6s. 100, 50s. 1000; *Adiantum cuneatum*, in 4½", for cutting, 8s. and 8s. doz.; ditto, for making large plants quickly, 16s. and 20s. 100; *Aralias*, 10s. 100; *Cyperus*, *Aralias*, *Grevilleas*, *Geraniums*, *Solanums*, in 4½", 6s. doz.; *Heliotropes*, *Fuchsias*, *Campanulas*, *Marguerites*, *Solanums*, *Erica gracilis*, in bloom, in 4½", 8s. doz.; *Ficus*, *Palms*, *Dracenas*, *Crotons*, *Bougardias*, 12s. doz. Lists free. Packed free. Cash with order.—**J. SMITH**, London Fern Nurseries, Loughborough Junction, London, S.W.

ANT. ROOZEN and SON'S CATALOGUE for AUTUMN, 1895, now ready, contains Cultural Directions and full descriptive details of their immense Collections of New, Rare, and Fine BULBS and PLANTS (104 pages in English), and will, as usual, be sent post-free on application to their Agents, Messrs. MERTENS & Co., 3, CROSS LANE, ST. MARY-AT-BILL, E.C.; or themselves direct at OVERVEK, near HAARLEM, HOLLAND.
N.B.—No connection with any other firm of the same name.

GERMAN or FLAG IRIS (Orchid Rivals), best time to plant. First Prize Royal Botanic. Only the finest, strong, healthy plants. Very cheap. Twelve distinct, 2s. 6d., 3s. 6d., and 4s. 6d.; or mixed, 3s., 10s. 6d., and 15s. per 100. Choice DAFFODILS, HYACINTHS, HARDY PLANTS, &c. Over forty Medals awarded. Catalogue free.
COLLINS AND CO., 29, Waterloo Road, London.

FOR THE BEST PARROT TULIPS, IRIS, RANUNCULUS, LEMOINE'S NEW GLADIOLUS, MONTBRETIAS, all so beautiful for decorations. Finest sorts. All personally selected in Holland. Send for CATALOGUE, full of original matter.
POPE AND SONS, Nurserymen, Birmingham.

FERNS,
STOVE and GREENHOUSE,
GREAT VARIETY.
Bushy plants in 2½ inch pots, 12s. per 100; £5 per 1000. Seedlings from store boxes, 5s. per 100; 40s. per 1000. Free on rail.

WILLIAM WHITELEY,
THE NURSERIES, HILLINGDON HEATH, UXBRIDGE.

* **INTENDING PLANTERS** *
* Are invited to inspect the very *
* Extensive & Superior Stock of *
* **HARDILY-GROWN** *
* **FOREST, FRUIT,** *
* **AND ALL OTHER** *
* **TREES & PLANTS, ROSES,** *
* **EVERGREENS, &c.** *
* *Prices & all Particulars on Application.* *
* **DICKSONS** Nurseries **CHESTER** *
* 450 Acres *

UNITED HORTICULTURAL BENEFIT and PROVIDENT SOCIETY.
THE ANNUAL DINNER will take place at the Cannon Street Hotel, on THURSDAY, October 17, at 6 p.m.
JAMES H. VEITCH, Esq., will preside.
Tickets 5s. each, to be had of the Secretary, W. COLLINS, 9, Martindale Road, Balham, S.W.

WANTED.
H. CANNELL & SONS would be glad to PURCHASE or EXCHANGE the following:—
Primula obovata seedlings | *Violet Madame Millot*
Calceolarias, large | *Hibiscus Cooperi*
All-Heart Cabbage | *Calceolaria cuttings*, various
Little Gem " | *Tropaeolum Vesuvius*
SWANLEY, KENT.

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

BULBS.—To make a grand display in the Conservatory, House, or Garden at the lowest price, send for **POPE AND SONS' CATALOGUE**, Nurserymen, Birmingham.

Uriah Pike Carnation.—Extra strong healthy plants now ready. Price on application to—**THE ORCHARD CO.**, Scotby, Carlisle.

VIOLETS.—*Double Marie Louise*, Neapolitan, and *White Hazelbourne* varieties, strong, healthy crowns for planting in frames, 4s. per dozen.—Apply to the **GARDENER**, Hazelbourne, Dorking, who will immediately dispatch orders on receipt of remittance.

CACTI.—Imported and nursed recommended.
H. ZEISSOLD, Leipzig, Glockenstr. 13.
Price List forwarded on application.

YELLOW MARGUERITE Boule de Feu.—Strong cuttings for sale, at 2s. per 100.
P. PURSEY, 1A, Duke Street, Reading.

STRAWBERRY PLANTS.—*Sir J. Paxton*, one year transplanted, strong, 2s. 6d. per 100.
POULTON, Ash Vale, Aldershot.

LOVELS' YORKSHIRE STRAWBERRIES.
Runners, strong, healthy, and well-rooted. Sample packet, post-free, 1s. Descriptive List.
W. LOVEL AND SON, Strawberry Growers, Driffield.

FOR SALE or EXCHANGE.—One large *SEAFORTHIA ELBGANS*, 11 feet high, in good health. Offers to—
THOS. BENDALL, Langton Hall Gardens, Northallerton.

To the Trade.—**Ferns.**
H. B. MAY offers **FERNS** in all sizes, leading market sorts. Special quotations on application.—**Dyson's Lane Nurseries**, Upper Edmonton.

MILLERS' WINTER ACONITES produce masses of bright golden-yellow flowers early in spring. 1s. 6d. per 100, 12s. 6d. per 1000. **SNOWDROPS**, Single or Double, strong cultivated bulbs, 2s. per 100, 19s. per 1000; *Star of Bethlehem*, large clusters of silvery star-like flowers, very hardy, blooms freely anywhere, 1s. 2d. per 100, 15s. per 1000; *Glory of the Snow*, good cultivated bulbs, 3s. per 100. Orders 10s. upwards, carriage paid.
F. MILLER AND CO., 267, Fulham Road, London, S.W.


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OCTOBER 8, 9, and 10.
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KENT COUNTY CHRYSANTHEMUM and HORTICULTURAL SOCIETY.
The **EIGHTH ANNUAL EXHIBITION** will be held in the **RINK HALL, BLACKHEATH** (opposite S.E.R. Station), on **WEDNESDAY, October 30, and THURSDAY, October 31, 1895**; when Prizes amounting to upwards of £100 will be offered for Competition.
Schedule of Prizes, and all particulars, may be obtained on application to **Mr. FRED J. GARWOOD**, Hon. Sec., 37, Turner Road, Lee, S.E.

HEREFORDSHIRE FRUIT and CHRYSANTHEMUM SOCIETY.
The **FOURTH ANNUAL SHOW** will be held in the **Shire Hall, Hereford**, on **TUESDAY and WEDNESDAY, November 5 and 6, 1895**, when upwards of £100 in PRIZES will be awarded for **FRUIT and CHRYSANTHEMUMS**.
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THE Gardeners' Chronicle. SATURDAY, OCTOBER 5, 1895.

THE ROYAL SCOTTISH ARBORICULTURAL SOCIETY.

THE members of this Society went to Germany this season for their annual outing—perhaps the most notable excursion they ever made; but never before has so little been said about it. Is this because it was an unlearning lesson the members had to read? When the report of the expedition appeared in the Scotsman at the time, I was wandering in the over-thinned woods on certain highland estates, and I out the articles out, expecting, however, to see more about it in the arboricultural papers, but have been disappointed. I therefore beg to append a few admissions from the Scotsman article, written apparently by authority. Many times and quite lately, the superiority of the German forests has, by members of the Royal Scottish Arboricultural Society, been attributed to difference of soil or climate, or to the species grown, or to all three put together; but it is now gratifying to find the Society acknowledging its errors on these points. I begin with the following extract:—

"There are many ways in which Great Britain agrees with Germany in regard to the growth of trees. The soil in both cases is very much of the same character—sands, loams, clays, and marls constituting the predominant types. The climate, on the average of the year, agrees very closely in both countries as regards rainfall and temperature, the greater cold of a German winter being counterbalanced by the warmer character of a German summer. And the trees cultivated in, or indigenous to, the two countries show practically no difference as regards species, the Spruce, Scotch Fir, Larch, Silver Fir, Beech, Oak, Birch, Alder, Sycamore, Ash, &c., constituting the materials that the German forester has to work with just as at home

"Here (Germany) the woods are formed neither for beauty nor for game cover, but for the production of the maximum yield of the finest timber. There is here, therefore, no inducement to over-thin the woods so as to encourage the development of the lower branches; on the other hand, the trees are packed as close as they will grow, with the result that long, straight, bare poles are produced, which possess about as much beauty as a lamp-post, but which furnish timber of fine fibre and clean growth, which carpenters and architects know how to appreciate."

I decline to believe that there are neither beauty nor game in the Germany forests, for both are there—nor is there any force in the argument that either beauty or game are enhanced by overthinning, nor has Brown or the Royal Scottish Arboricultural Society ever advocated severe thinning on any such plea; but probably the writer felt some trifling apology necessary, and just put it that way. Here is a bit about

a timber crop left for fifty years "uninterfered with by the hand of man," a plan some of us have often recommended as preferable, at any rate, to the Scotch thinning practice:—

"Saturday, August 3, was devoted to an inspection of the Oak woods in the neighbourhood of Freienwalde, a short distance from Eberwalde, and in some respects this was the most enjoyable part of the whole excursion. It was the general remark of the excursionists that the work seemed to grow in interest day by day; but this feeling was probably induced by the fact that as time went on the members were becoming more familiar with the conditions of German forestry, and therefore better able to appreciate the results. The forest around Freienwalde is for the most part primeval—that is to say, up till within the last fifty years or so it had been left uninterfered with by the hand of man. But now it is being gradually taken in hand with the object of regeneration, and as the soil is very rich, the Oak is the tree that is designed for the dominant species. The older class of Oaks are 250 to 300 years old, and average 120 feet in height, and 3 feet 6 inches in diameter. They are for the most part perfectly straight and with very little taper, and were universally acknowledged by all to be not only finer than any trees that the members had ever seen before, but finer beyond any conception of what was possible. The total quantity of timber per acre averages about 6500 cubic feet."

In conclusion, it is worth remarking how rapid the change of opinion has been latterly on the subject of forestry practice—thanks, not so much to recent books, but to discussion in the horticultural and agricultural papers, which have suggested the books. Nor will the attempt to saddle past failures on the owners of estates and the game stand looking at, for however much these may be to blame, it is a fact that forestry practice, and the choice of species to plant, have been almost wholly in the hands of the foresters, whose advice landowners have followed. A gentleman who owns extensive woods in the Highlands called on the writer the other day, and, speaking of his own woods, said they were next to worthless as timber. The trees were neither of the right sort, nor their timber of the right quality; and all, he said, because "we had not known any better—what to plant, or how to manage woods."

A question of some interest I would like to put here. There have been advertised for sale lately nearly 140,000 cubic feet of blown-down mixed timber of fair average quality on the Duke of Argyll's estate at Inverary, and another sale of only less extent at Finavon, in Forfar—much of the timber "exceptionally good," and it would be exceedingly interesting to know what price per foot the different kinds of timber in these lots fetch, trimmed on the ground as they lie, if the owners or their agents have no objection to furnish the information for the benefit of their neighbours. *J. S., W.*

NEW OR NOTEWORTHY PLANTS.

PILEA SPRUCEANA, Wedd.

THIS new introduction of Messrs. Low & Co. is now flowering in the Botanic Garden at Glasnevin. It is a dwarf herbaceous plant, with a pubescent stem, leafy at the top. The leaves are opposite, on short petioles, with a broad, rounded, membranous stipule in front of each; the blade of the leaf is elliptic obtuse, with crenate-dentate margins, strongly three-nerved, and bullate between the veins, thinly hairy on both sides, dark bronzy-green, and very shining on the upper surface, purple beneath, 1 to 2 inches long, 10 lines to 1½ inch broad. The flowers are in flat-topped terminal cymes, of a light green colour.

Pilea Spruceana ought to make a useful decorative plant where dark foliage is desired, and possibly it might be found useful for summer bedding. It is a native of Peru and Venezuela. *N. E. Brown.*

ASPLENIUM (EUASPLENIUM) OROUPOUCHENSE, Prestoe, M.S., n. sp.

Stipites, slender, naked greyish, channelled, 3—4 in. long; fronds narrowly lanceolate, bipinnate, chartaceous, glabrous, glossy, but dull green, ¾—1 foot long, reduced at the base, tapering upwards into gradually reduced segments at the acuminate apex; rachis slender, grey, channelled, naked; pinnae apart, the lower distant, alternate, except the reduced basal ones, spreading, nearly sessile, base cuneate-truncate, broadest, the end rounded but toothed, 1—1½ inch long, ¼—½ inch wide; pinnules cuneate, bluntly dentate on the outer curved edge, about 3 lines long and wide; veins flabellate, slender, reaching short of the margin; sori short, medial on the veinlets, ¼ line long; involucre equally short, rather vaulted at maturity, revealing the crowded spores.—Trinidad, West Indies.

I have had specimens of this Fern for some long time, referred to me by Mr. Hart, who found it in the herbarium of the Botanical Department, under the M.S. name given to it by Mr. Prestoe, apparently its first discoverer, after the district or locality where it grows. Mr. Hart has lately gathered it in the same region. I cannot find that it has ever been described or published. It belongs to the cuneatum group, but is well marked by the narrow, slender fronds and short darcoid sori and involucre. It makes an interesting pot-plant. *G. S. Jenman, Demerara, July 24, 1895.*

ORCHID NOTES AND GLEANINGS.

ARUNDINA BAMBUSÆFOLIA.

THE elegant Bamboo-like growths of this pretty Orchid, which are often 4 or 5 feet in height, render it an ornamental plant even when not in bloom; but when furnished with its terminal heads of rose and purple flowers it is a charming object, and as the flowers follow each other in succession, it lasts in bloom when in good condition throughout the whole summer and autumn. It is at present in flower in the collection of Geo. C. Raphael, Esq., Castle Hill, Englefield Green (gr., Mr. H. Adams). The plant is evergreen, and therefore requires to be kept moist at all seasons. It seems to thrive best in a cool part of the intermediate-house.

CATLEYA DOWIANA AUREA.

This charming yellow-coloured, fragrant species seems to have flowered exceptionally well this season if we may judge by the specimens sent by several correspondents. Accompanying some very fine and richly-coloured flowers, Mr. Geo. Roberts, gr. to R. Brooman-White, Esq., Arddarroch, Garelochhead, sends a note, "We have had a splendid show of *Catleya aurea* this season. Already over 100 blooms have opened, and there are still many in bud. As you will see, the lips are very broad and of very dark purple-crimson colour, the gold veining in them running in some almost to the margin."

Mr. A. H. Murrell, gr. to A. H. Milton, Esq., Castleton House, White Ladies Road, Clifton, also sends a grand flower, in which the petals are marbled with rose colour as in *C. aurea marmorata*.

MASDEVALLIA GUTTULATA, Rehb. f.

I can confirm Dr. Kränzlin's supposition (p. 324) that *Masdevallia Lawrencei* is the plant which I described in 1890 (*Gardeners' Chronicle*, 1890, ii., p. 267) as *M. guttulata*; and, what is more, I can state that it is also the *M. guttulata*, Rehb. f. (*Linnaea*, xli., p. 118), described in 1877. The latter was not unknown to me, but I had placed the reference next to *M. ionocharis*, Rehb. f., because the flowers were said to be of the same size, and no other affinity was given. I had seen the plant two or three times unnamed before finding it under the name *M. guttulata*, which I adopted, thinking it to be only of garden

origin. Afterwards I found that it had been given by Reichenbach himself. I overlooked *M. guttulata*, Rehb. f., because I did not look in the *M. ionocharis* group, any more than in the *Chimera* or *Coccinea* group, to which I knew it did not belong. The identity of the two has been duly recorded (*Woolw. Monogr. Masd.*), and it is most unfortunate that Dr. Kränzlin should now add another synonym. *R. A. Rolfe.*

THE ASHLANDS, NEWCHURCH-IN-ROSENDALE.

Within a radius of 20 miles of Manchester there are, as is well known, many fine and valuable collections of Orchids, whose treasures have been repeatedly seen at the Whitsuntide exhibitions held in the Botanic Gardens, and at the meetings of the Royal Horticultural Society in London. There are several collections which, owing to the modesty of their owners, have hitherto seldom been exhibited. That of R. Ashworth, Esq., of Newchurch, is one of these. There has been got together at this place a collection which at the present moment can well hold its own amongst those which are more widely known, and may shortly rank as one of the finest in the district.

Unlike the connoisseurs in the south, whose gardens are more favourably situated, climatically and atmospherically, the gentlemen of Manchester have in many instances built or acquired their residences almost within sight of the huge chimney stacks of their mills and manufactories, out of which dense volumes of smoke and soot are being emitted day and night. It is therefore gratifying to have to note such excellent examples of health, cleanliness, and floriferousness as are here found.

In a house chiefly devoted to *Dendrobium*s there was a rich display of bloom, the more conspicuous plants being *D. Phalaenopsis Schroderianum* in many varieties; good plants of the beautiful *D. Dearei* and of *D. formosum giganteum*. In this house a plant of *Catasatum Bangerthii* of grand quality, and carrying a fine spike of ten very large flowers fully open, with two other flower-spikes approaching maturity, and one spike of twelve blossoms of equally large flowers just passed, was remarked. Considering the plant has but two leads, and it is growing in a 6 inch basket, it can really be said to be a specially floriferous example. Of *Cypripedium*s there was a goodly show of flowers, whilst the number of unopened spikes visible amongst the foliage told of a rich display coming on.

In the *Catleya*-house there was quite a large number of species in flower, fine plants of *C. Dowiana*, *C. Dowiana aurea*, *C. Harrisoniæ violacea*, *C. bicolor*, a very fine form, with bright tawny-yellow sepals and petals, and dark amethyst-coloured lip; *C. gigas Sanderiana*, Ashlands variety, which is unquestionably worthy of its distinctive appellation, is a fine and well-formed flower, measuring over 8 inches across the petals, which are broad and flat. The colour is a deep rose-pink, the petals heavily splashed with bright violet-purple, reminding one of the beautiful *C. Mossiæ Hardyana*; the lip is large and flat, of a bright purplish-crimson colour in the front, orange-yellow veins showing in the throat. Of *Lælia*s, two fine plants of *L. elegans* of the *Schilleriana* type were remarked in flower, one having an intensely deep purplish-crimson lip; also numbers of the *Lælia præstans* and *pumila* sections in many varieties; *Oncidium*s, *Miltoniæ*s, *Epidendrum*s, and others, in flower.

In the *Odontoglossum*-house there was not much bloom, although there were some few good forms of *O. crispum*, and a particularly good plant of one of the finest forms of *O. crispum guttatum*.

The collection embraces most of the species and varieties usually met with, whilst rare and costly species and varieties are numerous. Great praise is due to Mr. E. Pidgley for the evidently intelligent manner in which he manages his charges. *I. I.*

"LINDENIA."

The last part of this publication is devoted to the illustration and description of a beautiful series of variations from *Catleya labiata* var. *Mossiæ*. No fewer than forty-six forms are described, many with

Latin names attached. As it is clear that accurate lines of demarcation and classification cannot be drawn for these individual forms, is it not desirable to call them all—as some are already—by names such as *Qastelet*, *Crépin*, *Dumortier*, *Morren*, *Spring*, *Kckx*, *van Beneden*.

DEUTZIA LEMOINEI ×.

DEUTZIA Lemoinei, which was brought forward for the first time at one of the meetings of the *Société Nationale d'Horticulture de France*, on April 12, 1894, and whose appearance was signalled by a favourable description in the *Bulletin* of the same Society,* is a hybrid from *D. gracilis* × *D. parviflora*.

production. It came originally from North China, and the vicinity of the Amour river, whence it was introduced into the Imperial Botanic Garden at St. Petersburg, then into the Arnold Arboretum at Cambridge, United States. Professor Sargent, the well-known director of that establishment, sent us some branches, one of which put forth a bud which developed and took root. Thus we were enabled to be the first in Europe to introduce this fine species into the trade. At the same time the Paris Natural History Museum had received from Professor Sargent in 1887, some seeds of the same species, and succeeded in blooming the two or three plants thus raised. This plant forms an upright tuft, scarcely more than 5 feet high, the stems rather thick, stiff, and standing vertically, the leaves elliptical or

of 1891, *D. parviflora* produced a certain number of hybrids which, planted the second year in the open ground, bore unharmed the colds of the three last winters. They are tufts about 3 feet high, the branches of which are quite erect, and bear from early in May clusters of flowers; as many as (from 1000) to 1500 flowers and buds may be counted on each plant.

In general appearance *D. Lemoinei* × is intermediate between its two parents, although it has not their qualities. The branches are more upright, firmer, and more solid than in *D. gracilis* (♂), more regular in appearance, not so long, and in greater number than in *D. parviflora* (♀). The inflorescences are developed in all the axils of the branches, appearing early and in a regular manner, so that no lack or



FIG. 70.—*DEUTZIA LEMOINEI* ×. (FROM A PHOTOGRAPH.)

D. gracilis, Zuccarini, which grows in the damp mountain valleys of Japan, is a little bushy shrub with lanceolate leaves, and white flowers arranged in single bunches, with glabrous anthers borne on the central point of a trilobed thread. This species, introduced by Siebold about the middle of this century, and brought into trade by M. J. Baumann, a Ghent nurseryman, is now universally grown; it is raised in large quantities for forcing, and it is even stated, in the *Nouveau Jardinier*, that "this of all shrubs is the most suited for this kind of cultivation." It is hardy, and likes a light, fresh soil, wherein is a good proportion of peat.

Deutzia parviflora, Bunge, is a shrub of recent in-

tervention. Its stems are lanceolate, dentate, much reticulated and wrinkled on both sides, deep green in colour. The preceding year's stems bear down their entire length small trusses of flowers exactly resembling those of Hawthorn in appearance. The flowers are widely open, the petals are creamy-white, rounded, and diminishing at the base into a very narrow point, which displays the calyx as in many Rosaceous plants. The stamens are clear yellow, the threads just spreading at the base, but not auriculate at the summit.

This is the most valuable species of the genus, as the flowers open in April, some days before those of *D. gracilis*. Further, it can be forced; lastly, it is perfectly hardy in the climate of Nancy, where varieties of *D. crenata* are often frozen to the ground level.

Crossed with the pollen of *D. gracilis* in the spring

space is visible; while in *D. parviflora* it is not rare to see long stems bare of flowers here and there, and as if by chance. The hybrid has not the corymb of *D. parviflora*, nor the long truss of *D. gracilis*. It bears a ramified panicle, erect, sometimes hemispherical, sometimes cone-shaped with a broad base. Each cluster includes from fifteen to twenty-five large and well-opened flowers, measuring $\frac{3}{4}$ of an inch to an inch, in appearance different to those of other *D. utzias*. The petals are broad, oval, with undulated edges, of the purest white, and quite concealing the lobes of the calyx; the stamens are reddish-yellow with a trilobed thread. The flowers of *D. Lemoinei* × are spread quite out, while those of *D. gracilis* have pointed petals, and are generally but a little open; they touch in the inflorescence so as completely to hide the peduncles and pedicels; this is not so with *D. parviflora* or *D. gracilis*.

* * The *Société Nationale d'Horticulture de France* allotted its highest award for this shrub—a 1st prize, with a First-class Certificate of Merit.

Dentzia Lemoinei is an excellent shrub for forcing, as is testified by the plants given in April, 1894, to the Société d'Horticulture de France. They were taken up and potted the previous autumn, then grown in a cool house. Placed in the temperate-house, they would flower much sooner. The plants thus obtained are well formed, regular, laden with pure white flowers, without being encumbered by too abundant foliage. Grown side by side with *D. gracilis*, they surpass that plant in beauty. Thus we believe that this new shrub will soon be widely multiplied for forcing, and will gradually supplant *D. gracilis*. In the open ground it needs no special care, so it may have place in all gardens, however small. Quite as floriferous as is *D. gracilis*, it has the advantages of being more hardy and sturdy, of growing much more quickly, and of flourishing in any soil. *Emile Lemoine, Nancy.*

VANILLAS OF COMMERCE.

THE August number of the *Kew Bulletin* contains an interesting historical and descriptive account of the species of Vanilla yielding aromatic fruits, more or less used in commerce, which has been prepared by Mr. R. A. Rolfe, A.L.S., Assistant in the Herbarium, who has also monographed the species of the genus, fifty in number, for the Linnean Society.

At least five species are said to yield aromatic fruits, and three are known to be used in commerce, though the well-known *V. planifolia* is by far the most important, and practically the only source of the commercial product. The history of this plant is very interesting, and it is remarkable how long a time elapsed before the botanical source of the economic article was known. It appears that it was used by the Aztecs of Mexico as an ingredient of chocolate prior to the discovery of America by the Spaniards, who adopted its use, and that it was brought to Europe as a perfume about the year 1510, at the same time as Indigo, Cochineal, and Cacao, and ten years before the arrival of Tobacco. Clusius put the first botanical notice on record, in 1605. He had received some fragrant pods from one Morgan, apothecary to Queen Elizabeth, and described them under the name of *Lobos aromaticus oblongus*, without being aware of their origin or use. Nearly half a century afterwards Hernandez gave a figure of a fruiting-branch under the name of "*Araco aromatico*." The native name was given as *Tlixochitl*, but its use as a drug only is mentioned. The original figure was one of a series of 1200 executed in Mexico during the previous century by the King of Spain. In 1658 Piso stated that the fragrant siliques or pod was called by the Spaniards *Vayilla*, and that it was used both as a drug and as an ingredient in the manufacture of chocolate. The name is the diminutive of the Spanish *Vaina*, a pod or capsule. Towards the close of the century Dampier gave some interesting information about the plant. In a small Indian village in South Mexico he found a large quantity of Vanilloes drying in the sun. The fruit was described as a little "cod," growing on a small vine, and turning yellow when ripe, when the Indians gathered and prepared it, and sold it cheap to the Spaniards.

The Vanilla was introduced to England before 1739, in which year the first edition of *Miller's Gardeners' Dictionary* appeared. In this work he states that having received some branches of the plant, which had been gathered at Campechy by Mr. Robert Millar, and sent home by way of sample, he planted them in small pots and plugged them in a hotbed of tanner's bark, where they soon put out leaves and roots. Nothing further is recorded about them, and it is probable that they were soon afterwards lost.

By this time other species of Vanilla had become confused with the true plant, and one of these was ultimately described under the name of *V. aromatica*, though the name was evidently taken from the economic plant. For many years *V. aromatica* was thought to be the source of the Vanilla of commerce, but at length it was found that its fruits were not aromatic at all,

V. planifolia was described and figured by Andrews, in 1808, from a specimen which flowered in the collection of the Right Hon. C. Greville, at Paddington, which had been introduced by the Marquis of Blandford, but it was not until long afterwards that it became known that this species was the source of the Vanilla of commerce. A year before the self-same plant had been figured and described by Salisbury under the name of *Myobroma fragrans*. Humboldt, in 1811, and Schiede some years later gave a considerable amount of information respecting the Vanillas of Mexico, and the latter described four new species, two of which, *V. sylvestris* and *V. sativa*, have since proved to be the wild and cultivated forms of *V. planifolia*, and a third, *V. inodora*, to be the one so long known as *V. aromatica*. Prof. C. Morren first succeeded in producing fruits in quantity and in proving that *V. planifolia* was the source of the commercial product. By a certain method of culture he succeeded in obtaining fifty-four flowers on one plant, and by fertilising them artificially, obtained the same number of pods. A year later he succeeded in obtaining a crop of 100 pods. His paper "On the Production of Vanilla in Europe," which was read before the British Association at Newcastle in 1833, was remarkable in several respects. Besides proving the botanical source of the Vanilla of commerce, and showing the need for artificial fertilisation, he also succeeded in tracing his plant to the original one in the Right Hon. C. Greville's collection at Paddington. It appears that Parmentier succeeded in obtaining cuttings of this plant, which he confided to the care of Dr. Sommé, Director of the Antwerp Botanic Garden, where it grew rapidly, and slips were widely distributed in Belgium and France, though they very seldom flowered, and never fruited. In 1819 Dr. Sommé sent two plants to the Dutch colonies of Java, by M. Marchal, who, with difficulty, got one there alive. This flowered at Batezorg, but failed to fruit; and in 1825, Blume, who can hardly have known its history, again described it as *V. viridiflora*.

A very interesting circumstance about the Paddington plant did not come out until many years afterwards, and that is, that in 1807, the very year in which Salisbury's figure appeared, a drawing was prepared by Francis Bauer, showing both the flower and also the fresh fruit. How the flower became fertilised is not known, nor yet whether any aromatic fragrance was observed. Morren thought that the fruit might have been a commercial pod, but the drawing proves that it was fresh, besides showing the stalk by which it was attached. Deltiel ascribes the present important industry in Réunion to plants obtained from Paris in 1822, which it is pretty certain also came from the Paddington plant. He also states that they proved sterile until about the year 1841 or 1842, when a slave named Edward Albin discovered a simple and rapid method of fertilising the flowers artificially, which has been practised ever since! He also states that artificial fertilisation was first practised by Neumann in the Jardin des Plantes, though no mention is made of this by Morren. In Mexico and Central America fertilisation is effected naturally by small bees belonging to the genus *Melipona*, which visit the flowers for the sake of the honey they afford. Elsewhere artificial fertilisation has to be resorted to.

With respect to the other species with economic fruits, it appears that *V. pompona*, Schiede, has thicker, very fleshy pods, which are more difficult to dry, and also fetch a lower price on the market. They have, however, long been known as an article of commerce, and are largely used in a fresh state. It is diffused from Mexico to Guiana and Colombia, and is cultivated in the West Indies, being the source of West Indian Vanilloes. Brazilian Vanilla is produced by *Vanilla Gardneri*, Rolfe, a species here described for the first time, having previously been confused with *V. planifolia*. "South American Vanilla," it is thought belongs to the same species, and of this as much as 9,000 lb. are said to have been produced in 1891. It has a rank odour, and is probably used as an adulterant. *V. odorata*, Presl, and a new species called *V. appendiculata*, Rolfe,

have aromatic fruits, but are not known in commerce. An indigenous West Indian species, called *V. pœo-antha*, R. & H. f., has also been cultivated as a Vanilla plant, but has little perfume. According to Humboldt, there is a Peruvian species with aromatic fruits, but nothing further is known about it. Thus it will appear that the author has brought out several interesting and unexpected facts. Those who would read the matter in full should refer to the original paper.

FOREIGN CORRESPONDENCE.

POISONING FROM EATING GRAPES.

ALTHOUGH not bearing directly on the subject of poisoning by nicotine, appearing on p. 334 of the *Gardeners' Chronicle*, the following remarks are sufficient to prove the danger of using injurious remedies upon products which are cultivated for market purposes. In France, in almost every vineyard, sulphate of copper is used either as a cure or preventative against mildew, which attacks the leaves, and in syringing the leaves the berries naturally receive a certain amount, and which when eaten produce a slight poisoning. Here (Cannes) at this season of the year, when Grapes are cheap and plentiful, I have remarked an increased occurrence of illness, which medical men attribute to colic, but which I contend is really slight poisoning from eating Grapes which have sulphate of copper on them. I have met with several cases amongst friends, and have also found the effects of it myself; and as a further proof, I find the pain is accelerated by drinking anything containing an acid. Considering the greater part is used for making wine, where the poison would be nullified by fermentation, the danger is not great; but in any way, I should assume that the addition of copper (placed in the wine), which is often practised, would be unnecessary. *Riviera.*

THE PROPERTIES OF THE GRAPE VINE.

If our forefather Adam was of a philanthropic turn of mind, and knew the many properties of the Vine, he must have felt a pleasure in handing down to mankind a plant which would prove in itself a miniature pharmacopœia. Perfectly ripe Grapes are good for persons suffering from inflammation, such as gastritis, &c., whilst the unfermented juice (*wort*) acts as a laxative. The seeds, or stones, are reputed as a popular remedy against dysentery and blood-vomiting. The ash from the canes act as a diuretic. The leaves, dried in the shade and powdered, are used in cases of hæmorrhage. The sap from the young shoots is used for inflammation of the eyes. Dried Raisins are an excellent pectoral for affections of the chest. White wine acts as a tonic aperitive; whilst red wine (which poets love to quote) is both nourishing and fortifying, if taken in moderation. Again we have the vinegar, which is employed for so many purposes, and the oil, which is extracted from the seeds, and is used in southern Europe for illuminating purposes. *Riviera.*

OXALIS TROPÆOLOIDES.

I am sending you by sample-post a plant of *Oxalis tropæoloides*, Aurora, and one of *O. t. Brilliant*, and I wish to tell you that seed of these yields from 50 to 70 per cent. of variegated plants; Aurora germinates with yellow seed-leaves, but Brilliant with white seed-leaves (I refer to the first leaves sent up from the seed), but later leaves display the differing variegations. Aurora does not change to the colours of Brilliant, nor do the leaves of Brilliant turn like those of Aurora. Both species are of very slow growth at first, and later on not growing so quickly as does the old variety. The intensity of colouring is so vivid and attractive that both are worth a place in the garden. I would further mention that the variety was awarded a Silver Medal at the recent Jubilee Exhibition at Magdeberg (August 29 to September 8). I have been told that the variety I have named Brilliant was shown in 1872 under the name of *Oxalis tropæoloides roseo-picta*, and that it has been lost since. *Friedrich Rawer, Quedlinburg.* [The specimens which accompanied this note were exceedingly pretty and high coloured. Ed.]

THE HERBACEOUS BORDER.

ASTER MAACKII.

AMONGST the most distinguished-looking and distinct Michaelmas Daisy now in flower, *Aster Maackii* (Rogel), a native of Japan, deserves favourable notice. The height is about 4 feet, the habit good, and the flower as large as that of *A. novæ angliæ*, the rays are regular and horizontal, of a pale purplish-blue. It came to me two years ago as a novelty from Mr. W. Thompson, of Ipswich, and spreads very moderately. I observe in Mr. Thompson's seed catalogue Amur-land given as the habitat. *C. Wolley Dod, Edge Hall, Sept. 29.*

THE HERBACEOUS PHLOXES.

The Phlox being my favourite plant, and having grown it for years with some degree of success, I was interested by Mr. Douglas' remarks at p. 325 concerning them. I am not sure that Mr. Douglas is writing of the shrubby Phloxes, viz., *P. suffruticosa*, or the garden form (*P. omniflora*), at all, since the greater portion of his notes bears no reference to this section, but are directed to the herbaceous Phloxes proper, viz., *P. decussata*. The two sections are too distinct to be mixed by anyone, even if they desire it. Those who require Phloxes that are mostly dwarf in habit, will find them in *P. suffruticosa* varieties, which, in reality, are the shrubby Phloxes proper. These range from 1 to 2 feet high, and a few kinds taller than this, but they have not the wide range of colour that we find in the herbaceous Phloxes, viz., the varieties *P. decussata*. The shrubby Phloxes are, moreover, much the more delicate; slugs are their pernicious enemies, devouring the young shoots almost as fast as they appear, unless prevented doing so, and in few gardens do they thrive sufficiently to be of much decorative value. But it is quite otherwise with the herbaceous Phloxes, these growing in almost any garden. The fine variety *Etna* (Lemoine) mentioned by Mr. Douglas, has nothing to do with the "shrubby" section whatever. This kind undoubtedly belongs to the herbaceous group. The other varieties mentioned I am not acquainted with. Mr. Douglas says that the Phloxes of twenty-five years ago were too tall, and this was true enough of some kinds, but there were good dwarf kinds also, which are scarcely superseded to-day. For example, take *coccinea*, *Regulus*, *J. K. Lord*, *Lothair*, *Madame Moisset*, *Independence*, *The Queen*, and you have an assortment of the dwarf kinds twenty-five years since that figure among the best of to-day. But I believe that height of stem is simply due to culture, as I find numbers of the old varieties which I have grown, fully 4 feet high, and completely foliated to the ground at that height, figuring in catalogues at the present time at 1½ foot. These herbaceous Phloxes, when well grown, are among the grandest ornaments of the garden, and those that require to be "masked by other plants" are certainly not well grown by any means. Phloxes which in dry seasons are devoid of leaves on their stems to a great extent, have suffered distinct neglect. Such plants must either be very old, or be standing in the dry soil of a crowded shrubbery, or have been afforded insufficient quantities of water, any one of which is quite sufficient to render them unsightly. I do not know of any London nurseryman who did greater justice to these Phloxes than the late Mr. R. Parker, of Tooting, for not only had he a very fine and remarkable collection, but he grew them well. This comprehensive collection was the admiration of all, and the great massive heads of colour thrown up for weeks together was a sight in itself. The whole secret of his success was in affording moisture at the root. The large specimen beds were planted near to the water-tanks, and in summer-time, twice, and sometimes thrice weekly, the beds were flooded; and so that the water should not run away, a ridge of earth was formed round the beds to keep it in. It is apparently a forgotten fact that these Phloxes, or at least the original species, is almost, if not quite, a bog or marsh plant. At any rate, there is no

position in the garden that in summer time will suit them so well. I must also confess that I have little faith in the reputed dwarfness of the new kinds. Given the requisite treatment for full development, there is scarcely any variety of this section known to me which will not, in the second year after planting, attain to a height of from 3 to 4 feet. These Phloxes, although they flower well the first, do not attain perfection till the second year, and this only when let alone. Mr. Douglas suggests replanting, if it is intended to carry them on a second year. This is one of the greatest possible errors in Phlox culture, and is simply and surely the undoing of the first year's work. Such a system not only keeps the plants unnaturally dwarf, but it also, and that most effectually, restricts the development of the flower-heads; and it is no doubt in a large degree due to this or similar treatment that we see these Phloxes so poorly grown generally, for it must assuredly follow that any cultural treatment robbing the plant of its natural development will not improve the colour or the size of the flowers. The great majority of these herbaceous Phloxes will produce immense panicles of bloom 1 to 1½ foot through when well grown, irrespective of laterals; but to get such results the plants must be put out in their permanent places, when, if intelligently treated, they will bloom well. The cutting inserted in the spring of 1895 will produce one flower-head about August the same year; and, if let alone, it will, in 1896, produce from four to six fine heads of bloom; and, if still left undisturbed, and soaked with moisture in the summer, will, in 1897, produce from twenty to twenty-four much finer heads of bloom than ever. I note that Mr. Douglas would restrict the heads of bloom to three on each plant, but I cannot understand the reason why. To obtain the best results, the soil must be deeply trenched and heavily manured; in these matters it is impossible to err. Employ young plants, from cuttings if possible; failing these, the fresh young growths from the outside of large clumps, carefully avoiding the hard woody material. If pot plants are obtained, shake them free of all soil, and, removing any small suckers, reduce to one strong shoot, and in planting spread the roots horizontally. The old stem should be buried at least 2 inches, as the plants are great surface-rooters. Phloxes may be planted over a rather long season; but, for ensuring success, the early autumn is in every way excellent. In summer-time supply them abundantly with water, and liquid-manure in plenty; and while a heavy mulch of manure will be most helpful, moisture must always be regarded as being very essential to successful cultivation. *E. Jenkins, Hampton Hill.*

THE WIZARD OF HORTICULTURE.

THE name and fame of Luther Burbank are world-wide. He was born in Lancaster, Worcester County, Mass., on March 7, 1849. From his continued successes in producing new forms of living plants in unexpected directions, he is often called "The Edison of plant life" and "The wizard of horticulture."

At eighteen years of age, after having received a liberal education, Mr. Burbank went to Worcester, Mass., to learn wood-turning and pattern-making. After three years, and finding the dust and confinement not suited to his tastes, he purchased a 20-acre farm in Lunenburg, Mass., where he could continue to study, investigate, and experiment with the variations of plants, and this was where the "Burbank" Potato originated, and where many other experiments were instituted, some of which have since resulted in valuable fruits, flowers, and vegetables.

Finding the climate of New England too severe for some of the plants with which he was working, he removed to Santa Rosa, California, where he has since lived, and where his creative work in producing new fruits, flowers, vegetables, trees, shrubs, and grasses has made his name famous; the benefits conferred by this work will be better known a gene-

ration hence, for it is a pioneer work, and the life of one man is too short to show the full results.

The work which Mr. Burbank is now doing would seem to be enough to occupy the time and abilities of a dozen men, and, not being satisfied with the hardiness or habits of the material which can be produced through the channels of the general trade, he takes journeys of many thousand miles to the mountains in the far North, where plant life has to struggle with a brief summer and a temperature of 60° to 80° below zero [?]. Desert and mountain top, swamp and field, each have to contribute to his omnivorous plant workshop, and when the finished product is turned out in the form of a hardy cross-bred Plum, a frost-resisting berry, or a charming new Rose or Lily, he finds ready sale for it at prices which seem fabulous to those who do not know the cost of time, thought, and labour necessary for its production.

From the multitude of seedlings raised each year, he selects a very few which, by their growth, show improvement over others of their species heretofore cultivated. These are tested for several years before their characteristics can be definitely ascertained. The seeds of these improved specimens are planted, and, a promising variation of the last generation of seedlings having been produced, several improvements may be expected in the next generation. The best of these are, in their turn, selected for producing still others, and, after a time, by this careful selection, great improvement is the natural result. Another means employed is to select the best varieties, and cross them with others. By this plan valuable varieties are sometimes obtained. *The National Nurseryman.*

BELGIUM.

ORCHIDS AT THE BELGIAN EXHIBITIONS.

ON the same day, September 22, two exhibitions were held in Belgium, one at Brussels, the other at Mortsel, Antwerp. At both, Orchids were well represented. At the Brussels exhibition, organised by the *Société de Flore et la Linéenne*, M. Lucien Linden showed thirty *Catasetums* in bloom, all fine varieties which had flowered last year; *C. imperiale* was even better than it was last season. Many new varieties were added to those with which we are already familiar. M. Ch. Vuylsteke staged an admirable group of fine varieties of *Miltonia vexillaria* var. *autumnalis*; this is quite other than the common type; it always flowers in September and October, thus deserving the name of *autumnalis*.

M. Jules Hye-Leyson showed a pretty miscellaneous collection of Orchids, among which may be named *Vanda Lowii*, *Saccolabium Blumei*, *Cypripedium Charlesworthianum*, with two beautiful flowers, well-coloured, especially over the very wide standards; *Odontoglossum Harryanum*; *Cypripedium Morgania* ×, remarkably fine; *C. Blunzi Lubbersiana*, with five splendid flowers; *Cypripedium macropeternum*, with two flower-stems and six good flowers; *C. Annie Meunrea*; *C. Charles Canham*, with seven splendid blooms; *Oncidium Lanceanum*, marvellous in colouring; *Epidendrum sceptrum*, and *Miltoniopsis Bleiana*.

Among M. Peeters' collection may be mentioned *Vanda cœrulea*, *Miltonia vexillaria superba*, *Oncidium Lanceanum*, *Miltonia Blunzi Lubbersiana*, *Cattleya granulosa*, *Odontoglossum Wilkeanum*, *Cypripedium Morgania* ×, and *Cattleya O'Brieniana*. M. M. Stepman & Moens showed a fine collection of *Cypripediums*, including *C. virens*, splendid as to colour; *C. Charlesworthi*, and *C. Sallieri Hyeanum*. M. Vuylsteke staged *C. Rothchildianum*, with three flower-stems and nine superb flowers; the plant strong and fine.

At Mortsel, Antwerp, M. Flor Pauwels staged a remarkable collection of miscellaneous Orchids; among them may be noted—*Epidendrum raniferum*; *Oncidium aureum*, with three fine bunches of bloom; *Asiodes virens*, with two superb trusses; *Cypripedium Bolerlaerianum* × (*C. Dauthieri* × *C.*

Harrisianum), flowering for the first time, the blossom large and good, with a fine standard, resembling greatly that of *C. Harrisianum*; *Vanda javia*, *V. teres*; *Miltonia Moreliana*, with a hundred flowers; *Oncidium incurvum*, with seven fine flower-stems; *Cattleya maxima floribunda*, new, but not sufficiently fixed to be criticised; *Dendrobium cruentum*, *Cypripedium Chamberlainianum*, *C. Thomsoni*, *Zygopetalum Gauthieri*, magnificent in colour; *Acineta superba*, with three fine clusters of delicately-scented flowers; *Cypripedium Veitchi*, with four beautiful blossoms; and *Oncidium daasytyle*, well-bloomed. MM. Janssens & Vincent sent a beautiful selection, including the following:—*Oncidium Lanceanum*, admirable in colouring; *Odontoglossum Coradinei*, a very pretty variety; *Saccolabium Blumei*, *Cypripedium ceasanthum superbum* magnificent, *Cattleya crispata*, *Cypripedium Ashburtonense*, remarkable; numerous fine varieties of *Odontoglossum crispum*, one of which, *var. Triandi*, was quite remarkable.

Commander Jones also staged some fine Orchids, among them *Odontoglossum Krameri*, *Trichopilia coccinea*, *O. cariniferum*, *Peacatorea cerina*, a species of *Lycaste* with olive-green sepals, dotted and speckled with brown, the petals and lip white, with numerous dull rose spots.

M. Jean de Bosschère exhibited an album of dried Orchid blooms, accompanied with illustrations.

ORCHIDS AT L'HORTICULTURE INTERNATIONALE.

We noticed that *Catasetums* were flowering even better here this year than last season. We have before greatly admired many surprisingly fine varieties of *C. Bangerothi*, *splendens*, *macrocarpum*, and others, and would further mention *C. Bangerothi giganteum*, *C. splendens aureo-maculatum*, of which there are numerous varieties; *C. splendens aureum*, *C. macrocarpum albo-punctatum*, *C. splendens maculatum*, *C. splendens album*, *C. revolutum roseo-punctatum*, *C. O'Brienianum*, and others. It is assumed that *Catasetums* have but a short life, but, at this establishment, there is a plant of *C. Bangerothi Pottianum*, which has been under cultivation for eleven years. In addition to *Catasetums*, *Cattleyas Rex* and *gigas* are here blooming abundantly.

Many Orchid-lovers are surprised at the great number of seedling Orchids here found, and which are the result of various crossings between diverse genera and species. Thus, at L'Horticulture Internationale, there are about 1000 *Odontoglossums*, all thriving young plants. Notable also are the very numerous specimens of *Davallia Truffautiana*, a new plant, which will soon prove to possess valuable decorative qualities.

ORCHIDS AT DEURNE, NEAR ANTWERP.

M. Flor Pauwels has here so remarkable an establishment (amateur) that all plant-lovers passing through Belgium should see it. On August 25, though many flowers had been cut the evening before, we found still 109 flowering plants. We do not know when we have before seen such successful cultivation of *Phalaenopsis*, and on so large a scale; the vegetation luxurious, the leaves firm, glistening, in excellent health; with promise of abundant bloom, which shall be spoken of later. Meanwhile, we commend this collection to the attention of Orchid-lovers. *Ch. De B.*

POTATO CROP AT BUXTED PARK, 1895.

At one time, owing to the long-continued absence of rain, it seemed doubtful if Potatoes this season would be worth lifting, but where the ground was properly tilled and the sets properly prepared, the result has exceeded my expectations. I have lifted the early and second early kinds, and find them satisfactory in every respect. In a few instances supertuberating had set in, although not to a serious extent. The Ashleaf varieties were not such a heavy crop as usual, nor were the tubers so large, but the flavour is excellent, and there is no sign of

disease or of a second growth. The same may be said of the second early kinds. From 200 square yards of ground more than 13 cwt. of good tubers of Supreme (Sutton's) were lifted, not reckoning the small ones, and not one was diseased. Renown (Webb's), produced about the same weight of tubers; Marvel was all that could be desired, even in size, of good shape, and free from disease; Wrangler and Al (Sutton's) were very good, as were Perfection and Triumph, which produced good crops of even-sized, well-formed tubers free from disease. Considering that so little rain fell during May and June, it is matter for astonishment how well Potatoes have turned out. Only $\frac{1}{2}$ inch of rain was registered between the month of April and July. The late strong-growing varieties are not yet lifted. The haulm is making a second growth, which is a sure indication of renewed root action, and as the soil is now very moist, nothing but cold weather will stop growth. Where the skin has not "set," this may not be serious. I usually plant these varieties at 3 feet apart, which allows of sufficient soil being drawn up to make wide ridges, and this measure prevents the soil about the roots getting dry during a season like that of this year, and growth goes steadily on, even in a dry time. Two years ago no rain fell between planting-time and the date of lifting the earliest; still, these were a good crop. Where the soil is poor the crop is very light, there not being sufficient haulm to cover the ridges, and the sun-heat penetrated far into the soil. On my stiff land, unless it be well prepared, there is no hope of getting a satisfactory crop of tubers, it becoming baked into hard clods difficult to break into pieces. Where Potatoes were planted on such ground, they have done very badly this season, especially the short-topped varieties. I have given up planting divided sets, except in the case of new varieties, of which there are few sets, the results obtained being much better from whole medium-sized ones, prepared by being stood on end, eyes uppermost, in a light airy place. If the tubers are hardened by being exposed to the action of the sun for a few days, by being left on the ground after lifting, they do not start into growth so early in the spring, and the shoots are more robust, particularly if the sets are kept in a cool place till planted. On the heavy soils hereabouts, shallow planting is practised, but plenty of earth is drawn to the plants to prevent the tubers from pushing through the covering. The soil is made as fine as possible before planting and earthing-up, and this, in a measure, prevents it from getting very dry during droughty summers. I have dispensed with farmyard manure for Potatoes, and I use artificial manure instead, which is sowed along the drills before the sets are laid in. The moisture in the soil dissolves it, so that the plants are benefited at an early stage. Earthing-up is done as soon as the plants are sufficiently forward, and in this way the roots are kept moist, and should the season prove a wet one, the moisture drains away into the furrows. *H. C. Prinsep.*

KEW NOTES.

TECOMA RADICANS.—In the warmer parts of this country *Tecoma radicans* thrives well, even without the protection of a wall; there is at Kew now an old specimen flowering freely, which is growing in the open with no other protection than that which the shrubs growing near it afford. Where space can be given, however, a position on a wall facing south is to be preferred for the plant. It is a native of the Southern United States, and according to Loudon, has been cultivated in England for more than 250 years. The flowers are borne in terminal clusters on the long rambling growths of the current season. About a dozen flowers occur in a cluster, and each one is $3\frac{1}{2}$ inches long by 2 inches wide at the mouth of the trumpet-shaped corolla, which is of a brilliant red and orange; the base is clasped by the red calyx. When grown as a bush it should be pruned hard back before growth commences, and it will in time form a thick self-supporting stem. On a wall

it can be extended at will, but when once the allotted space is filled, the same hard pruning is necessary. It is essentially a sun-loving plant, as is proved by the great wealth of bloom after summers like those of the present year and of 1893.

CEANOTHUS GLOIRE DE VERSAILLES.

Whilst many of the species of *Ceanothus* are very beautiful when grown as wall plants, or far enough to the south to dispense with any protection at all, it is only comparatively few that can be included among really hardy shrubs in the neighbourhood of London. *C. azureus* is one of the best of these, and of the numerous varieties of it that have been sent out in recent years, *Gloire de Versailles* is—for cultivation in the London district—probably the hardiest and most useful. It is more vigorous in habit than the species itself, and the panicles of flowers are much larger, and of a richer tint of blue. At Kew, this variety is planted by itself in a large bed; the plants are 3 to 4 feet high, and for the last two months they have flowered most profusely, the feathery panicles of small blue flowers giving a charming effect. The frosts experienced last January and February were a sufficiently severe test of the hardiness of any shrub, and it speaks well for this *Ceanothus* that with no more protection than a thick layer of dry leaves afforded, the plants received no real injury. The later, softer growth of last year was, as might be expected, killed, but this only anticipated the knife by a few weeks. All the varieties of *Ceanothus azureus* strike readily from cuttings.

ECREMOCARPUS SCABER.

Like other hardy and tender Chilean plants, this one has become quite rare. It was first collected by Archibald Menzies about 100 years ago, but was not introduced to cultivation until 1824. It is a plant of a climbing habit, somewhat Clematis-like foliage, but belonging to the *Bignonia* family. It is usually killed to the ground in winters of ordinary severity, but occasionally it survives if the plant has the protection of a south wall. In any case the roots should be protected by a thick layer of dry tree-leaves or brushwood. There need never, however, be any fear of losing it, for it ripens seed in abundance; and seedlings obtained early in the year and grown on in a frame until May, and then planted out, flower freely the following August. The flowers are borne to the number of twelve or more together on the racemes, the corolla being tubular, $1\frac{1}{2}$ inches long, constricted at the mouth, and of a bright orange-red. The leaves are bipinnate, with dark-green, irregularly-lobed leaflets. The leaves are opposite, but after flowering has begun, at every third or fourth node a raceme takes the place of a leaf. The midrib is terminated by a many-branched tendril, by which the stems are securely held to whatever support is near. This was one of the climbers specially studied by Charles Darwin when investigating the movements of climbing plants. *W. J. B.*

MORELLO CHERRY CULTURE.

MR. TEMPLE'S interesting remarks on the above-mentioned subject in a recent number of the *Gardeners' Chronicle* (p. 293), recall to my mind the fine specimen trees of the Morello Cherry which used to adorn, and probably adorn still, the 18-foot high wall at the back of the curvilinear-roofed orchard-house at Scone Palace Gardens, Perth. The trees covering this wall were fine examples of good cultivation and careful training, being furnished from bottom to top with healthy shoots, every one of which was trained with the utmost precision as regarded intervening space and the point on the wall at which the individual growths radiated from the centre of each tree. The young men who were annually entrusted with the re-arranging and nailing of such large trees were sensible of the implied confidence and honour conferred upon them by the chief, and also of the labour and skill which the manipulation of the thousands of small shoots involved, and of the importance of the verdict which followed the completion of the work. My friends, Messrs. D. T. Fish

and George Smith, Vice-Regal Lodge, Dublin, and other readers of the *Gardeners' Chronicle* who have either helped in the building up of, or have seen the Morello Cherry trees at Scone, will remember them with feelings of pride, notwithstanding the recollection of benumbed fingers and the intense cold sometimes experienced in doing the work.

I have no doubt about the trees of which I write, or the ones which may have succeeded them, being as fine examples of cultural skill now as they were then.

When I took charge of the gardens here a little over twenty-four years ago (August, 1871), I made up my mind to have trees of the Morello Cherry to come as near those described above as the dif-

about 3 feet deep, extending 2½ feet on either side the place marked on the wall for the centre of each tree, and 3 feet therefrom, placing 9 inches deep of clinkers or brickbats, broken fine on the top, in the bottom of each hole for drainage, covering this with turves, grass-side down, and then placing therein sufficient good yellow

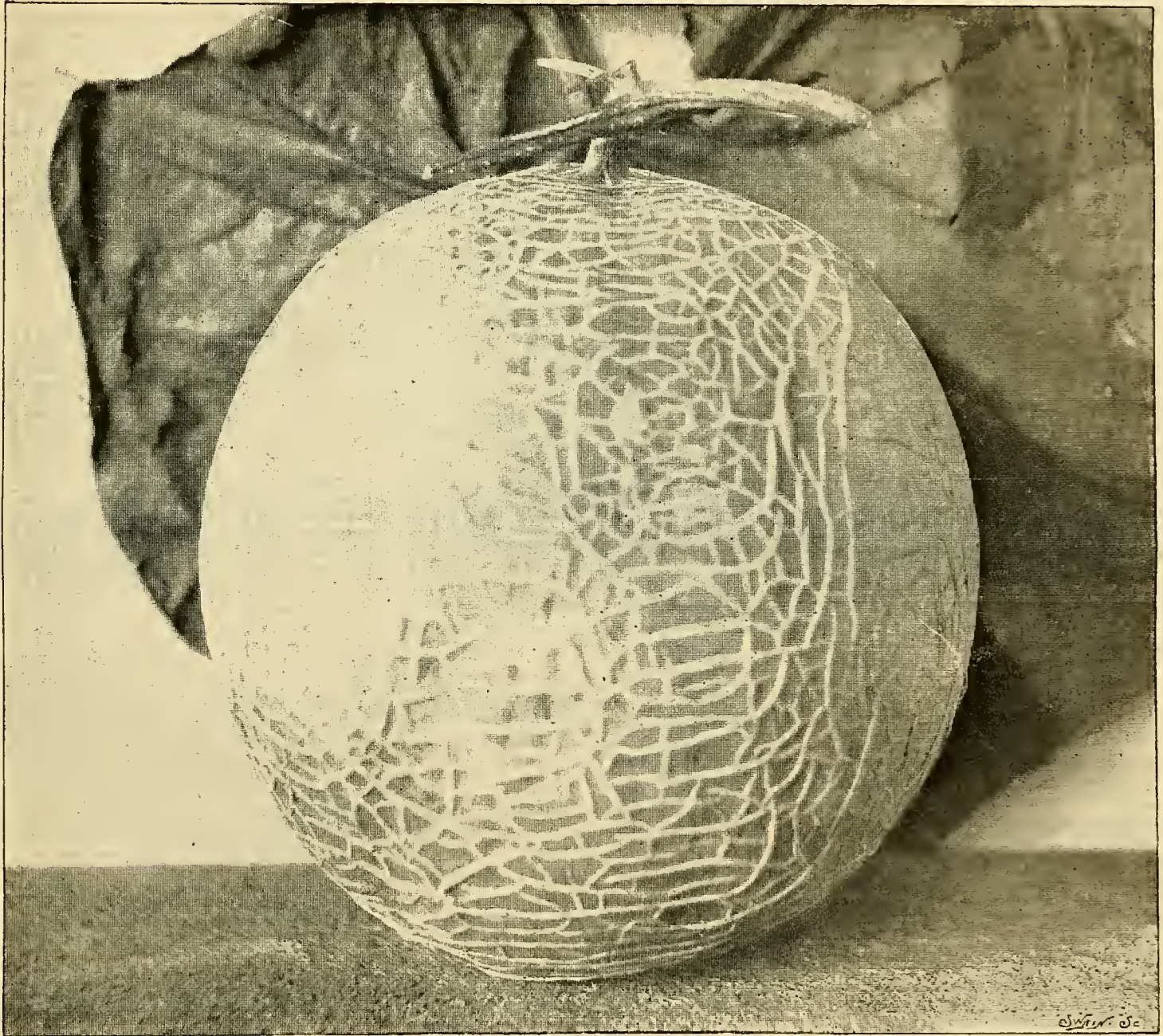


FIG. 71.—MELON, EARL'S FAVOURITE! A NEW GREEN FLASHED VARIETY, RAISED BY MR. H. W. WARD.

19 INCHES IN CIRCUMFERENCE, 4 LB. IN WEIGHT.

Awarded a First-class Certificate by the Royal Horticultural Society on September 5 last. Fruits were exhibited at the Crystal Palace Show, which were highly commended.

(See p. 402.)

Perhaps my friend, Mr. McKinnon, who succeeded Mr. John Halliday (since deceased), many years ago in the management of Scone Palace gardens, will kindly furnish particulars to the editor of this Journal as to the present condition of the trees referred to above; also a few notes as to the soil, drainage, and treatment bestowed upon the trees in question, as

ference in height of walls (9 feet), would permit. Accordingly, I planted several young trees at the fall of the leaf that autumn, and with what success I shall leave to others who have seen the trees from time to time in full bearing to say. Having obtained healthy young trees—the first consideration in successful fruit culture—I opened holes

loam (to which a little lime-rubble had been added) to plant the trees in. I may here remark that prior to planting the trees permanently in the holes thus prepared for them, they had been grown on in available spaces between Peach and other trees for a year or two, according to space, in which to develop their growth. Towards the end of September these

trees had a trench taken out around them, and a little of the soil removed from under the roots, so as to admit their being lifted and transplanted with nice balls of earth adhering to the roots, thereby preventing the trees experiencing much, if any, check in the process of transplantation, cutting off any damaged roots, and shortening back straggling ones before placing the individual trees in position, afterwards working the soil well among and about the roots, and finally treading it over before laying on a surface-dressing of short dung to the thickness of 3 or 4 inches, and extending over the loosened ground, and giving sufficient water to settle the soil about the roots, the trees being then secured loosely to the wall to allow of the soil settling down a little before being finally nailed. The trees are treated in precisely the same manner as Peach and Nectarine trees, as regards the laying-in of the young shoots annually, cutting out old ones, and the sprurring back foreright shoots.

Young healthy trees planted as described above, and afterwards kept clean and sufficiently moist at the roots during the summer and early autumn months, cannot well fail to make satisfactory growth and yield remunerative crops. Our trees have never failed in yielding heavy crops of fine fruit, which from the middle of September up to the time the crop is exhausted, are used for dessert, the flavour having a pleasant sub-acidity about it.

The black-fly is the most troublesome pest to deal with that affects the young growth of Cherry trees; until this year the most effectual remedy that I had recourse to was tobacco-juice and clean water, used in the proportion of 1 quart of the former to 4 gallons of the latter. But this season, having been induced to give Bentley's "Compound Quassia Extract" a trial, I have no hesitation in pronouncing it the best and cheapest insecticide that I am acquainted with, 1 gallon of the Extract making nearly 100 gallons ready for use. Another advantage which the Extract has over the tobacco mixture referred to above, is that it leaves no nasty smell about the trees on which it is used; but being intensely bitter in flavour, it not only dislodges or destroys the aphids on the trees when it is applied, but it renders the foliage less liable to future attacks. *H. W. Ward Longford Castle Gardens.*

FRUIT, VEGETABLE, & FLOWER CULTIVATION IN GERMANY.

Fruit cultivation in the neighbourhood of Frankfort seems to have been recently taken up with much energy, and is fostered a good deal by societies which discuss the progress, and assist their members, practically and theoretically, in the selection of the qualities and treatment of cultivation. The Royal College for fruit, vine, and floriculture at Geisenheim on the Rhine, is especially referred to in a recent report as exercising a very beneficial influence in this direction. It organises lectures for the instruction of proper persons, who are trained as fruit or Vine-growers or florists; it also sends round travelling teachers to give lectures, advice and instruction, as to the most lucrative way of disposing of the fruit crops, as to the best methods of drying and preserving kernel or stone-fruits and vegetables, the packing of the fruit, the preparation of fruit syrups, jellies, marmalades, &c., and thus as to the preserving of the fruit. The culture of berry-fruits has been especially promoted by the introduction of wines made from different berries and other productions, which have been brought before the consumers by the numerous exhibitions, where, by means of prizes, endeavours were made to increase the zeal of the growers to produce fruit suitable for the market. Of late, special attention has been directed to the better disposal of the fruit crops, since the cultivation itself has made such undoubted progress. Thus, at Frankfort, as has already been mentioned in these pages, a central depot for the sale of fruit has been founded, which offers its services gratuitously. It accepts offers from the growers, and hands them on as demands arise. It likewise

arranges in autumn large fruit sales, at which the supply as well as the demand is very lively. Last year the demand exceeded the supply, especially in green Nuts, Cranberries, Apricots, Peaches, Mirabells, and Plums. At the commencement of August, 1894, at the central office, goods had already changed hands to the extent of upwards of 1,000,000 kilos., almost exclusively berry fruits. The central office gives its assistance to all interested parties, to buyers as well as sellers, entirely free of charge. It does not even ask for the reimbursement of its own expenses. The enterprise thus is purely conducive to the public good, and is intended to promote German fruit cultivation. During the present summer, it was intended to establish similar institutions in other places after the Frankfort pattern. It has been successfully initiated in a few South German cities. The wealth of the population has been advanced in some instances in quite a remarkable degree by the cultivation of fruit and berry trees.

The Cherry orchards at Gaben need only to be mentioned, as well as "the orchard of the capital," for such is considered the small town of Weidert, situated between Potsdam and Berlin, on white sand-hills, near the River Spree. There the growing of fruit, notwithstanding the unfavourable soil, has increased wonderfully. The fruit produced excels by its superior quality, and is preferred by consumers. The growers, who have organised themselves into trades unions, are now in possession of a fleet of their own, and during the season ship their produce every morning in their own steamers to the markets at Berlin.

Floriculture is also visibly extending in Germany, especially, it is stated, since special hothouses for certain kinds of plants have been more generally erected. The cultivation of plants amongst children in schools has also been much promoted by the distribution of prizes, consisting of plants, bulbs, flower-stands, thermometers, and other articles useful in gardening.

THE WEEK'S WORK.

FRUITS UNDER GLASS.

By RICHARD PARKER, *Gardener, Goodwood, Chichester.*

WATERING THE SOIL OF THE FRUIT-TREE BORDERS.—This matter should always claim attention at this season, and in particular this year after the excessive heat and drought experienced. A tree border which has been allowed to become very dry is almost as productive of shanking in Grapes as a very wet and cold one, and it is often from this cause Peach and Nectarine trees shed their flower-buds when started into growth the following season. Providing good drainage is secured, and the soil is filled with roots in every part, it is almost an impossibility to afford too much water, as although the crop of fruit may be gathered, a great amount of moisture is required to sustain the foliage in a healthy state, and develop the wood and buds. If the surface of the border has become hard, the crust should be carefully broken up with a fork, so that the water may readily enter the soil. In gardens unprovided with pipes and hydrants, the work of watering is severe; nevertheless, in a season like the present, a strenuous effort should be made to carry out the work, so much of next season's success depending on its proper performance.

SHIFTING PEACH TREES.—The month of October is the best period for lifting and transplanting these trees, particularly those in the early forcing-houses, where it is necessary that the trees become established betimes in the new soil, and therefore in a fit state for beginning to force in December and January. Peach trees may be planted as soon as the growth of wood is finished, and if the work be carefully done, no injury will occur to the foliage, and it is a great point to keep it in a healthy condition to the latest date. A preliminary to transplanting is to heavily water the soil the night previously, which will have the effect of retaining a good quantity of soil about the roots. In preparing sites for the trees, only sufficient soil need be removed to allow of enough fresh soil being added for one season, wide, rich borders only promoting the growth

of strong, unfruitful wood. A firm soil, a border of no great width, and additions annually made as the trees seem to require it, afford much better results. After planting, one copious watering should be afforded, and the foliage heavily syringed several times a day, with slight shade, if the temperature by day be very high, but dispensing with its use when the foliage no longer flags on exposure. The branches should be but lightly fastened to the trellis at first.

THE KITCHEN GARDEN.

By JOHN LAMBERT, *Gardener, Powis Castle, Welshpool.*

LATE FIELD POTATOS.—All field crops should now be lifted, as the tubers will not be improved after this date by being left in the ground. Moreover, the most should be made of the splendid weather now prevailing almost everywhere in these islands, to gather them in. The haulm may first be cleared off by giving it a sharp pull upwards whilst treading on the soil over the roots with the feet close together. The haulm should be put in small heaps and burned. A few hedge brushings will readily effect this in dry weather. All hands should be employed in the early part of the day in digging a sufficient quantity which will provide work for the rest of the day in picking up, and thus afford some time for the tubers to get dry before storing them. If the Potatos which are first dug are the first gathered, the whole may be put away free of soil than if picked up directly they are dug up. In the case of those obtained from a fresh source for supplying a change of sets, I would recommend that these be the first lifted, and the required quantity of sets selected from the nicest shaped and middle-sized tubers. Of those that are left select what are fit for the table, and lastly the small and diseased tubers, the latter to be kept by themselves as food for pigs. Diseased Potatos keep sweet for some time stored in tubs after cooking them, if a little salt be mixed with them when crushing them. If the crop has to be carted some distance, it is advisable to put the tubers into sacks having a plain mark on the outside to denote the grade. Those intended for table use should be put into the Potato-cellar or clamp. Seed-Potatos are best clamped after exposing them to the sun for a few days. Care should be taken to put no diseased tubers into store. When space can be found for them in the spring, get them out in good time, to prevent their growing much before planting them.

EARLY BROCCOLIS AND LATE CAULIFLOWERS.—From now onwards the plants in the quarters should be examined each alternate evening, removing any heads which are found fit for use, and covering up those with leaves that have heads forming. Those intended for lifting and replanting in pits or sheds should have the root masses cut round with a bright spade, preparatory to lifting them later in the year. By doing this, growth is checked, and a number of small roots form that readily seize on the soil into which they are transplanted.

GENERAL WORK.—The covering materials for Runner and Dwarf French Beans, which it is intended to cover in the event of frost, should be in readiness for use at the shortest notice. Gatherings should be made from each kind where no covering up is done; and if these are kept spread out thinly in a cool, moist place, they will keep in a fit state for use for a considerable period.

PLANTS UNDER GLASS.

By W. H. SMITH, *Gardener, West Dean Park, Chichester.*

HINTS ON WORK IN GENERAL.—No time should be lost in getting all kinds of plants which suffer from cold and wet into their winter quarters, making a beginning with the more tender species. The various houses in which the plants will be placed should have the glass and woodwork washed and the walls lime-washed, and soured or mossy soil under the stages cleared out, supplying its place with clean gravel, shingle, &c. Early Chrysanthemums whose flower-buds are beginning to open, should be among the first brought in, as the flowers spoil if exposed to the dew or rain, although the chief part of the stock of Chrysanthemums will be better if left out whilst the weather remains as it is at present. Meantime, let everything be got in readiness for housing the plants. Examine the plants for earwigs before bringing them into the houses—a smart shake will generally dislodge these. Tree Carnations should be placed in a light airy house, admitting

plenty of air night and day in mild weather. The heavy dews and moist atmosphere of autumn are conducive to the swelling of the flower-buds and the healthy green appearance of the "grass," and when the plants have been placed in the house, they should receive a light dewing overhead twice a day, and the pots be well syringed all round for a week or two afterwards, or the leaves may take on a yellow unhealthy tinge. Indian Azaleas are not safe as regards most of the varieties if left out longer than the beginning of October. These plants should receive a thorough syringing with weak tobacco-water, laying them on their sides on the turf in doing so. Epacrises should be removed to the cool greenhouse, or other light structure, from which frost can be excluded; also *Salvias*, *Eupatoriums*, *Genistas*, *Solanums*, and *Richardias*. *Mignonette* will withstand a few degrees of frost without harm, but it will be safer to place it in cold frames, drawing off the lights in fine weather. Ivy-leaved *Pelargoniums* should be taken indoors, and allowed to flower. These are very pretty plants for conservatory decoration work in the early winter, and the plants may be placed in that structure at once. They soon commence to show for flower. A good batch of *Spiræas* should now be potted up; and if the plants are required to flower early, they should be selected from those which have been cultivated on a south border, as being more likely to be thoroughly ripened. If this be done at once, the plants will soon lose their foliage, and may then be started gently, and thus had in flower by the end of the year. A batch of named varieties of zonal *Pelargoniums*, for flowering next summer, may now be put in. If the old plants were planted out, well-ripened cuttings should be taken from them, inserted in small pots, and placed in cold frames, or on a greenhouse shelf.

THE ORCHID HOUSES.

By W. H. WHITE, *Orchid Grower, Burford, Dorset.*

GENERAL REMARKS.—The hot weather lately experienced has been very favourable to a large number of species, especially those that are deciduous or semi-deciduous, and therefore requiring a thorough rest in winter. Other species have likewise benefited from the sun-beat, which is shown by their more than usually vigorous root action. Moreover, I have not observed any injury inflicted on *Oreotoglossums*, *Maedevallias*, *Occidiums*, and other species of Orchids which are subjected to a cool treatment, although on several occasions it was impossible to keep the temperature in the houses below 75° during the hottest hours of the day—in fact, on two or three days the thermometer registered 85°. This was the case in span-roofed houses; but lean-to's facing north or north-east had, at such times, a much lower temperature, and a cool, humid atmosphere was easily maintained. With such a night temperature as has prevailed lately, air should be admitted to the cool-house, and unless the cold weather comes, no artificial heat may be necessary for some time. When frosty nights occur, efficient warmth must be maintained by the boilers to prevent the temperature falling below 50°. While the present fine weather lasts, the day temperatures of the warmer divisions can be readily maintained at the proper degree; and during the night, the ventilators may be freely used if the hot-water pipes are kept a trifle warmer than in summer. The warmth of the East Indian-house at night should range between 70° and 75°; that of the Cattleya-house about 70°, Mexican and Intermediate-houses about 65°, and on cold nights 5° less in each division. It is a matter of importance that the temperature at night should be carefully regulated, but at times it is difficult to forecast the weather, and fluctuations occur late in the night or the early morning hours, consequently it is preferable to afford a little more warmth when finishing up for the night than run the risk of having a low temperature in the morning. If the temperature of the various divisions falls a few degrees below what is considered the proper standard, no water should be afforded any of the plants, or damping-down done before the proper degree of warmth is reached. In the East Indian-house are delicate species, such as *Angraecums*, *Phalæopsis*, *Calanthes*, *Bulbophyllums*, *Cirrhopetalums*, *Epidendrum bicornutum*, *Oacidia n. Lanceolum*, *O. hæmatochilum*, *Chysis*, *Phaiis-Calanthes*, *Phaiis tuberosus*, &c., which are very susceptible to injury by a cold moist atmosphere, even for a short time at this season, many of them being in growth. Cattleyas and *Lælias* are also plants whose half-matured bulbs decay very easily if too much water be afforded, or a check is

brought about by a low temperature at night. The bright sunshine has increased the plague of black and yellow thrips, and unless these pests are diligently sought for and destroyed, many valuable plants will be disfigured. There is nothing better for killing these insects than the Richards' XL Vaporising Fumigator.

THE HARDY FRUIT GARDEN.

By W. POPE, *Gardener, Highclere Castle, Newbury.*

THE REPLACING OF UNSATISFACTORY TREES WITH NEW ONES.—Observant cultivators of hardy fruits will have taken note of the trees and bushes which are grown in various modes in their gardens, and determined which of them might be superseded by other or better kinds or varieties. In some instances the trees will have become unprofitable through age or other causes, and the replacing of such by younger plants is a necessity that should not be overlooked or delayed. Vacant spaces on the walls or espalier fences should be turned to use, if only a cordon be planted here and there. It is always advisable to have a reserve stock of young fruit-trees of the kinds grown on walls, viz., Peaches, Plums, Pears, Apricots, Figs, and Cherries. Such a reserve stock is cheaply worked up by buying a few maiden trees yearly, and training them in the various methods of dwarf, fan, horizontal and riders. The same remark holds good of bushes and standards of hardy kinds of fruit. These trees, taken from the home nursery, and planted in the early autumn, feel scarcely any check if the work be properly performed. As a rule, Apple and Pear trees remain in good health much longer than stone-fruits; and, instead of uprooting inferior varieties, if the trees are fairly healthy and vigorous, they should be headed-back in February, and re-grafted in the spring with better varieties. Trees of good varieties of Apples and Pears, which are unhealthy or unfruitful, should not be hastily condemned, as it may be possible to restore these to health and fruitfulness by paying due attention to root-pruning and lifting, and affording better drainage or a more suitable soil. A few cuttings of Gooseberries and Currants should also be struck yearly, and then, if these young bushes are shifted and afforded a little more space every year or every second year, gaps are readily made good, and new plantations made.

WORN-OUT ORCHARDS.—The replanting of an ancient orchard is commonly a mere waste of time and money, the better way being to break up and plant a new piece of ground. If a new orchard be decided upon, the actual planting of the trees should be delayed for a year or so, to enable the land to be trenched two or three spits deep, but without bringing much, if any, of the subsoil to the surface, drained, and exposed as much as possible to the action of the weather, burning all roots and rubbish on the ground, and scattering the ashes over the surface. If the soil be heavy, a liberal dressing of road-scrappings or plaster and old mortar, should be well worked into and mixed with the staple; and if of a light kind, a dressing of marl or clay should be applied, and allowed to lay on the surface till pulverised by frost, when it may be incorporated with the soil by means of the plough and harrow, or digging-forks. In the spring, after manuring the land, a crop of Potatoes or roots may be planted or sown on the land as a means towards getting it into a clean condition for receiving the trees. In October, or as soon as trees can be lifted safely, the planting may be carried out. Standard trees may stand according to habit and style of growth, at distances varying from 12 to 20 feet; half-standards and bushes on crab-stocks at a distance of 18 feet. Each tree must be staked and loosely tied at first, and mulched with half-rotted manure as soon as the planting is finished. In heavy soils, which rest on clay, it may be sometimes advisable to increase the depth of available soil and thus keep the roots at or about the surface, to form an impervious stratum a few yards square under each tree, at a depth of 2½ feet, and make a mound of soil 12 feet in diameter, and 1 foot high, on which to plant. This mound may consist of the surface soil scraped towards each station from the intervening land, or of fresh materials brought in for the express purpose.

THE FLOWER GARDEN.

By BAILEY WADDS, *Gardener, Birdsall Gardens, York.*

SPRING-FLOWERING PLANTS.—Where spring gardening is extensively carried out, the flower-beds should now be cleared of their summer occupants.

There being more time at this season than in the spring for performing the necessary trenching and digging of the soil in the beds, this should be done. Beds which have been thickly planted should receive a heavy dressing of rotten manure, with some charred soil and ashes from the charred rubbish-heaps, all duly screened of large stones and rough materials, before digging them. Beds of small size should have the soil removed to a depth of two spits, refilling them with fresh soil and manure. The beds in which Hyacinths and other kinds of bulbs are to be grown, should be well drained by placing rough materials to the depth of 6 to 8 inches at the bottom, the layer of soil above being not less than 1½ foot in depth. As soon as the digging is finished, planting operations may begin.

ANEMONE CORONARIA.—The corms of this plant should be planted at about 5 inches apart, and covered with soil to a depth of 2 inches, previously sprinkling leaf-soil and charred refuse about them. When the beds of this plant are large, they should be neatly lined out, and care taken to plant the angles of the beds (if any) neatly. Seedling Anemones should be planted out as soon as possible into rich friable soil.

HYACINTHS may be planted 4 inches deep, and from 4 to 6 inches apart, according to variety and other considerations. If other plants are to be planted as well, between the bulbs, more space must be afforded—say from 8 to 10 inches. Care should be taken to plant them at regular distances apart. If the soil in the beds is very dry, it should be made firm and level by treading it evenly all over before planting, and afterwards raking it. Plant bulbs with a trowel or a strong iron-shod dibber about 4 feet long with a movable tread fixed on one side to regulate the depth of the holes. Before the bulbs are placed in the holes a handful of sand or charred refuse may be dropped into the bottom, the bulb being then covered with the soil of the bed, and made firm. *Narcissus* and *Jonquils* may be planted in the same manner; *Tulips*, *Crocus*, and other small bulbs may be planted with the ordinary dibber, the distance between them being regulated according to the growth of the variety. All bulbs require to be planted much closer together when planted in beds by themselves.

CROCUS FOR EDGINGS of beds should be planted 2 inches apart and 3 inches deep. Look out for mice after planting these corms.

RANUNCULUS, PERSIAN IRIS, Snowdrops, winter Aconites, Scillas, &c., should now be planted; the three last named should be planted thickly if used for edgings or designs on the lawn.

LILIUM CANDIDUM.—If these bulbs have grown in the same place for several years half of the bed should be taken up and replanted elsewhere, affording the soil a dressing of rotten manure or leaf-mould. Plant the bulbs 6 to 8 inches deep, and mix wood ashes with the soil when planting, this material being a good stimulating plant-food, either applied to the soil or afforded in the water used.

FRUIT GROWING IN AMERICA.—Some idea may be gained of the scale on which fruit-farming is carried on in America from the operations of one establishment alone, the Hale Orchard Company, which, in 1891, planted 100,000 Peach trees in Georgia. During April and May this year 50 men were occupied all day in removing excess fruits in order to allow the rest to have room to develop. They began to come to maturity in June, and from the 20th of that month 350 men, aided by 50 mules, were engaged every day gathering and carting away, filling 4000 baskets in the 24 hours. Imperfect, bruised, and scratched fruits, separated from that in prime condition, amounted to 300 bushels a day. It took from 525 to 600 baskets to fill a railway refrigerator van, and each van load represented a value, including cost of gathering, packing, and transport, of £100. From this single orchard 80 van-loads were sent away this year. In Houston County the cultivation of the Peach alone gives employment to 3000 people. *Echo, Sept. 24, 1895.*

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

APPOINTMENTS FOR OCTOBER.

MEETINGS.

TUESDAY, Oct. 15. { Royal Horticultural Society's Committees at Westminster; Horticultural Club.

TUESDAY, Oct. 29. { Royal Horticultural Society's Committee.

SHOWS.

TUESDAY, Oct. 8. { National Chrysanthemum Society, at the Aquarium (three days).

TUESDAY, Oct. 29.—Havant Chrysanthemum (two days).

WEDNESDAY, Oct. 30.—Jersey Chrysanthemum (two days).

THURSDAY, Oct. 31. { Highgate Chrysanthemum (two days).

SALES FOR THE ENSUING WEEK.

MONDAY, Oct. 7. { Dutch Bulbs at Protheroe & Morris' Rooms.

TUESDAY, Oct. 8. { Dutch Bulbs at Protheroe & Morris' Rooms.

WEDNESDAY, Oct. 9. { Dutch Bulbs at Protheroe & Morris' Rooms.

THURSDAY, Oct. 10. { Dutch Bulbs at Protheroe & Morris' Rooms.

THURSDAY, Oct. 10. { Sale of 30,000 Fruit Trees at the Chilwell Nurseries, Nottingham, by order of J. R. Pearson & Sons, by Protheroe & Morris.

FRIDAY, Oct. 11. { Orchids and Dutch Bulbs at Protheroe & Morris' Rooms.

SATURDAY, Oct. 12. { Dutch Bulbs at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT OHISWICK.—82°.5.

THE greatest benefactor to the human race in our age, or perhaps in any other, has been removed by death. On September 28 died LOUIS PASTEUR. He was in his seventy-third year, and had been in failing health for some time. His own life's work then was done, but its results and its ever-widening consequences are the inheritance of the ages.

PASTEUR was by education a chemist, by nature an experimentalist and a reasoner. His advent was timely. Men could not fail to recognise the progress that science was making, but the majority asked, as they always have done, and always will do, *cui bono?* They looked as many do still, on the work of the naturalist as laborious trifling. Incapable of appreciating its purpose, they indulge in mild ridicule on the patient labour of the observer. To them the accumulation of wealth is the main business of life, and anything that does not directly lend itself to that object receives but scanty respect. PASTEUR, in the investigation of the problems put before him, sought after truth and truth only. He never sought to enrich himself. It was not the money-value of the results that actuated him. His observations were made at once the common property of humanity. But the practical men were, in this case, not slow to appreciate the value of the knowledge thus placed in their hands. We cannot in this place allude to PASTEUR's many discoveries, nor attempt to gauge their value. By his investigation into the causes of anthrax, and his demonstration of the means of combating it,

France, it is said, was enriched by an amount exceeding the war indemnity paid to Germany. The silk industry, on the verge of ruin, was restored in consequence of his researches on the disease affecting the silk-worm. The cultivation of a pure unmixed yeast, and the setting forth of the conditions under which brewing and distilling can be successfully carried on, have proved of enormous benefit to those industries.

The means he has placed in our hands for the prevention and neutralisation of diseases like hydrophobia, splenic fever, cholera, diphtheria, even if they be not absolute in their results, are sufficiently so to justify the application to PASTEUR of the epithet with which we commenced this note. Following up the indications made known by PASTEUR, our surgeons, headed by Sir JOSEPH LISTER, now perform with confidence and success operations from which even such consummate operators as FERGUSON or LISTON would have quailed, and which, indeed, they would have denounced as unjustifiable.

PASTEUR's successes have been very largely the result of his patient study of the minutest of living bodies. Whether we call them germs, microbes, bacteria, bacilli, spirilla, it matters not; the point is to observe the conditions favourable to their development, and, as MARSHALL WARD has done, the circumstances prejudicial to them. Their life-history has to be unravelled with all, and more than all, the minute accuracy that a detective would employ in tracing the career of a criminal. With the knowledge thus obtained a basis for experimental proof is afforded, and these experiments have, as we have seen, eventuated in the most signal benefits to the animal kingdom, and to the human race.

To the practical gardener it may be of interest to point out that the "cultivation" of the germs, the selection of some, and the rejection of others, and other methods adopted in the study of bacteria, are, so far as principles go, identical with those that regulate the procedures of the gardener.

To the gardener and the agriculturist, again, the results of the study of the bacteria of the soil are of primary importance. We do not recall that PASTEUR himself took up this part of the subject, but it is so intimately connected with his researches, that it is natural to associate his name in connection with them.

The distinctions of race, creed, nationality, from one point of view, are effaced in the case of such a man as PASTEUR. We may congratulate France on her distinguished son, but we feel that he belongs to humanity, not to any special country.

On the quay at Boulogne stands a statue of our own JENNER, raised by grateful and sympathetic France. How graceful and appropriate a thing it would be to erect on our own shores a monument to PASTEUR, in many ways the lineal descendant of Jenner.

DENDROBIUM PHALÆNOPSIS VAR. HOLOLEUCA.—The quantities of the handsome *Dendrobium Phalæopsis* var. *Schroderiana* which have been received during the last few years have brought many fine varieties, and among them a pretty class of light-coloured varieties, more or less tinged with pale lilac, and which go under the common denomination, "delicatam;" but the number in which the sepals and petals are pure white are very limited. In the *Gardeners' Chronicle*, December 3, 1892, p. 668, Dr. KRÄNZLIN describes *D. Phalæopsis* var. *Rothschildiana*—a beautiful white variety, with a faint flush of pink, which flowered in Lord ROTHSCHILD's gardens at Tring Park. Later, another white appeared, which was called *D. Phalæopsis* var. *alba*, but in that were some pink lines in the

lip. The variety *hololenca*, which we illustrate, fig. 72, appears to be the first wholly white variety, and it was exhibited by J. T. HOLMES, Esq., Beechen Cliff, Bath, at the meeting of the Orchid Committee of the Royal Horticultural Society, August 13, when it was awarded a First-class Certificate; and the plant has since passed into the rich collection of ELINAH ASHWORTH, Esq., Harefield Hall, Wilmslow, Cheshire. Of other varieties in which white predominates, one of the most remarkable is *D. Phalæopsis* var. *albo-purpurea*, flowers of which we received from Dr. JESSOP, Roundhay, Leeds (gr., Mr. TYSON), in which the flowers are white, with some dark plum-coloured markings on the lip, the contrast between the lip and the white sepals and petals being very remarkable.

HORTICULTURAL CLUB.—The following are the arrangements for the *conversazioni* for the next three months. October 15, "Botanical Rambles in Lapland and Novaya Zemlya," by Mr. C. E. PEARSON, illustrated by specimens of the flora. November 12, "Flowers, Fruits, and Plants in the Life and in the Home," by Mr. T. D. FISH; and "The Fruit Supply of Covent Garden," by Mr. GEO. MONRO.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.—The Rev. W. WILKS has forwarded to the secretary the sum of fifteen guineas, being the amount of the harvest thanksgiving offerings in Shirley Church on the 29th ult., in aid of the Gardeners' Royal Benevolent Institution.

NATIONAL CHRYSANTHEMUM SOCIETY.—A largely-attended meeting of the General Committee, presided over by Mr. BRIAN WYNNE, took place at Auderton's Hotel, on the 30th ult. The secretary, Mr. R. DEAN, brought up a circular relating to the Jubilee celebration in 1896, which had been approved by the President, Sir EDWIN SAUNDERS, and by Mr. J. RITCHIE, the Chairman of the Board of Directors of the Royal Aquarium, and which is shortly to be issued; and reported that a Jubilee schedule of prizes is in preparation, and that some handsome special prizes had been promised. Some interesting correspondence from the Colonies was read; one correspondent writing from Timaru, New Zealand, said some very fine new varieties of *Chrysanthemum* had been raised in that locality, and it was hoped that blooms of some of the best, frozen in ice, would be sent to England in May next. The Secretary reported the amount of prize-money awarded for *Chrysanthemum* and *Dahlia*s at the September show; and the award of certain medals was confirmed. The Secretary reported that he had arranged with Messrs. T. S. WARE, and J. CHEAL & Sons, to clothe the two fountains with flowers at the coming October show, provided the frost held off, and it was agreed, that in the event of their being able to do so, a sum of money should be allowed to each for expenses of cartage. Seventeen new members were elected, including two fellows; and the Hertford Horticultural Society was admitted to affiliation.

CHANGE OF DATE OF THE CHESTERFIELD CHRYSANTHEMUM SHOW.—We are informed by Mr. NELSON, the honorary secretary of this Society, of the fact that the committee have altered the date at which the show was originally fixed, viz., Wednesday, November 20, to Wednesday, November 6, an alteration called for by the forward state of the flowers of the *Chrysanthemum*.

AT THE CRYSTAL PALACE FRUIT SHOW.—*Country Visitor to Gardening Pressman*, "You seem to know all about these things; will you tell me (pointing to dish of *Beurré Diel* Pears) who *Beurré* is? I find his name on lots of dishes of fruit. What is he? Where does he live?"—G. P. explains that the word is French, and signifies butterlike, the variety of Pear with that word affixed having flesh of a buttery texture.—C. V. (*scratching his ear in vexation*). "Ah, dang it! I might a' known that; but what has the *Diel* to do with Pears?"—G. P. "Nothing; it is merely a dedicatory name."—C. V. "Is that so? Well, I think I'd go now."

CRYSTALISED PALACE'D FRUITS.—“Mr. Punch heartily congratulates the Royal Horticultural Society on their grand show of British-grown fruit (none “made in Germany”), and the Crystal Palace Company on the excellent arrangements made for the most advantageous display of these magnificent *fruits defendus*, for “forbidden fruit” they certainly

THE DEVON AND EXETER GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—The annual business meeting of this Association, of which Sir STAFFORD NORTHCOE, Bart, M.P., is president, was held in the Council Chamber of the Guildhall, on Wednesday, October 2, at eight o'clock, the Mayor of Exeter in the chair. The business to be transacted

secretary was re-elected. We learn from the committee's report for the session 1894-95, that they are able to report very favourably of the work of the association for the past year. The number of members at present on the roll is 89, and the balance in hand £20 16s. 2d., showing that, numerically and financially, the association is in a highly satisfactory



FIG. 72.—DENDROBIUM PHALAENOPSIS HOLOLEUCA: FLOWERS PURE WHITE. (SEE P. 396.)

were, as, much to the disgust, probably, of the apothecaries and family doctors, the visitor could not taste any of the luscious specimens attractively set before him. They were all *les pommes du voisin*, but though “forbidden,” their appearance was anything but “forbidding.” It came to an end last Saturday, when it is reported that all the fruits were safely got out of the building except one sleepy Pear, whom nothing could arouse.

consisted of the reading of the Secretary's and the Treasurer's report for the past year, both of which were adopted; the election of a president, vice-presidents, secretary, treasurer, and committee for 1895-96; and the transaction of other business, and to consider the modification of Rules 3 and 5, as regards date of the annual meeting and the appointment of two secretaries. The new president elected is C. R. COLLINS, Esq., Hartwell House, Exeter. The

condition. An evening was set apart for short papers by younger members of the association, and this proved to be a wise departure, for, not only were the short essays themselves of considerable merit, but the interest thus given to the juniors in the profession had a most salutary effect on the association as a whole. The review of the papers for the year proved as interesting as formerly, and the discussion arising therefrom brought out many valuable expe-

riences in actual practice. The association having decided to affiliate with the Royal Horticultural Society, are now associated with that illustrious horticultural body, and receive all the privileges which membership conveys, namely, copies of the proceedings of the society as published to its fellows, a transferable ticket admitting to all its meetings and exhibitions, and the privilege of nominating one of its members to be ranked as a Fellow of the Society. By resolution, Mr. ANDREW HOPE was nominated and elected to represent the Association. The autumn programme of the session 1895-96, comprises the annual business meeting on Wednesday, Oct. 2; the reading of a paper entitled "Fruit as Food," by Mr. J. I. PENGELEY, Exeter, on Wednesday, Oct. 16; on Wednesday, Oct. 30, a discussion, having as its subject, "Window Gardening, and the Selection and Treatment of House Plants," will take place; the Rev. Dr. DANOAR, president of the Training College, will give a lecture on "Carnations," on Wednesday, Nov. 13; on Wednesday, Nov. 27, there will be a discussion on "Judging at Flower Shows," which will be opened by Mr. W. ROWLAND, of Parkerwell Gardens; Mr. J. D. NANSRAWEN, Whiteway Gardens, will give a lecture on "Wild Gardens and Pleasure Grounds," on Wednesday, Dec. 11.

— At the Carnival held at Exeter last week in aid of the hospitals of that city, this Association was represented by a floral car artistically decorated with fruits and flowers, the sides being trimmed with Bamboos, golden-leaved Elders, Ampelopsis, and other gay-coloured foliage. In the centre was a living representation of Flora which, as a *tableau vivant*, was amazingly effective, the make up being highly humorous. Flora would perhaps have been more easily recognised by *habitues* of Covent Garden; but he sustained the part with commendable gravity and graciousness of presence. What was hailed as the "gardeners' car" was quite a feature in the procession, and in the report of the Carnival Committee is "highly commended."

MR. C. P. SLOCOMBE.—The death was announced a few days ago of Mr. C. P. SLOCOMBE, who was at one time a prominent etcher and a master in the National Art Training School at South Kensington. He had for some years been in a bad state of health, and had long been unable to take any active part in the work of his profession. All students who were at the South Kensington School during the years he held his appointment there, will remember him as an especially able teacher, and as an adviser who could always be relied upon for frank and intelligent criticism. *Globe*, October 2. [Mr. SLOCOMBE was a pretty constant frequenter of the Royal Horticultural Society's meetings at Kensington and Westminster, and contributed occasional illustrations of plants, flowers, &c., to the *Gardeners' Magazine*, when it was edited by the late SHIRLEY HIBBERD.]

THE TORQUAY DISTRICT GARDENERS' ASSOCIATION is a very vigorous body. The programme for the coming season, as we learn from the *Weekly Mercury*, Plymouth, September 21, issued by Mr. F. C. SMALE, the Hon. Sec., is a good one. The Chrysanthemum show will be held at the Bath Saloons towards the end of October. This will take the place of the exhibition hitherto promoted by the now defunct horticultural society.

"THE HISTORY OF GARDENING IN ENGLAND."—This work, by the Hon. ALICIA AMHERST, will comprise a sketch of the progress in the art of gardening in this country from the earliest times. The plan and design of the gardens, what flowers were grown in them, the chief horticulturists and the principal books in each period are treated of, as well as the various changes in the culture of fruit and vegetable gardens. Numerous gardens still in existence are cited as examples of each successive fashion. In the chapters dealing with the earliest times, many old records are quoted, and some transcribed for the first time from original MSS. Letters and household accounts, and notes from private MSS. of the seventeenth and eighteenth

centuries, are also here printed for the first time. The book will contain sixty-five illustrations of gardens, from MSS., engravings, sketches, and photographs. The work also comprises a copious bibliography of printed books relating to gardening down to the year 1837, chronologically arranged, and a list of the authors, placed alphabetically; also a good index to the whole book. The Appendix consists of a reprint of the portion of the Parliamentary Surveys of Wimbledon and Theobalds, giving full descriptions of the gardens there in the year 1649. The book will be published by Mr. BERNARD QUARITCH, 15, Piccadilly, London, at a cost of 15s. if subscribed for, the price to be raised to a guinea on the day of publication.

LATE STRAWBERRIES.—Last week we noted a fact or two concerning the unseasonable fruiting of the Strawberry in the South; and now we insert a note taken from the *Newcastle Daily Journal* of September 26. Mr. W. G. MACFARLANE, fruit-grower, Alnwick, sends us some specimen plants bearing fine ripe Strawberries from his gardens. They were gathered from runners made this year, and are the product of a seedling Strawberry named the Duke of York; they are really what ought to be the crop of 1896. This is the nearest approach to a perpetual-bearing Strawberry ever raised up to this time. "We began," says Mr. MACFARLANE, "pulling on June 10, and we will have fruit until the plants are killed by frost."

— As an instance of the extraordinary weather which has prevailed in Cornwall this summer, it is stated in the *Daily Telegraph* that Strawberries were on sale in Penzance market on September 20. One gardener informed a correspondent that he had gathered a fourth crop this season. Apple trees bearing fruit are also in several instances still blooming.

FLORAL DECORATION OF RAILWAY STATIONS.—To encourage the cultivation of flowers at the railway stations on the Midland Railway Company's system, that Company, says the *Morning Post*, offered £200 in prizes among their station-masters. There were upwards of 200 entries for the competition, and yesterday the first prize was awarded by the judges to the station-master at Matlock Bath.

POMOLOGICAL SOCIETY, BOSKOOP.—At the meetings in May, June, July, and August, the under-mentioned plants obtained First-class Certificates:—*Sambucus racemosa plumosa fol. aurea*, from Mr. K. Wezelenburg, of the firm of C. de Vos, Hazerswoude; *Picea pungens glauca pendula* (Koster & Co.), from Messrs. Koster & Co., Boskoop; *Crataegus oxyacantha foliis aureis*, from Mr. P. van der Kraate, Litz., Boskoop; *Magnolia Alexandrina folia variegata*, from Mr. J. Walraad, Jr., Boskoop; *Clematis M. Koster*, from Mr. D. A. Koster, Boskoop; *Spiræa Bumalda* Anthony Waterer, introduced by Mr. K. Wezelenburg; *Chamæcyparis Lawsoniana glauca Triomphe van Boskoop*, from Mr. D. Grooten-vorst, Boskoop. *Azalea mollis Machtelina Alberta*, from the firm of G. J. Alberts, Boskoop, obtained a Second-class Certificate. *Hydrangea aurea maculata*, from Mr. K. Wezelenburg, Second-class Certificate. *Picea pungens glauca* (Koster & Co.), raised from seed by Messrs. Koster & Co.; and *Taxus baccata temperanea*, from Messrs. Otolander & Hooftman, being plants fully worthy a First-class Certificate, could not have this award owing to their having been too long in commerce. P. A. Ottolander.

SWEET PEA CUPID.—Our readers will remember the illustration of this beautiful dwarf white sweet pea, exhibited on June 25, at the Royal Horticultural Society, by Mr. DOUGLAS, for Messrs. BURPEE. A photograph of a portion of a field of seven acres is now before us, and we are assured that it blooms from the middle of April or beginning of May, till checked by the frost. Messrs. HURST & SON, of Hondditch, are the sole wholesale agents to the trade in Great Britain and the Australian Colonies. The plant does not grow over 5 inches in height.

BOUQUET-HOLDERS.—Mr. W. TRESEDER, of Cardiff, tells us that he has had in use for the last fifteen years a similar appliance to that figured in our issue for September 21.

APPLES IN THE UNITED STATES.—The latest reports to hand from the best-informed quarters in the United States are variable in their character. Some five States commercially interested in the fruit state that not more than half a crop is expected; returns from fifteen others are favourable; some few are about average, and others are expected to yield in excess of previous years. Taken as a whole, the yield is expected to be in excess of that recorded for some years past. Peaches appear to have suffered much in certain localities, and as to the ultimate outcome of the crop, no one appears to speak with any degree of certainty.

WATERLOW PARK, HIGHGATE.—We are informed by Mr. J. PALLET, the Superintendent of this park, that the exhibition of *Chrysanthemums* will be open to the public on and after Saturday, October 5, from 10 A.M. until dark.

NURSERY NOTES.

A MIDLAND SEED FARM.

During a journey from Birmingham through the notorious "Black Country" to Wolverhampton, the traveller's attention is inevitably engaged by the great chimney stacks as they belch forth volumes of vile smoke, or are surmounted by a weird blaze now disappearing from sight, apparently from exhaustion, and again starting out as if making a determined effort to rise higher than previously. On either side of the railway, the face of the land is covered with huge stacks of coal, or with vast cinder heaps and refuse from the mines and ironworks. As far as the eye can see, the scene is of this nature, the surface of the earth is totally unused except for the purpose of depositing the miserable heaps of refuse already mentioned, and instead the genius and energy of man has been devoted to obtaining the wealth hidden in the earth's bosom. Agriculture in such a district seems out of place, as indeed it is, yet it has not been driven so far away as the traveller would suppose.

Only a few miles from Stourbridge Junction, a station not very far from the two mentioned towns, are the Kinvor seed farms belonging to Messrs. Webb & Sons, of Wordsley, and these are in the centre of a fertile country of the most picturesque character.

THE ESTABLISHMENT AT WORDSLEY.

Before inspection is made of the seed farms, however, the visitor is likely to be shown the establishment of Messrs. Webb & Sons at Wordsley. The extent of the business done by the firm, and the annual growth of the same, may be here in a measure estimated. The commodious buildings used for the storage of grain and various root-seeds, horticultural and agricultural, together with flowering bulbs for the garden, tell to some extent what an amount of produce has to be dealt with. Nor is the present accommodation equal to the requirements of the business. The large block of buildings that were until very recently known as the new store-houses, will be soon supplemented by a new and equally large warehouse now nearing completion, the only fault of which, in the words of one of the managers, who finds lack of store-room to be a great inconvenience, is that it is not large enough. Messrs. Webb do a large reciprocal trade with their agricultural patrons, and considerable space is requisite for the storage of Hops and wool, an immense lot of which was in storage a week or two ago. The wool trade is an extremely variable one, and no doubt the firm lose money on this article in some seasons, but possibly the succeeding ones compensate. Before this part of the premises is hurriedly left, it should be added that the visitor will assuredly be interested in inspecting these warehouses, for the most recent

and best machines for every purpose may be seen' and the manner in which they perform their work, whether it be cleaning the seeds, or other operations, is surprising.

THE SEED FARMS AT KINVER.

Those who see only the establishment at Wordley, have not nor can they have the faintest idea of the beautiful, well-cultivated farms in the neighbourhood of Kinver, where Webbs' seeds generally are tested and raised for stock purposes. It is a lovely drive from the head offices along these healthful country roads before Kinver is reached, and it being our first visit, our surprise at seeing such fertile land found frequent expression; questions also as to the locality were freely asked and as willingly answered. "We are now driving in the direction of Kidderminster," said our companion; "yonder on the left is Sedgley Church, which is said to stand on higher ground than any other Church in England." In this district, then, we drove round the greater part of the 2000 acres of land that Messrs. Webb & Sons devote in a more or less degree to seed-raising, and a good portion of which is their own freehold. This is only a small part of the land that is cropped annually to supply the needs of the business. The system adopted is something like the following: All seeds are raised, tested, and systematically rogued by competent assistants on the Kinver farms, but the produce from this harvest is "stock" seed, and to a large extent the "stock" seed is given out to selected growers in suitable localities to cultivate for Messrs. Webb, who take all the produce, and it is this seed that is sold to customers. In this way the firm estimates that they employ annually in the United Kingdom and on the Continent over 18,000 acres of land for the production of their farm and garden seeds, bulbs, &c. We do not intend to speak of the newer or favourite varieties of the different grains or roots, or other agricultural crop. Experimental work is annually done on the Kinver farms; better varieties of each crop are sought, but the results are to be seen in the numerous catalogues that Messrs. Webb issue, to which we will refer those who seek such information.

GARDEN SEEDS AND TRIAL-GROUNDS.

The little town of Kinver, lying low under the heights known as Kinver Edge, to most persons in the Black Country is only less familiar than their own town. Excursion parties may be seen any day passing along the one important street the place can boast, or climbing the "Edge." The farm Messrs. Webb possess nearest the village, and very close to the old but pretty country church, is called Kinver Hill Farm, and it is on this one where the trial-grounds are, and most of the garden crops, such as Potatoes, Peas, and other things, are grown. Many acres had been devoted to Peas, and upwards of 230 varieties have been grown for comparison with each other. Potatoes also claim a large share of time and attention in this manner, and each year the firm send out fresh varieties, which they believe are improvements upon previous ones. Such are Progress, Goldfinder, Record, and many others. Turnips, Cabbages, and indeed all Brassicas are grown and tested in large quantity, and efforts are constantly made to keep each variety as true to its type as possible. Webb's Emperor [Spring] Cabbage has long been a favourite, and some capital heads were seen when these notes were taken. Lettuces, Parsley, Onions, and every garden crop is dealt with; but we must hasten to notice, if only briefly, the trial grounds, where a great variety of flowers were being tested. It would be useless to describe these grounds, where most things are planted in nursery lines or beds much as they are in any other trial ground. What first occasioned remark were some beds of Poppies, a very good strain of the Opium Poppy, *Papaver somniferum*, strong in stem, bold in flower, and including various pretty colours. Larkspurs were quite a failure, the extraordinary character of the early part of the season had spoiled the prospects entirely. Some of the plants were coming into bloom, others

were only just through the soil. The graceful but showy Clarkias had fared differently, and plants of a good strain, both in mixed colours and in pure white, were in bloom. Delightful were the Eschscholtzias, blooming profusely in the different shades common to the flower; and by a quantity of *E. tenuifolia* we were reminded of a very pretty cream-coloured Eschscholtzia, with dwarf good habit, and a particularly free bloomer, that, although old, is seldom seen. It was rather early for Godetias in the Midlands, though they were blooming freely enough in the South. Mignonette in quantity and variety scented the air very perceptibly. Webb's Dwarf appeared of good habit, very strong, and a free flowerer. A nice collection of Zinnias, single and double, in bloom, were testimony sufficient that the strain is an excellent one. There were Sweet Alyssum, *Collinsia bicolor*, and the white variety; Candytufts, of which Webb's Snowflake seemed far and away the best. The plants were bushy, and the flowers pure white and good. The coloured varieties had come very true from seed. The strain of Gaillardias known as "Eclipse," may be commended as being in every way satisfactory. The French Marigolds had come tolerably true from seed, and the dwarf tuft-like habit encouraged is very pleasing. Asters were not in bloom when we saw them, but trials are made of a large number of these as well as other things, which we must leave unnoticed. Large and small plots of the natural and other grasses, and breadths sown from Webb's popular mixtures of Town grasses, various mixtures for alternate husbandry, &c., should be mentioned, as they are of interest to all.

The above are impressions felt during a hurried visit to Kinver, where extremes meet in such a manner that the Black Country well nigh encircles one of the greenest, most delightful landscapes—including lovely Eaville—the Midlands can boast. P.

HOME CORRESPONDENCE.

STICKLEBACKS.—The following British species are known, and described by Yarrell:—*Gasterosteus trachurus*, the common three-spined stickleback, in salt and fresh water; *G. semirarmatus*, found with the preceding; *G. leirurus*, smooth-tailed, also common; *G. brachycentrus*, short-spined, found in the streams, ponds, and sea of the north of Ireland; *G. spinulosus*, four-spined, found near Edinburgh; *G. pungitius*, ten-spined, found both in sea and rivers; *G. spinachia*, fifteen-spined, common around our sea-coast. In the *Annals of Natural History* for October, 1852, will be found some very interesting accounts of the habits of the sticklebacks during the breeding season, by the late Mr. Warrington, of Apothecaries Hall, where I well remember seeing them in his aquaria. W. T.

ROTATION OF CROPS FOR THE GARDEN.—On carefully reading and weighing, as I always do, the communications of Mr. Willis of Harpenden in the *Gardeners' Chronicle*, on p. 366 I was rather surprised to light on the following sentence in the middle column near the top:—"It is well known that the Cabbage tribe will thrive upon land much too poor to grow a good crop of Onions and Carrots." I should be glad of a little fuller explanation of the sentence, which is the only one I question, in the three columns of Mr. Willis's powerfully-reasoned article. But taking the phrase, "the Cabbage tribe will thrive" as equivalent to the ground growing "a good crop of Onions or Carrots," practical growers will not accept the sentence as in accordance with their experience. They would rather say that of the three crops named—Carrots would thrive best on the poorest land, Onions on soils of medium richness, and Cabbages best of all on the richest of all. Practically, many of the finest Carrots are grown without manure; Onions receive from 12 to 20 tons per acre, applied in the autumn; Cabbages, from 20 to 40 tons per acre, and still ask for more. After many years' experience and observation of these three crops in garden and field, I cannot recall a case in which a crop of Cabbages suffered loss of weight from over-feeding. Rich manures may at times develop abnormal tenderness in winter Cabbages or thousand-headed Kale, but this can hardly be the meaning of the sentence in question. At the other end of the scale we all know how easy it is to feed Carrots into

bolting, the scale, or coarseness. While as to Onions, high feeding leads them into bull-neckedness and other unprofitable ways, while poverty of soil dwarfs Onions into picklers. While thanking Mr. Willis heartily for all his other teaching on rotation of crops for the garden, I hope he will be so good as to throw some additional light on the alleged affinity of the Cabbages for poor land, which few of us have ever seen in garden or on farm. D. T. F.

LIME-TREE MITE.—The Lime trees in this neighbourhood are, and have for some weeks, been infested by huge quantities of mites (evidently a species of the so-called "red-spider"). The under-surface of the leaves was first infested. These curled up and fell prematurely. The trunks then became enveloped in a silvery web, looking at first sight like the tracks of dry slime left by an army of slugs. Up and down this web the mites continually move. They now form large clusters around the base of the trunks like lumps of yellow ochre. The enclosed sample will give a slight idea of their numbers. They were taken off in one lump, and although I daresay there are a few millions in the tube, they are as it were, but a drop in a bucket, compared with the myriads on the tree. *Geo. Parish*. [The Lime-tree mite, *Tetranychus tiliarum*. Ep.]

NARCISSUS FLOWERING IN SEPTEMBER.—On the 21st December, 1894, I planted one hundred bulbs of "Scilly white," which bloomed well during the last fortnight of April. The foliage was persistent for a long time, after that of all other Narcissus had disappeared, and even now its remains are still visible. About the middle of August, new foliage began to appear, which is now 10 to 14 inches high, and very strong. The first bloom-spikes were observed at the end of the third week in September, and now (on the 30th) more than half the bulbs are either in full flower, or showing for flower. Is not this very unusual? No doubt my garden is a very warm one, but no other Narcissus has behaved in this precocious manner (excepting three bulbs of *N. poeticus*, which have leaves 4 inches long, but no flowers). For the last week the sun has been very powerful, the thermometer in the shade at half-past 8 A.M. ranging from 63° to 69°. W. T., *Bishop's Teynton, South Devon*.

A RECENT SEED CASE.—An anonymous letter, treating of our recent litigation with Mr. Shephard, appeared in the last issue of the *Gardeners' Chronicle*, and we shall be grateful if you will kindly, in the interests of justice, allow us brief space for a discussion of the communication in question. "Agri-horti" (the *nom-de-plume* under which the identity of the writer is concealed) directs attention to "a fact that seems to have escaped notice," namely, that the "plaintiff registered as a trademark a certain device (a sheep as a matter of fact) embodying the words 'Shephard's Kale' as applied to that particular seed." So far from this having been lost sight of, we were summoned to appear under the provisions of the Merchandise Marks Act, and it was solely on this point that the case was tried and decided. Most practical men must endorse the common-sense verdict of the bench. From "Agri-horti's" letter we gather that he considers it desirable that the sale of a useful vegetable should be confined to the man who is fortunate enough to notice the natural sport, and who is sufficiently shrewd to promptly register the variety under his own name. Surely he cannot have reflected on the vast injustice of the greater portion of the human race being deprived of a natural valuable vegetable-food, because they may know nothing of the raiser who chose to call the variety after himself. We would also point out that we never on any occasion made use of Mr. Shephard's trade-mark, and that we merely sold a variety by its own name. As your anonymous correspondent fails to see the analogy between Shephard's Kale, Sutton's A 1 Kale, Hurst's Monarch Swede, Nutting's Beet, Wheeler's Imperial Cabbage, &c. (all of which were mentioned in the case), we fear it will be hopeless to demonstrate to him the very decided difference between selling "Shephard's Kale" and "Shephard's Kale Seed." "Agri-horti" draws attention also to a reporting error, which previously we had considered unworthy of contradiction, on the excellent, old-fashioned principle of "the least said the soonest mended." He says:—Ask Messrs. Carter or Sutton if they would allow any one of the Cabbage tribe to go out for seeding again that was 'one year only' grown from their private stocks? Now in this case our stock seed was purchased directly from the raiser by our grower, and "Agri-horti's" misappre-

hension probably arises from an incorrect report published in a local paper, from which presumably the *Gardeners' Chronicle* report was taken. This reads:—"Mr. J. F. Edney, a farmer, of West Titherley, gave evidence to having bought seed from Mr. Shephard. He sold (presumably sowed) the seed, and saved some, and produced from it. This he sold to Mr. Toogood as Kale seed." We are unable to say how the misunderstanding arose, but the true report should read as it did in one of our principal papers—the *Southampton Times*:—"Mr. J. P. Edney, a farmer of West Titherley, said in May, 1892, and July, 1893, he bought from Mr. Shephard a quantity of Kale seed which he sowed. He saved the seed at Mr. Shephard's request, but after it had been harvested he said he did not require it. He sold a portion of it to Messrs. Toogood & Son as Kale seed." As to the question of selection alluded to by "Agri-horti," the plants were several times carefully "rogued" by our grower, who has a practical knowledge of the technique of the work. The newspaper reports did not mention that we had a number of witnesses in court (though the magistrates did not consider it necessary to call them), including two noblemen's stewards, who were all prepared to attest that it was impossible to distinguish the crops raised from Mr. Shephard's and our seed growing side by side. These witnesses had further brought with them specimen-plants to illustrate the complete similarity. One other point only, and we will trespass on your valuable space no more, "Agri-horti" writes as though no similar case had been tried, when he might hear of two or three with very little trouble. *Toogood & Sons*.

THE PRESERVING OF FRUIT.—Permit me to thank Mr. J. J. Willis, Harpenden, for his courteous and useful answers to my questions to be found in *Gardeners' Chronicle*, p. 216. The answers carefully studied show how it comes about that so much jelly and jam are spoilt in the making through breaking down the structure, as well as lowering the quality of the fruit through overcooking, as well as over-sugaring. Truly, it seems that the chemistry of fruit-preserving needs teaching, as thoroughly as the theory and practice of plant-feeding and land-manuring. *D. T. Fish*.

THE GLUT OF FRUIT.—Many kinds of fruit are over-abundant in some parts of the country, and much of it is sold at prices hardly paying the cost of gathering, to say nothing of carriage. We are so accustomed to look on Great Britain as a fruit-importing country, that no one seems to have thought of our exporting fruit in seasons of plenty to less-favoured countries in northern Europe. Why should not some of our merchants try the experiment of sending fruit nicely packed in boxes and baskets to Norway, Sweden, Iceland, and the Baltic ports by steamers leaving Harwich, Hull, Grimby, Goole, Newcastle, and Sunderland? Apples and Pears would be especially suitable fruits to send, and these, with Damsons, and other Plums that will bear carriage well, should find a ready sale. Ireland, too, is badly supplied with fruit, unless it be American at a late part of the season; and it might be found worth the while to send it there in some quantity. Tomatoes, Melons, Figs, and Cucumbers, in the height of their season, might be added to this list of our exports to northern ports. *M.*

THE ROYAL HORTICULTURAL SOCIETY.—It is to be regretted that Mr. Miller should have concluded an otherwise admirable letter in last week's *Gardeners' Chronicle* by indulging in a sneer at the expense of the recipients of various medals and other awards made at the ordinary meetings of the Royal Horticultural Society. Were it not for the public spirit shown by the large body of persons who do so laudably support these meetings, and that render the Drill Hall gatherings at once the most interesting as well as attractive of their kind regularly held in any part of the kingdom, the great charm incidental to the Society's operations would be wanting, and horticulture would be shorn of one of its brightest central attributes. It is news to learn from one "who has never been to the Drill Hall," and who is in consequence not a specially fit authority on the matter, that these numerous exhibitors at, or supporters of, the Drill Hall meetings, reside—or to use Mr. Miller's phrase—are planted in and around London. There are some of us old frequenters of these meetings, who have seen exhibitors come from all parts of the kingdom, and if they have meritorious exhibits, have found just the same favour shown to them as has been exhibited towards the exhibits of those who reside nearer London. The sneer is as unworthy as it is unjust, and it is to be regretted that a gardener so highly esteemed as is

Mr. Miller should have so far forgotten himself as to utter it. If the awards made at the Drill Hall are so highly prized, whether they be medals or certificates, that persons from a wide area are constantly exhibiting meritorious, if not always new, objects to secure these awards, it is evident that they are held in esteem everywhere else if not at Coombe Abbey. Why does Mr. Miller aver that the whole thing is a farce? If these awards are farces, then are the labours of the Society's Committees farces, then is the Society a farce; and so too is horticulture. After all, the Society and the Committees will go on their way, even though Coombe Abbey or other of the carping fraternity may fume and rave. If there has been a grave mistake made in relation to the Superintendent—and nearly all deplore it—yet that error will not overthrow the Society, which is far too firmly fixed in the estimation of all who love gardening. The recent wonderful show of fruit at the Crystal Palace, even though the pecuniary attractions the Society could offer were small, is marked evidence, were such needed, that though storms may rage or errors be made, the great body of horticulturists have in it ample confidence. Mr. Miller treats with scant consideration the privileges guinea fellows enjoy, just because he cannot utilise his own. Why envious of other's opportunities, because he is debarred from enjoying them? What other society offers more than the Royal Horticultural Society does for the money? There are two grand shows annually, those of the Temple and the Crystal Palace, each of three days' duration. There are some twenty meetings at the Drill Hall, where there is generally a charming little show; and the fellow may see all the best novelties the year can produce. There is the constant use and enjoyment of Chiswick gardens, always interesting and attractive to lovers of gardening; and there are the copies of the *Journal* (not of *Horticulture*, Mr. Miller) of which there are, at least, three yearly issues that represent cash value. So much for the Royal Horticultural Society. Do not let us seek to scuttle the ship in our efforts to save the pilot. *A. D.*

TRADE MARKS.—With respect to your remarks on p. 371, there is no doubt the Trade Marks Act as it applies to seeds stands on a very unsatisfactory basis. Some years ago, we spent several hundred pounds in cross-fertilising Wheats, and produced a number of varieties which were distinct and of considerable merit; these we sold in small quantities the first season, but certainly not sufficient to recoup ourselves for the initial outlay. The next year we were met in every direction with the advertisements of farmers who had grown these Wheats and offered the seed at just about the price it cost us to produce, and this in face of the fact that we had registered the brand as a trade mark. In our endeavour to stop these announcements, we were advised that there was no remedy. Our greatest complaint was, that not only did the farmers advertise the Wheat by name, but they also used the title of the originator, such as "Carter's Stand-up;" and although they grew the seed, no steps may have been taken to keep it true and pure, yet it still went forth as "Carter's Stand-up," and if the produce turned out unsatisfactory, it cannot but have a most deterrent effect upon the introducer. We are entirely with your correspondent, that the law as applied to trade marks for seeds is at present absolutely valueless, and the only return one gets for the care and expense of raising new varieties true and pure is the reputation which gradually grows round a house of standing. *James Carter & Co.*

THE "THOROUGHFARE" TREE.—The gigantic Oaks of Sherwood Forest are remarkable for various peculiarities. The Greendale Oak, which we have here designated the "thoroughfare tree," has a roadway through its trunk. This was cut in 1724, and was wide enough for a carriage and four to be driven through it. This was actually done by the Earl of Clare, who laid a heavy bet that he could perform the feat, and he won the wager. The dimensions of this archway are noteworthy. Its height is 10 feet 3 inches, and its width 6 feet 3 inches; the circumference of the tree in a line with the crown of the arch was 35 feet. The tree is reckoned to be at least 1500 years old, and it is now propped up and braced together with chains. There are many other giant trees in this forest, such as the Major Oak, which is 30 feet in circumference. The spread of this tree's branches overshadowed a space 240 feet across from side to side. There is a hollow in its trunk big enough to hold a dozen persons standing close together. *The People, September 22, 1895.*

SOCIETIES.

ROYAL HORTICULTURAL.

GREAT EXHIBITION OF BRITISH-GROWN FRUIT AT THE CRYSTAL PALACE.

September 26, 27, 28.

(Continued from page 374.)

THIS important exhibition was opened on the day we went to press last week. We could, therefore, only insert a portion of our report. The remainder, together with a summary of the papers read at the Conference, will be found in the following columns:—

DIVISION IV.

Single Dishes of Fruit Grown in the Open Air (Amateurs and Gardeners only).

DESSERT APPLES.

The fruits exhibited in these classes were of the highest excellence; competition was numerous in almost every class, and this part of the exhibition was most satisfactory.

Adams' Pearmain.—There were ten dishes of this variety staged, and the quality was generally high. The most successful exhibitor was Mr. T. TURTON, gr. to JNO. HARGREAVES, Esq., Maiden Erlegh, Reading, whose fruits were superior in size to any others staged; 2nd, Mr. MCKENZIE, gr. to F. W. CORNWALLIS, Esq., Linton Park, Maidstone; and 3rd, Mr. Geo. Woodward, gr. to ROGER LEIGH, Esq., Barham Court, Maidstone.

Cox's Orange Pippin.—This class is always largely contested, and there were magnificent fruits exhibited. The 1st prize for this popular variety was taken by Mr. T. TURTON, who had first-rate specimens, or he would not have beaten the other fifty exhibitors. The 2nd prize went to Mr. S. T. WRIGHT, gr. to S. LEE CAMPBELL, Esq., Glewston Court, Herefordshire; and the 3rd to Mr. W. COLLINS, gr. to J. E. BORLAND, Esq., Sutton, Surrey.

King of the Pippins.—This excellent Apple was shown almost as largely as the one just noticed, there being forty-two dishes. Very great difference was noticeable in the degree of size and of colour in the fruits from different localities. Those from Mr. A. WYATT, Hatton, combined excellent colour with unusual size; and Mr. JNO. TURNER, Brighton, and Mr. S. T. WRIGHT, who were 2nd and 3rd respectively, had fruits of capital quality.

Mannington's Pearmain.—These did not strike us as being of more than average quality. Mr. T. TURTON had the best; and Mr. POTTER, gr. to SIR MARK COLLETT, Bart., Sevenoaks, was 2nd; the 3rd prize was taken by Mr. C. ROSS, gr. to CAPTAIN CARSTAIRS, Newbury.

Margil.—About twelve exhibitors staged dishes of this variety, and Mr. THOS. SPENCER, gr. to H. C. MOFFAT, Esq., Ross, took 1st prize, being followed by Mr. A. WYATT, Hatton, and Mr. BUXTON, gr. to J. A. FORSIEA, Esq., Chertsey.

American Mother was only shown in six instances, but most of the fruits were of more than average quality, and the colour was good. The 1st prize went to Mr. MCKENZIE, the 2nd to Mr. THOS. SPENCER, and the 3rd to Mr. S. T. WRIGHT.

Reinette du Canada.—Mr. GEO. WOODWARD had first-rate specimens of this rather large Apple. He was followed by Mr. MONRO, gr. to J. L. BUCKNALL, Esq., Beckenham, and Mr. H. C. PRINSEP, gr. to VISCOUNT PORTMAN, Buxted Park, Uckfield. There were seven dishes on the table.

Ribston Pippin is an invaluable Apple, and as many as forty-three dishes were staged, being nearly as many as there were of Cox's Pippin. Remarkable fruits were included in this large collection, and it was with splendid specimens that Mr. A. COCKE, Arun Gardens, Rudgwick, won highest honours; Mr. MCKENZIE was 2nd; and Mr. G. THOMPSON, gr. to Messrs. W. & E. WELLS, Hounslow, 3rd.

Rosemary Russet.—Mr. P. CAVANAGH, Roehampton Lane, S.W., who won 1st prize for this variety, had good average exhibition fruits; Mr. T. TURTON was 2nd with smaller, more highly-coloured fruits; and Mr. BRIDGES, gr. to W. L. BEDHEAD, Esq., Brentford, was 3rd.

Scarlet Nonpareil found eight exhibitors, and the 1st prize was taken by Mr. EMPSON, gr. to Mrs. WINGFIELD, Amptill; Mr. MCKENZIE, gr. to Linton Park, was 2nd, and Mr. GEO. WOODWARD 3rd.

Worcester Pearmain, in about twenty-one dishes, looked very bright, the colour generally being good. Mr. G. WAKEFIELD, Bearsted, had fruits of extra colour, and was 1st; Mr. KILLICK, Langley, Maidstone, was 2nd; and Mr. W. MEASE, gr. to A. TATE, Esq., Leatherhead, 3rd.

Any other variety.—Thirty dishes or upwards were staged, and the 1st prize was awarded to a dish of lovely fruits of St. Edmund's Pippin, shown by Mr. MCKENZIE; a good dish of Gravenstein, from Mr. O. HERRIN, gr. to the Hon. G. M. FORTESCUE, Maidenhead, took 2nd prize; and nice Jeffersons from Mr. P. CAVANAGH, Roehampton Lane, 3rd.

COOKING APPLES.

Alryston.—Of the dozen exhibitors of this excellent cooking Apple, the most successful was Mr. MCKENZIE, who had excellent fruits; Mr. GEO. WOODWARD made a good 2nd; and Mr. P. CAVANAGH was 3rd.

Bismarck.—Only an equal dozen exhibited dishes of Bismarck, an Apple that has become fairly popular. Mr. MCKENZIE had excellent fruits, and was 1st; while Mr. GEO. WOODWARD had fruits of almost equal quality; and Mr. Geo. Goldsmith, gr. to Sir E. G. LODER, Horsham, was 3rd.

Benham Orange Pippin showed the opinion in which it is held by being exhibited in about thirty instances. There was

marked difference in the quality of the several dishes, but some first-class specimens were included. Mr. C. ROSS was 1st; Mr. NEWMAN, gr. to J. A. TULK, Esq., Chertsey, 2nd; and Mr. T. W. STARTUP, Maidstone, 3rd.

Bramley's Seedling.—The best dish of this variety came from Mr. AUSTIN T. KILLICK, and were large and good. Mr. GEO. WOODWARD was 2nd; and Mr. C. ROSS, 3rd.

Cellini Pippin.—There were fifteen dishes of this very pretty and not less useful fruit. The colour generally was well developed, Mr. KILLICK, who was 1st, had fruits of large size, and of medium colour; Mr. MCKENZIE was 2nd, and Mr. GEO. WOODWARD, 3rd.

Cox's Pomona.—There were about twenty-three dishes of this variety staged, and the fruits being good in size and of exceptional colour, they looked very pretty. 1st, Mr. C. ROSS; 2nd, Mr. G. H. GOODWIN, Mereworth; 3rd, Mr. GEO. WOODWARD.

Duchess of Oldenburgh.—This pretty Apple is evidently but little popular, only five dishes were shown, and two of these were very poor. Mr. S. T. WRIGHT was 1st; and Mr. G. H. GOODWIN and Mr. S. HAINES, gr. to the Hon. D. P. BOUVERIE, Highworth, 2nd and 3rd respectively.

Dumelow's Seedling.—Mr. BRIDOWELL, Mill House, Orsett, Grays, was 1st, and beat twenty-one competitors. On the whole, this variety was exhibited in satisfactory condition. The 2nd prize went to Mr. C. ROSS; but why the 3rd prize was withheld we do not know, unless it was because most of the fruits were shown under the name of Wellington.

Ecklinville Seedling.—Although this large Apple is of soft texture, and not suitable for long keeping, the variety is an excellent one for mid-season service. Out of seventeen exhibitors, the successful one was Mr. MCKENZIE; and he was followed by Mr. GEO. WOODWARD, and Mr. C. HERRIN, Dropmore, in the order of their names.

Emperor Alexander. being shown in excellent condition, made a capital display. Mr. MCKENZIE had the best among twenty other competitors; this exhibitor was followed by Mr. BUXTON and Mr. GEO. WOODWARD.

Gascogne's Scarlet Seedling.—Eleven dishes of this variety, equally well coloured, made a similar display. 1st, Mr. MCKENZIE; 2nd, Mr. GEO. WOODWARD; and 3rd, Mr. GEO. WOODWARD.

Golden Noble.—These fruits were in great contrast to the preceding high-coloured varieties, generally the quality was first rate. Mr. GEO. WOODWARD took 1st position, Mr. MCKENZIE 2nd, and Mr. G. GARAWAY, Bath, 3rd.

Golden Spire filled six dishes. Mr. WOODWARD had excellent examples, and Mr. GOLDSMITH was 2nd, followed by Mr. T. W. STARTUP.

Grenadier.—Only two dishes were staged, and the 1st prize was withheld.

Hawthornden (New).—This worthy Apple was staged by fifteen exhibitors; the quality of most of the fruits was very good. Mr. MCKENZIE took the 1st place, and the 2nd and 3rd prizes went to Mr. W. BANNISTER, gr. to H. ST. VINCENT AMES, Esq., Westbury-on-Trym, and Mr. WOODWARD.

Lane's Prince Albert.—Mr. C. ROSS with splendid fruits, won 1st prize from eighteen competitors. Mr. H. C. PRINSEP and Mr. S. T. WRIGHT, took 2nd and 3rd places respectively.

Lord Derby.—A grand lot was exhibited. The 1st prize was taken by Mr. GOLDSMITH; the 2nd by Mr. WOODWARD; and Mr. G. WAREFIELD, Bearstead, was 3rd. There were twenty-two dishes.

Lord Grosvenor was displayed by ten exhibitors, and we thought that the quality was not more than average. Mr. WOODWARD, however, had a dish of very good fruits, and he was followed by Mr. MCKENZIE and Mr. R. WEBB.

Lord Suffield, which occupied the next position, is of much the same colour. There were twenty-four dishes, and the prizes were taken by Mr. TURTON, Mr. MCKENZIE, and Mr. J. E. BURTON, gr. to Sir E. PAUL, Bart., Twickenham, in the same order.

Me de Ménage is a very different coloured fruit. Mr. MCKENZIE's dish was of very high colour, and the fruits from H. S. MOFFAT, Esq., Goodrich Court, and Mr. C. ROSS, who were 2nd and 3rd, were also of good quality. There were twelve dishes.

Northern Greening.—Eleven dishes of this Apple were shown, and those from Mr. H. C. PRINSEP, who was 1st, were capital. The 2nd and 3rd prizes went to J. B. BROUGHAM, Esq., Carshalton, gr., Mr. W. JONES, and Mr. W. COTTELL.

Newton Wander is a very pretty fruit when seen in perfection. Mr. GOLDSMITH had excellent specimens, and was followed by P. CROWLEY, Esq., Croydon (gr., Mr. Harris); and Mr. S. T. WRIGHT.

Peasgood's Nonsuch, perhaps, makes a more handsome display than any other Apple; size, form, and colour it combines in an unusual degree. Excellent fruits were seen in the eighteen dishes or so that were staged. Mr. MCKENZIE was 1st, Mr. WOODWARD 2nd, and Mr. R. C. SANDERS, gr., Halton, Tring, 3rd.

Potts' Seedling.—The best of fourteen dishes was that from THOS. RIDGWELL, Esq., Orsett, Grays, Essex. He was followed by Mr. P. CAVANAGH, who had very good fruits; and Mr. G. BELMAN, Lewes.

Spencer's Favourite.—There were seven dishes of this golden-coloured Apple, and Mr. WOODWARD won 1st prize. He was followed by Mr. T. W. STARTUP and Mr. S. T. WRIGHT.

Stirling Castle, exhibited in a score of cases, was best from Mr. C. ROSS; and he was followed by Mr. GOLDSMITH, and Mr. J. FINCH HILL, Watford.

Stone's.—Ten good and fairly even dishes of this large fruit were shown, but Mr. MCKENZIE won, and he was followed by Mr. WOODWARD and Mr. C. ROSS.

The Queen is a very pretty fruit when seen in the perfection exhibited by the specimens from Mr. R. C. SANDER; the

2nd and 3rd prizes were taken by Mr. MCKENZIE and Mr. GOLDSMITH.

Tower of Glamis.—There were fourteen dishes, and most of them were of very fine quality. Mr. WOODWARD, who was 1st, was followed by Mr. C. ROSS and Mr. T. W. STARTUP.

Warner's King.—Mr. MCKENZIE had the best dish of fruits, and of the other twenty-one exhibitors, Mr. WOODWARD and Mr. WRIGHT were successful for 2nd and 3rd places.

Waltham Abbey Seedling.—There were five competitors, and the best was Mr. T. W. STARTUP, who had five very fine fruits. He was followed by Mr. MCKENZIE, and Mr. S. T. WRIGHT.

Any other variety.—There were twenty-nine exhibitors in this class, and a good number of varieties were represented. The 1st prize went to Mr. MCKENZIE; Mr. WOODWARD, with capital Belle Douboise was 2nd; and Mr. T. W. STARTUP, who had Tyler's Keruel, was 3rd.

DESSERT PEARS.

Beurré Diel.—1st, Earl PERCY (gr., G. Wythes), Syon House, Brentford, for examples, first class in every point. 2nd, H. ST. VINCENT AMES, Esq., Westbury-on-Trym (gr., Mr. Bannister), whose four were better coloured than the 1st prize lot, but it was lacking in size. 3rd, Sir E. G. LOTER, Leonarda Lee, Horsham (gr., Mr. G. Goldsmith). Fourteen entries.

Beurré Hardy.—Of this fine Pear there were only seven entries, and the samples varied greatly, both in size and in colour. 1st, ROGER LEIGH, Esq., Barham Court, Maidstone (gr., Mr. Woodward), with very fine large fruits; 2nd, Mr. H. C. PRINSEP, gr., Buxted Park, Uckfield; 3rd, C. R. W. ADEANE, Esq., Cambridge (gr., Mr. J. Hill), fine fruit of high colour, that seemed to us as good or better than Mr. Prinsep's.

Beurré Superfin.—Of this variety there were four entries, the 1st prize going to Mr. G. WOODWARD, Barham Court; 2nd, to Mr. GOLDSMITH, Leonard's Lee; and 3rd, to Sir W. GEAR (gr., Mr. Cotterell).

Williams' Bon Chrétien.—This variety was, of course, long past its best, and the fruits shown were large. The best as regards condition merely, came from the Hon. W. LOUTHER'S garden, Wickham Market. The awards were as follow:—1st, Mr. ALFRED DE ROTHSCHILD, Halton, Tring (gr., Mr. R. C. SANDERS); 2nd, Mr. C. HERRIN, gr., Dropmore; 3rd, Mr. J. SPOTTISWOOD, Brighton.

Catherine.—Only three dishes of this variety were shown, and Mr. G. WOODWARD was 1st, Mr. G. WYTHES 2nd, and J. W. MELLEES, Esq., Chingford (gr., G. Nicholson), 3rd.

Maréchal de la Cour.—Five dishes of this variety were shown, and all from South Country gardens. 1st, Mr. G. GOLDSMITH, Leonard's Lee, with very fine examples; 2nd, J. K. D. WINGFIELD DIGBY, Esq., Sherborne Castle, Dorset (gr., Mr. Pragnell); 3rd, Mr. G. WOODWARD.

Doyenné du Comice.—Nine dishes of this fine early Pear were exhibited, all being of remarkably good quality, although differing much in size. 1st, Mr. GOLDSMITH; 2nd, Mr. G. WOODWARD; 3rd, G. H. FIELD, Esq., Sevenoaks (gr., Mr. R. EDWARDS).

Durondeau.—Of this Pear there were sixteen entries, several of them being of the usual brilliant crimson and russet tints seen when the fruit is at its best, and none were deficient in size. The 1st prize went to a dish much less ripe than most of the others, probably owing to its being espilier-grown, shown by J. E. BORDLAND, Esq., Sutton, Surrey (gr., Mr. Collins); 2nd, Mr. J. SIMS, Maidstone, of very high colour; 3rd, Mr. G. GOLDSMITH.

Amille d'Heyst.—Four dishes of this variety were tabled, varying much in the size of the fruits. Grandly-grown examples came from Mr. G. WOODWARD, 1st; from Mr. G. GOLDSMITH, 2nd; and a dish of rather undersized ones from Mr. J. NOWELL, Abergavenny.

Fondants d'Automne.—Of this variety eight dishes were shown of greatly varying merit. The 1st was shown by Mr. J. GIBSON, gr., Chippenham; 2nd, Mr. ROGER, gr., Holmwood, Dorking; 3rd, Mr. H. C. PRINSEP.

Glout Morceau.—Eight dishes were tabled of fairly even quality, 1st, Mr. G. GOLDSMITH; 2nd, Mr. W. COTTERELL; 3rd, PERCY LAWRENCE, Esq., Clapham Park, S.W. (gr., Mr. C. W. CHARD). The samples came from widely separated parts of the country, as Bath, Streatham, Tonbridge, and Shipton-on-Stour. One exhibitor had shown Beurré Bachelier under Glout Morceau.

Josephine de Malines.—There were nine entries in this class, and the fruits were of very varying size and appearance. 1st, Captain CARSTAIRS, Newbury (gr., Mr. C. ROSS), highly coloured fruits, large and clear in the skin; 2nd, Mr. BANNISTER, Westbury-on-Trym; 3rd, Mr. J. HILL, Cambridge.

Louise Bonne de Jersey.—This was a large exhibit, the dishes numbering twenty-four, and most of them were of good size and bright colour. 1st, Mr. G. GOLDSMITH; 2nd, Mr. W. KING, gr., Gatton Park, Reigate; 3rd, Mr. J. NOWELL, Abergavenny; this lot of fruit beating even the winning Sussex dish for high colour.

Marie Louise.—Of this favourite Pear twenty-two dishes were shown, some being ripe, whilst others wanted two or three weeks yet to make them eatable. 1st, Sir E. PAUL, Bart. (gr., J. E. BURTON), with large, clear-skinned examples, still green; 2nd, Mr. G. GOLDSMITH; 3rd, Mr. H. C. PRINSEP.

Naville Filvie.—Three dishes only were shown. 1st, H. C. MOFFAT, Esq., Goodrich Court; 2nd, Mr. WYTHES; 3rd, Mr. G. FENNELL, Tonbridge.

Pitmaston Duchess.—Of this showy, if not particularly good Pear, twenty-six dishes were shown, including several of large size, but nothing of superlative bigness was noted. The finest were those shown by Mr. J. COWLEY, who was 1st; and Mr. G. WOODWARD, 2nd. Mr. COTTERELL was 3rd.

Souvenir du Congrès.—Ten dishes of this showy variety were tabled, mostly of large size and high colour, although singularly the largest fruit, those from Mr. WYATT, Hatton,

were green. 1st, W. & E. WELLS, Hounslow (gr., Mr. Singleton); 2nd, Mr. T. TURTON; 3rd, Mr. G. GOLDSMITH.

Thompson's.—Three dishes of this nice-eating and useful variety were shown. 1st, Mr. G. GOLDSMITH; 2nd, Mr. J. GIBSON; 3rd, Mr. COTTERELL.

Triomphe de l'étoile.—Six dishes were shown in this instance, some of them consisting of perfectly ripe fruits. 1st, Mr. R. C. SANDERS, Halton; 2nd, Mr. G. WOODWARD; 3rd, Mr. J. GIBSON.

Winter Nels.—Of this very delicious and valuable late variety there were seven dishes shown; 1st, Mr. H. C. PRINSEP; 2nd, Mr. G. GOLDSMITH; 3rd, Mr. RICKWOOD, Twickenham.

Any other variety of Pear.—In this competition there were Beurré d'Amanlis, Beurré Rance, Maréchal Soult, like a Marie Louise in shape; Gansell's Bergamotte, Jersey Gretiola, a good, but neglected variety; Flemish Beauty, beautiful, but of poor quality; Beurré Clairgeau, of which the name may be said; Marie Louise d'Uccle, Duchess d'Angouleme, Princess, Brockworth Park, Soldat Laboureur, Jargonelle. 1st, Mr. R. EDWARDS, gr. to G. H. FIELD, Esq., with Madame Treve 2nd, Mr. COTTERELL; 3rd, Mr. ROGERS.

DIVISION V.

DRIED FRUITS.

It is a pity that these classes were not taken up by more competitors, as it is now generally believed that in the event of more extended hardy fruit culture in this country it will be increasingly important that in some measure we should apply the system of fruit preserving so largely practised by continental growers. Sufficient was shown notwithstanding to demonstrate to visitors who had not before seen fruits treated in this manner, that good results have already been obtained in instances where the system has been tried. All the fruit shown in the following classes must have been grown and dried in the British Islands.

The 1st class was for a collection of dried fruits, and Mr. W. A. TROTTER, Ledbury, was awarded the 1st prize for a collection, principally composed of Apples either as rings or cord, or whole fruits. Varieties so treated were Golden Noble, Hawthornden, and Flower of Herts.

Some attractive-looking "rings" of Apple Golden Noble, secured another 1st prize for Mr. TROTTER, in the class for 1 lb. weight of Apples sliced. There was no competition in these two classes, but in the next for 1 lb. weight of Apples, dried whole, Mr. TROTTER, who was 1st with good-looking fruits of Flower of Herts, was followed by Mr. R. W. BULL. The best exhibit in the class for Plums, was also from Mr. TROTTER, who exhibited a variety of this fruit all of an inviting appearance. Both Plums and Damsons were included, some dried during the present season, and others in 1894. Mr. R. W. BULL was 2nd. Cherries, dried whole, 1 lb. in weight, brought the remaining 1st prize to Mr. TROTTER.

DIVISION VI.

SPECIAL PRIZES.

The Worshipful Company of Gardeners offered three prizes for six varieties of hardy fruits grown in the open air, two gallons of each, at least two kinds of fruit to be represented. There were four exhibitors, the 1st prize going to Mr. S. H. GOODWIN, Mereworth, who had skips of excellent fruit of Lady Henniker, Cox's Pomona, Loddington Seedling, Blenheim Orange, and Cox's Orange Pippin Apples, the latter particularly fine; Doyenné du Comice Pears, a splendid lot of fruit, very even, and finely finished. Mr. G. TEBBUTT, Isleworth, was 2nd, having Lady Henniker and King of Pippins Apples, Brionne de Mello and Louise Boane of Jersey Pears, Belle de Septembre (Autumn Beauty), and Sandal's Plums; a more varied collection, but lacking the superb finish of Mr. GOODWIN'S contribution. Mr. A. WYATT, Hatton, Hounslow, came 3rd; he had Pitmaston Duchess and Durondeau Pears; Duches' Favourite, Yellow Ingestre, King of Pippins, and Cox's Orange Pippin Apples.

Mr. A. WEIR'S special prizes for a bushel of Apples (42 lb.), of a cooking variety, and half a bushel (20 lb.) of a dessert Apple, packed for market in as many packages as may be desirable; cost of packages and method of packing to be stated, the competition open only to amateurs and private gardeners, brought seven competitors, the 1st prize going to Mr. GARDNER, gr. to P. T. PHILLIPS, Esq., who had his fruit packed in three ordinary oblong hampers, three layers in each; the two lower layers packed with the base of the fruits downwards, the upper layers on their sides, each layer kept secure by pads of wool placed to fill up the space; the cost of the baskets, 2s. 6d., 9d., and 6d., as they varied in size and quantity. The baskets containing the culinary Apples were lined with stiff brown paper, interleaved with blue, and the fruit was each wrapped in the latter. The lines of the dessert Apples were separated by using bruised corrugated paper, interleaved with blue; a layer of paper was laid over the top of each basket when filled, then wood-wool, and the lid fastened down. 2nd, Mr. Cotterell, gr. to Sir W. GEAR, Tonbridge, who had carefully graded fruit in boxes. One containing Pitmaston Duchess Pears, and one with Worcester Pearmain Apples packed in coloured paper and wood-wool, the cost of the box and packing for the Pears was 6s. 4d., and that for the Apples, 4d. Though only one prize was offered, a 2nd prize appeared to have been awarded to Mr. COTTERELL.

There were six competitors with a package, basket, or otherwise of 12 lb. of Grapes received by rail. The 1st prize went to Mr. G. COOPER, Sunninghill, who had packed (apparently Gros Maroc) in an ordinary stout white wicker Grape-basket, lined with soft paper, the bunches carrying a beautiful bloom lying close to each other, the stems of the bunches securely fastened to the rim, and which, to all appearance, might have been carried any distance without disturbance. One of the leading features was the extremely neat finish

given to the packing. 2nd, Mr. J. GORE, Polegate, packed in much the same way, having the same varieties, but as far as we could see, he had furnished no particulars of cost. 3rd, Mr. Harris, gr. to Lady H. SOMERSET, Eastnor Castle, similarly packed. Gros Maroc and Alicante appeared to be the two varieties of Grape employed.

There were seven competitors in the class for the best packed box or packages of Peaches, twenty-four fruits, received by rail. Mr. W. WELLS, gr. to F. G. ARBUTHNOT, Esq., Bexley, took the 1st prize, having a layer of fruit, each wrapped in tissue paper, and packed in wool-wool, the cost of box and packing, 8½d., an ordinary shallow deal box being employed. 2nd, Mr. R. GRINDROP, who had a similar box lined with coloured paper, each fruit in two wraps of soft paper, and packed in moss; no particulars as to cost supplied. 3rd, Mr. Peatney, gr. to A. J. HOWARD, Esq., Isleworth, who had wrapped his fruit in soft paper, and then packed in wool-wool; cost of box and packing, 7½d.

There were several competitors with a box or other package of ripe Pears, twenty-four fruits received by rail, and Mr. W. WELLS was placed 1st, with Beurré d'Amanlis Pears, packed in wood-wool, the cost of box and material, 8½d.; 2nd, Mr. A. PENTNEY, with Marie Louise, similarly packed, the cost of box and packing, 4d.

The prizes offered by the Vegetarian Federal Union, for selections of specimens of fruits, nuts, grains, &c., suitable for growing on a 2-acre plot, did not bring any competition, so far as we could learn.

MISCELLANEOUS FRUIT.

Among the non-competitive collections of fruit, that from Messrs. JAS. VEITCH & SONS, Royal Exotic Nurseries, King's Road, Chelsea, was conspicuous. On one table was a remarkable exhibit of Apples representing a good number of varieties, which, from the qualities they possess, are the best that can be selected, and each of these was shown in excellent condition. Another table contained a collection of large and choice Pears of the best varieties, and individually the dishes were excellent.

Capital fruits of *Late Devonensis* Peach from a south-west wall were shown, and sprays and fruits of *Rubus laciniatus*, a first class Blackberry, also *Alpine des Quatre Saisons* Strawberries, White Grapes, Currants, Damsons, and ornamental varieties of Crabs. Sprays of the new large Winter Cherry (*Physalis Francheti*) were noticed also (Highly Commended).

Messrs. JNO. PEED & SONS, Rouppell Park Nurseries, Norwood Road, London, S.E., staged a collection of Apples and Pears well deserving of remark (Commended); and from Messrs. CHAS. LEE & SON, Hammersmith, a similar collection was shown. The fruits were of uncommon colour, and good in quality (Very Highly Commended). The Australian Irrigation Colonies were represented by some Mildura Lemons, and various dried fruits.

Messrs. JNO. LAING & SONS, Stanstead Nurseries, Forest Hill, S.E., covered a table with remarkable Apples and Pears, in a number of varieties. In large baskets of Apples and dishes of the same, were splendid Cellini, Cox's Orange Pippin, and Washington (Very Highly Commended). Mrs. B. WELLS, Crawley, Sussex, had a small collection of Apples, and exhibited a fruit of Peasgood's Nonsuch, grown by Mr. Mortar, Upper Norwood, said to weigh 1 lb. 10 oz.

An interesting collection of fruit was exhibited by Mr. WILL TAYLOR, Hampton, Middlesex, which included Apples and Pears in variety, most of them good in colour; Coe's Golden Drop, Grand Duke, and Belle de Septembre Plums; and bunches of a hardy Grape, named Reine Olga de Wurtemberg, recommended for open walls.

Mr. Owen Thomas, gr. to Her Majesty the QUEEN, Windsor, exhibited about 100 dishes of Apples and Pears, most of them being of first-rate quality. No attempt had been made to arrange these in the form of a Trophy, as was done at the exhibition last season (Very Highly Commended).

Mr. JOHNSON, Hanger Hill, Ealing, had a stand, where he exhibited specimens of his Mushroom spawn; and another stand was devoted to the display of Orr's Patent Storing-trays for fruit or other light articles. These wooden trays are made in an ingenious manner, that when fitted together, they form a substantial stand, and they are easily packed for transit.

The Horticultural College, Swanley, showed forty-four dishes of Apples of favourite varieties, several, viz., Bramley's Seedling, Peasgood's Nonsuch, Emperor Alexander, Gloria Mundi, Melon, Concellor, Norfolk Beaufin, Washington, being above the usual standard of quality.

Miscellaneous Exhibits.—Messrs. FELLOE & BYDER, Orpington, Kent, sent a collection of twenty-one dishes of Tomato Duke of York, a form apparently of Sutton's Perfection. The fruits smooth, regular as to size, and ripe, each dish held nine fruits. An excellent exhibit.

Messrs. SUTTON & SONS, Reading, showed an enormous screen, 6 feet high and 60 feet long, on which were displayed fruiting stems to the number of six or more loaded with ripe fruits of each of the varieties of Tomato grown by them. It was a good method of showing the fruiting capabilities of the different varieties, but on the whole it struck us as being overpowering in extent and in the mass of vivid colour. (Very highly commended.)

New Scottish Apples were shown by Messrs. NOTHAED & LOWE, Cotton's Wharf, London, E.C. The varieties were Graevenstein, and Bank's Red Graevenstein, a smaller fruit than the type. All were very bright looking.

Mr. W. H. WARD, gr., Longford Castle, showed Melon Earl's Favourite in nine examples, some very prettily netted, others but slightly. A Vote of Thanks. (See fig 71 p. 393.)

Messrs. J. CHEAL & SONS, Crawley, had two large tables filled with fruits on maiden trees in pots, and in dishes and baskets. A great mound of Bismarck Apples occupied the centre of one of the tables, and was flanked by two groups of

upright Cordons, loaded with fruit of the same variety. Of fine size were Apples, Jubilee (new), King of the Pippins, Cox's Pomona, Hawthornden, Atalanta, Warner's King, Betty Geeson, Bramley Seedling, Ribston Pippin, Lucombe's Seedling, Mère de Ménage, Ecklinville, Washington, Yorkshire Beauty, Nanny (the famous Sussex Apple), Sandringham, Duchess of Oldenburg, and Cellini. (Very highly commended.)

Messrs. CHEAL'S exhibit of Pears included fine samples of Duchess de Mouchy, Abel Fetel, Doyenné du Comice, Beurré Diel, Beurré Hardy, General Toilehan, and Duchesse de Nemours, a big stewing Pear; Coasseller de la Cour, Glout Morceau, Louise Bonne, Léon Leclerc, and Pitmaston Duchess.

Messrs. W. PAUL & SON, Waltham Cross, had a table thinly laid out with dishes of Apples and Pears of generally high quality. Of Pears were remarked Beurré de l'Assomption, Doyenné Boussoif, Beurré Diel, Frederick of Wurtemberg, Marie Louise d'Uccle, Vicar of Winkfield, Beurré Bachelier, Van Mons, Léon le Clerc, Madame Treve, Glout Morceau, &c. Of Apples in fine example, the following were remarked:—Annie Elizabeth, Waltham Abbey Seedling, Lord Derby, Beauty of Waltham, Duchess Favourite, Forge, Wealthy, Cox's Pomona, Baignette du Canada, Stone's, Bismarck, Stirling Castle, Emperor Alexander, Warner's King, Cellini (Highly Commended), King of the Pippins, &c.

Messrs. S. SPOONER & SONS, Hounslow Nurseries, Middlesex, exhibited a group of Apples and Pears in considerable variety. The quality was highly commended.

MISCELLANEOUS (FLOWERS).

From Mr. THOS. S. WARE, Hale Farm Nurseries, near Tottenham, was exhibited an extensive display of Dahlia blooms, including most of the sections, each of which was well represented, considering the advanced date in September. A collection of Begonia plants in flower, single and double varieties, was also staged by Mr. Ware.

A group of Begonias in flower, and Chrysanthemums, also out blooms of large-flowered Chrysanthemums, exhibited by Mr. H. J. JONES, Ryecroft Nursery, Lewisham, was very pretty.

Messrs. WM. CUTBUSH & SONS, Highgate Nurseries, London, N., showed a large number of blooms of a single Dahlia, named Watford Beauty, orange-coloured, with scarlet ring round the disc. Also fruits of their Polegate Seedling Tomato, and fruits of Catbush's Green-flesh Melon.

Messrs. JNO. LAING & SONS, Forest Hill, London, S.E., besides a few orchard trees in pots, exhibited a very tastefully put up group of Caladiums, Begonias, Dracenas, Ferns, &c. The Begonias were of the ornamental foliage section, and included a few very attractive varieties. Caladiums and Crotons, also were well-grown and of good colour.

Messrs. WM. PAUL & SON, Waltham Cross Nurseries, Herts, who seem to induce their Roses to flower long after bloom has disappeared from most gardens, exhibited a collection of cut blooms from varieties specially good for late blooming. A few fruit trees in pots carrying fruits from these nurseries likewise deserve remark.

Messrs. J. CHEAL & SONS, Lowfield Nursery, Crawley, exhibited stands of Dahlias of a variety of types—Pompoms, Cactus, decorative, show, fancy, and single-flowered.

Messrs. J. VEITCH & SONS, Chelsea, showed *Magnolia Watsoni* in bloom, *Berberis Tounbergi* in berry; *B. vulgaris*, also to show fruitfulness; and *B. Hakodate*, a new Japanese species, for comparison. The berries of the latter were equally abundant as those of *B. vulgaris*, but they are of a brighter hue, being scarlet instead of crimson.

A large collection of hardy flowers was shown by Mr. LAD HAMS, the Shirley Nurseries, Southampton, which included bunches of their Perpetual Pink, very fresh and nice for so late a date; *Rhus glabra laciniata*, which dies off of rich colours, &c.

Messrs. W. WOOD & SON, Wood Green, N., showed a collection of horticultural sundries of the usual heterogeneous nature.

THE CONFERENCES.

At the Conference on Thursday Edmund J. Baillie, F.L.S. of Chester, presided.

NEW FRUITS OF RECENT INTRODUCTION.

MR. DENYARD read an exhaustive paper on new fruits of recent introduction. He found some difficulty, he said, in defining the word "new," but he adopted the term for convenience; and he added that his remarks would be based upon his own personal experience, and not on hearsay.

APPLES.

Dealing first with Apples, he said many fine fruits had come to the front. In dessert sorts they had the Beauty of Bath, an August fruit of great beauty. It was rather acid, and would, he thought, prove more of a market fruit than a garden variety. Next came the September Beauty, one of Laxton's seedlings. This had a very rich flavour and soft texture, and was worth culture, although not a great bearer till it gained age. No early dessert fruit of late years had taken the public taste like Lady Sudeley, as for perfume, colour, flavour and beauty, it took precedence of all the August and September kinds. The Armored was a little russet well-flavoured Apple; it bore freely and would be valuable where very

late fruit (May) was required. The Christmas Pearmain, to be sent out by his firm, was a soft-fleshed, briskly flavoured Pearmain. This was a good grower, and a regular bearer. The fine dessert Apple, South Lincoln Pippin, had been purchased by his firm, and it would be sent out in 1896. This would succeed where Cox's Orange failed, and was considered as good as that old and fine variety. The Okera was a pretty rosy salmon fruit, in perfection in September and October. It was elegant on the table, and of fine, brisk quality, and of a curious egg shape. It was a good grower and fair bearer. It required to be laid up to ripen, as the flesh was hard when eaten fresh from the tree. The May Queen, although certificated many years since, was now little known. It was a capital late dessert kind for February and March, and a great bearer. The Wealthy was an American variety, with soft flesh and pleasing flavour. Its fruit was of a lovely crimson, and was in perfection and profusion in October. Williams' Favourite was an August fruit of great merit. It was a good grower and profuse bearer, and could be highly recommended. These appeared to cover the new dessert novelties, but many older and little known varieties should be noticed to complete the group; such as Roundway Magnum Bonum, the finest flavoured dessert apple, Calville Rouge Précoce of great beauty with aromatic flavour and a good bearer, Allen's Everlasting, an old kind, little known, but of the finest possible quality, the tree being a close grower and free bearer.

In Culinary Apples there were more novelties, such as Early Rivers, a fine variety bearing well at Sawbridgeworth. It might be described as a late Suffield. Hambling's Seedling was a large fruit that would prove a grand late variety. It was of vigorous growth, and for garden and orchard planting would prove an addition, as large culinary fruit was scarce in March. The Pyford Wonder was a late heavy kind which had been sent out, and well shown by the Hereford nurserymen. Apples of this class would always be useful after Christmas. Salmarsh's Chelmsford Wonder should prove a useful late cooking sort. Vicar of Beighton was a handsome fruit fancied by their old friend the late Shirley Hibberd; but it must be condemned, as it cast its fruit prematurely, and the tree was, moreover, very liable to canker, and was an awkward grower. Pearson's Newton Wonder was a vigorous orchard tree, and restricted on the Paradise Stock was a very free bearer. He anticipated that it, with Bramley's Seedling, would beat the tender and much be-cankered Wellington out of our orchards. It was a really grand new variety. For that grand late variety—Belle Pointoise, which kept into May, they were indebted to Sawbridgeworth. Mrs. Barron was distinct in growth to any other, and would prove most valuable for cultivation in restricted gardens. Tyler's Kernel was little known, but it formed a vigorous orchard tree, and would probably produce twenty-five bushels. White Transparent was a very lovely and useful first-early Kitchen fruit. Its primrose colour and capital cooking qualities made it worthy of the Award of Merit which it gained. The new sorts, Duke of York and Bowhill Pippin, to be sent out by his firm, would take a good place by-and-by.

CHEERRIES.

Coming next to Cherries the writer said that in this department new kinds were not plentiful, but the honour of introducing some good sorts rested with Messrs. T. Rivers and Sons, whose Emperor Francis, Cleveland Bigarreau, Ludwig's Bigarreau, must rank A1 among the White Heart race; and Black Hawk, Géant d'Heidelberg among the black ones, Windsor, an American red-black, were also likely to prove useful. Among early black Cherries, Rivers' Early quite took the lead, and although not strictly new was yet little known.

NECTARINES.

Nothing Messrs. T. Rivers & Sons had introduced to their group of Nectarines, and they had now crowned a glorious set by introducing Rivers' Early. This fine kind was not only a good grower but was seven to eight days earlier than any other, and if well-thinned, the size was grand and the flavour exquisite. Among recent introductions the late kinds, Newton and Spencer, were food for the gods, and their enormous size, grand colour, and exquisite flavour marked them out as A1, while the wood was stout and very short-

jointed, pointing to heavy crops and good constitution. The Dryden was also one of the finest for mid-season.

PEACHES.

Messrs. T. Rivers again took the lead, and their introductions had done much to lengthen the season in the kinds for culture under glass. The Americans had given us fine early Peaches, but they were not much known yet, and could only be valued for their precocity. An early Peach of a first-class flavour was still required. Général Laée, Early Canada, Harper's Early, from America, were not so good as Hale's Early. The Alexander, Waterloo, Amsden June, were very early; but unless under good conditions did not possess rich flavour, though they were juicy and pleasant, and came three weeks before any others. A word as to failures with these sorts under glass. There was no difficulty in setting these American kinds if a low temperature were kept until the fruit was set, when the day and night heat could be raised, and they soon swelled and astonished every one by their quickness in ripening, but the continuance of forcing heat during flowering was a wrong process, and caused them to cast their fruit. Outside, this did not occur, and they were valuable additions to early fruits in this section. The best way to get them of really good flavour was to set them in an orchard house, to grow them on till within a fortnight of ripening, and then to stand the trees outside for the finishing touch, when they took on fine colour, and became really good in flavour, though not first class. In late Peaches there were no novelties to chronicle, but the mid-season kinds were well supplemented by Dymond and Goshawk, which, though not new, were yet little known, and had the benefit of a good constitution.

PLUMS.

In Plums Messrs. T. Rivers again took first place with early sorts. Stint was a gain for an early dessert kind, and the Sawbridgeworth race of transparent Gages received substantial additions in the Early Transparent and Late Transparent, and the late Golden Transparent again was fine and very late. All these possessed the best and richest flavour for dessert. To the same firm was due the Count Atthem's Gage, one of the red-skinned sorts, of exquisite flavour, and a good bearer and grower.

In dessert Plums none had proved of so much benefit as Rivers' Monarch, a large black Plum, ripening at the end of September, and being a good grower and profuse bearer.

In Damsons, Bradley's King took the first place. It was of the richest flavour, and now that the trees had gained age it bore annually. It was unequalled for private use.

PEARS.

Beacon was a profuse bearer on Quince, but a slow grower. It did admirably on the Pear. The fruit was sweet and pleasant, but must not be left on the tree till fully ripe (August to September). Marguerite Marrillat was an immense fruit with fine colour, and when eaten in condition was excellent (September to October). Messrs. Veitch's Beurré Fonqueray was a fine green Pear, which would replace B. Bachelier. It was a free-bearer and hardy (October). Directeur Hardy was a good grower, and ranked A1. Rivers' Conference was an elegantly shaped fruit and a great bearer, and when not over-ripe of fine flavour and buttery. It was a good grower (October). The striped Doyenné du Comice had yet to be proved. The Beurré du Buisson was a remarkably fine-flavoured, long Pear, juicy and delicious. It grows slowly but bears well, and was quite A1. (December to January). Le Lectier was a large Pear of uneven shape, but of fine quality, keeping till January; while of older introductions Rivers' Maguane and Princess maintained their characters.

Late Pears are very much neglected, and in passing it might be said that Beurré de Jonghe, Doyenné d'Alençon, Marie Benoist, Duchesse de Bordeaux, are very fine and reliable sorts, which succeeded in the South and West as open pyramids, and in the colder parts of the country should do well on walls. Beurré Julie was a small but first-class pear, and deserved to be better known. It was a profuse bearer and was in season in October to November. The Fondante de Thirriott was handsome and very good, and a good grower of moderate size (December). The list of baking Pears had been extended by the introduction, through the Pear Conference, of Gilgil and Directeur Alphaud,

and as the public taste grew for stewed Pears, they would be appreciated.

In Quinces new sorts were plentiful from America, but at present the results had to be waited for.

RASPBERRIES AND STRAWBERRIES.

In Raspberries, Superlative Red justly held the first place. He could not speak well of Keighley Queen, lately introduced. Surpassé Pastolf from the continent was a good red. In yellow Raspberries they had stood still, but a very large fruited one might be expected in 1896 from his firm.

In STRAWBERRIES they had made a great advance, and it was to be regretted that Mr. Thomas Laxton did not remain with them to see the success of his Royal Sovereign. Taking the earliest kinds, the earliest is Laxton's No. 1, a fine-flavoured variety. Laxton's King of Earlies is yet one of the best for flavour. It is closely followed by Royal Sovereign and Sensation (a fine fruit but soft). George Rundle and May Queen have not yet been so good as to warrant their adoption. Incomparable (Ridgwell), which gained the award of merit, is an improved Goliath of firmer texture, and there are a few Continental sorts, mostly introduced by Mr. George Paul, which are useful fruits, such as Auguste Boisselat, Edward Lefort, La France, Souvenir de Kieff, and Unser Fritz. These were not new, but are valuable in a collection. In late sorts Laxton's Latest of All (unfortunately named, as it was not a very late kind), is the best of recent sorts. Its fine size, Queen style, and splendid flavour singled it out for general cultivation. He must not overlook the new ones from Gunton Park, and Mr. Allan deserved credit for introducing Empress of India, Gunton Park, and Lord Suffield, as they were a departure in the direction of more distinct flavour, as against many recent sorts which went for size only. He would like to give a word of caution. Many growers in trying new varieties did not give them time to show their qualities in various seasons. Strawberries for all seasons must be cultivated, and he would ask growers to hesitate before condemning new or fresh varieties on trial, as it did happen that those which proved valuable in a dry were worthless in a wet season; and, as good gardeners, they should provide for all changes of weather.

GRAPES.

In Vines (Grapes), from time to time, really fine novelties were got, but the public taste took years before they became popular. He had however great faith in Lady Hutt, a large bunched white of grand flavour, and Diamant Traube, very fine; and in Black Grapes, Appley Towers, which might be described as a late Hambro'. Grapes would soon have to be divided into two sections—handsome sorts for the market; and choice sorts, with flavour, for one's own eating.

MISCELLANEOUS.

Among outside fruits the Japan Wine-berry deserved notice. It was a useful fruit for tarts, &c., and as a handsome climber or trailer, its pretty, weeping habit and red stems marked out a future for it.

The American Blackberries had been a failure.

It would, Mr. BUNYARD said in conclusion, be necessary to carry out a rigid selection in order to admit of the introduction of so many new fruits.

The CHAIRMAN said they had listened to a most interesting paper which opened up ground for good discussion. He noticed that Mr. Bunyard did not allude to a variety of Strawberry which surpassed the Royal Sovereign, he referred to Laxton's Monarch.

Mr. BUNYARD said he had not yet tried it.

Mr. ROPELL remarked that it was a dark horse.

Mr. PLAYFORD (South Australia) said he was a grower from the other side of the world—the colony of South Australia. (Cheers.) As colonists they had been exceedingly anxious to get the best varieties to grow in the open. He sent to Mr. Bunyard, who forwarded several varieties, which, although they travelled 16,000 miles, all turned out well. He would like to say that he thought that in growing for profit it was a great deal better to confine themselves to the very best varieties, and only a few of them. There was one Plum he thought might be introduced into this country, the Japanese Plum. It was very much like an ordinary Peach—a cross between a Peach and an Apricot. There was one Plum called Red Heart, a most excellent fruit. He was astonished Mr. Bunyard did not mention the Bismarck Apple. It had been grown for some years in the Colony, and he had a specimen which measured 16½ inches round in one direction and 16½ inches in the other direction. He thought that would beat anything shown at the Palace that day. He, however, devoted himself principally to the cultivation of Cherries. The first Cherries he got were the Early Purple King. It was the very earliest variety and made a splendid show, as did

Early Lyons. He also grew Tunford Bigarreau, which, if gathered before it was ripe, would not lose its flavour after it was picked; the Black Tartarian, Knight's Black, Waterloo, which will keep well in extreme cold, St. Marguerite, a very large, firm, black Cherry, were other varieties that he cultivated. He had picked something like 30 tons of Cherries a year. He had between 15 and 20 acres of land, but by no means the whole of this was devoted to Cherries. He was also growing a Blackberry that came from the Himalayas, and some of those had been sent to Kew Gardens.

Mr. CRUMP, replying to a remark made by Mr. Rivers, who was not distinctly heard, said he had had nothing to do with the raising of the May Queen. He had, however, got a model tree, and the variety was one which should be grown by everyone.

Mr. ROPELL said he was very much struck by the remarks of the gentleman from South Australia. He, however, must dissent from some of his opinions. He was afraid if they selected only a few Apples and a few Pears, and so on, they would remain stationary. If their efforts were confined and cramped entirely by the mercantile element, they would soon put a stop to progress. They did not all work for merely pounds, shillings, and pence. Many of them worked for the love of the thing; but if people could get a profit out of horticulture, so much the better. He had himself a crop of Diamant Traube, and he was glad to find that Mr. Bunyard had learnt its merits. He would not like to leave the Nanny, an excellent Sussex Apple, out of a selection of fifty. The list of first-class Apples was, however, so large, that it was a matter of great difficulty to reduce the number to anything like fifty; and their friend from Australia would do wisely to try all the sorts sent out to him, and not to stick to the dozen he had got. If he did not do so, he would find himself left out in the cold.

Mr. BUNYARD, in replying on the discussion, said he would not advise anyone to embark on the Plums from Japan. He had got all the varieties he could, and he had only had two bear fruit, after twelve years. He would have mentioned the Bismarck Apple, but he thought it was thoroughly well known. The same remark applied to the American Mother Apple. With regard to the Nanny, there was one objection—it very seldom cropped.

A hearty vote of thanks was proposed by the Chairman to Mr. Bunyard for his paper.

Mr. GRANT, in seconding the proposition, said, up till recently he had been associated with Roses, but for the last five years he had gone in for fruit, and he was satisfied with the results obtained. He did not think they need fear the competition of their Australian or American cousins, who were not going to equal anything they saw in the Palace that day (Laughter).

SECOND DAY'S CONFERENCE.

The second day's conference took place on Friday, under the presidency of Mr. Bunyard, when Mr. A. H. PEARSON read a most interesting paper on

PRUNING FRUIT TREES.

MR. PEARSON said he approached the task of reading a paper on that subject with trepidation—the subject was one upon which so much had been said; and yet he found from experience that there was still a great deal of darkness in the mind of the average amateur on the matter, and even the great lights of horticulture differed very materially on some important points. Let them take for instance the very first question which arose in the mind of the ordinary amateur. He purchased some fruit trees from a nurseryman, and his first question was should the trees be pruned at the time of planting? Nine authorities out of the ten would a few years ago have replied, No! It was not so long ago that a little band withstood a host of experts upon this very question, and he was glad to say withstood them with such obstinacy that, although the question was not settled, it was left an open one. The advocates of non-pruning assert that the transplanting of fruit trees being a considerable check to the trees, this result should be counteracted by leaving the branches full length for the first year so that they might produce as much foliage as possible and thus induce root-action; whilst those who advocated the pruning of newly-transplanted trees took an entirely different view of the matter, and argued that, as the act of transplanting entailed some check upon the roots, and also in all probability some reduction of their length, the branches should also be shortened to maintain the balance; further that the long shoots being left on the tree caused a considerable amount of needless evaporation of the stored-up sap, made it much more difficult to secure the tree from being rocked about by the wind, and lastly that it defeated the end in view, inasmuch as development of leaves from the full-length shoots was so poor compared with that on the shortened shoots, that root action was retarded rather than advanced. These ideas had been gaining ground during the past few years. Of course, the results upon experimental plots, and

the results which came under the observation of every intelligent nurseryman, from the planting of trees under his own supervision, were results which were measured by the eye, and which might to some extent be read differently; but happily there was established in this country, thanks to the enterprise of His Grace the Duke of Bedford, an experimental fruit-station, where results would be accurately recorded by men of science, so that prejudices, one way or the other, would not be allowed to bias the judgment of results.

The manner of pruning a newly-planted tree must depend greatly upon the tree to be operated upon. Broadly speaking all young, well-grown and vigorous trees should have their branches shortened to one-third of their original length after planting; if the planting was done *very* early in the season the pruning might with advantage be deferred for a week or two in order to minimise the risk of the buds which were left being dried up, but in the case of trees planted later in the season the pruning might be done at once. What were the objects to be attained by pruning fruit trees? Firstly, to obtain fruit; and, secondly, to form trees of a nice shape and in a condition to continue fruit-bearing. With many planters, the first object seemed to be lost sight of, whilst others equally neglected the second. Pruning required a good deal of judgment, and much depended upon the kind of tree, the stock upon which it grew, and the form of tree which one desired to have as a result of one's cultivation. It was therefore impossible to lay down any hard and fast rules for pruning—each case must be taken upon its merits. There were, nevertheless, two rules that could always be kept in view, and which formed the basis of nearly all pruning: first, that all branches must be so disposed as to admit the sunlight and air into the middle of the tree—for, without this, fertility was impossible; and, second, that all leading shoots should be as strong as possible, in order that a free flow of sap be maintained, and the side shoots should be as weak as possible in order to favour the formation of fruit spurs. A good axiom would be—the more a branch is shortened by pruning, the stronger will be the growth resulting from the remaining buds. After all, one's judgment was quite as useful in pruning as the knife. To begin with a few examples, let them suppose that they had purchased some standard trees of Apple, Pears or Plums which had been well grown. If the trees were young, say three or four years old, the shoots should be cut back to one-third of their length, taking care to prune to an *outside* bud, so as to produce a tree with an open head. The reason for this was that the first care, with standard trees, must be for a few years to secure good growth and form firm open heads which would carry fruit for generations—and those who sought to obtain fruit at once made a fatal error. If young standard trees were left unpruned they would make scarcely any growth the following season, but the buds would just push out a few leaves and remaining nearly dormant, would, the following year, be transformed into bloom buds, and if these produced fruit the long branches would be broken down and the tree ruined for life: if, on the other hand, one wished to prune them back the first year after planting, a whole season would be lost, and it was often very difficult to find buds to prune to, as the buds on the lower portion of these long branches would have failed to develop and were what were technically called "blind."

Pyramid trees should be treated much in the same way as standards; young vigorous trees should be closely pruned; older trees, being more formed, did not require such severe pruning, as the foundation of the tree was already laid, and what one wanted was rather to continue the work already begun, than to cut hard back and so form strong shoots; older transplanted trees merely required the longest shoots shortening, in order to maintain the balance of the tree, and to prevent their lower portions having undeveloped buds. It was frequently advisable to thin out entirely a few of the branches upon formed or specimen trees, where they were placed too closely together, as this was an operation which seldom received attention. These remarks upon pyramid trees were of course based on the supposition that they had been carefully pruned during their youth in the nursery. When one read of pyramid trees being purchased and planted which had stems three feet and over in length devoid of a branch, these remarks were not applicable. Such trees could only be treated by being cut hard back to 15 or 18 inches from the surface of the ground, and allowing them to start again if one

was possessed of sufficient patience to await the result, the alternative being to dig them up and burn them.

CORDON TREES.—These should have the leading branch left as long as possible, the only object of shortening it at all, if well ripened, being to ensure the whole of the buds breaking. Now as they wanted the buds to form fruit spurs, it was obvious that they should be as weak as possible, and bearing in mind the fact that the more one pruned away, the stronger would the growth be from the remaining buds, let them err rather on the side of cutting away too little than too much.

ESPALIER TRAINED TREES.—These should have the leading shoot pruned back to about 14 inches from the top pair of branches; provided, of course, proper buds could be found there to make growth to form the next pair; if not they must cut where the bud was, be it an inch or so higher or lower. The side branches which were about 1 foot apart, should be treated just in the same way as cordons. He wished to make it clear that the pruning of a cordon or espalier tree should be the exact opposite of that recommended for a standard tree, for the simple reason that in the case of a standard tree, the result which one wished to obtain was growth, whilst for the already formed trained tree one wanted short fruit-spurs.

SUMMER PRUNING.—This, as ordinarily carried out, was the main cause of our garden fruit-trees being unfruitful; whereas, if properly done, it should have the most beneficial effect. All side-shoots of cordons and side-shoots from the branches of espalier or other trained trees, or pyramids, should be gone over during the season of early growth (May), and pinched back with the finger and thumb-nail to three leaves. These shoots would then commence to grow again from the upper buds, and should be pinched back to two leaves (making five). Sometimes a third pinching was necessary in a wet autumn. The result of this treatment would be that the side-shoots would be thin and weak, and so predisposed to form fruit-spurs, whilst the leading shoots and those required for extension would have had an extra amount of sap thrown into them, and would consequently be strong, clean, and vigorous. In the subsequent autumn or winter pruning of these side-shoots leave always on young and vigorous trees three buds; on old trees, two would suffice. The reason for leaving three buds was, that one or two—generally two—must make growth, whilst they wanted the lowest one to remain nearly dormant, and just put out a leaf or two, so as to develop into a fruit-bud next year. The mode of summer pruning often seen practised was very different to that here described. It consisted in allowing the side-shoots to grow freely until July, and then cutting them hard back to two buds. The result was, that the shoots were far thicker and stronger than they should be, and consequently more liable to make strong wood next season. The tree received a great check from the removal of so much foliage, and finally, the buds left were almost certain to break out into growth the same season. Close pruning like this quickly transformed a tree into a dense thicket of shoots impervious to sun or air, and totally unfitted for bearing fruit. Close pruning was responsible for more failures in garden fruit culture than all other causes put together, and he blamed the method of close summer pruning, because the trees were thus subjected to two close prunings a year instead of one, and thus became thickets in about half the time. The reduction of spurs, necessary as it was, must be deferred until the bloom-buds are formed. As soon as one had a really developed bloom-bud on the spur, any growth extending beyond it might and should be removed, so as to give the tree a neat appearance, prevent the overcrowding of foliage, and have the fruit as close to the main feeding supply as possible.

STONE FRUITS.—He would like to say that all stone fruits hated the knife, and the more pinching one could do to save subsequent pruning the better would the tree like it, and the less would they be troubled by gumming and other evils.

ROOT-PRUNING.—In the present condition of knowledge—and many things had to be learned—he looked upon root-pruning more in the light of a surgical operation to be undertaken advisedly than as one of the routine operations of the fruit garden. Care should be exercised, or the cure was apt to be worse than the disease. In the case of young trees there was of course no difficulty in the matter; but with old trees, when the roots had extended to a considerable distance, there was a great danger of killing the tree. The *modus operandi* of root-pruning was this: as early as possible in the season,

as soon as the leaves turned yellow, and before they fell off, get out a trench round the tree to be operated upon, cut back the strong roots (with an upward cut of the knife) and drive a spade under the ball of soil in which the tree stood, so as to sever any tap-roots which might be working down into the subsoil, fill up the trench again as quickly as possible with some good loam and old manure from a spent hotbed, and the shortened roots would make plenty of young fibres before the advent of winter. When really old trees had to be dealt with, it was best to prune only half way round the tree one season, and to complete the circle next year.

Mr. Pearson, whose paper was listened to with deep interest, explained many of the points by means of specimen trees which he brought with him for the purpose.

Mr. ARNOLD said he had paid a deal of attention to the paper, particularly with regard to the pruning of cordons. He found from practical experience that it answered well to go round the trees, say in June. Instead of cutting away the lateral growths, he broke them and left them hanging, and he found that when they wanted to cut back finally to the third bud, it answered to break the branch at the fourth bud as they would find that the first bud beyond the break would develop into an unmistakable fruit bud.

Mr. COLVILLE BROWNE (Hextable) said he should like to corroborate the remarks of the last speaker. As one who had a good deal to do with fruit-pruning, he found the greatest benefit to be derived in private gardens—he was not quite sure whether it would answer in large establishments—by breaking off the breast shoots and the superfluous shoots. It was noticeable that below the break or below the twist they certainly did get an unmistakable fruit bud. It was very curious, and he thought it might be advantageous to bear it in mind with respect to rank growers like the Pitmaston Duchess. If they had some good system of bending or twisting with rapid growers, they would obtain very much better results in the long run and have less work for the knife. He found there was more harm done by the pruning knife than from any other cause. Magnificent trees were sent out from the nurseries and spoilt in four or five years. He thought, however, nurserymen were greatly to blame, because they did not give all the information they ought to. They had to thank Mr. Pearson for giving them so much valuable information that day.

Mr. FLETCHER (gardener to Mr. Thompson of Maidenhead) bore testimony to the value of the paper, and said those who had lately taken up the work of fruit culture needed such light and guidance. He was very pleased to hear Mr. Pearson speak about newly-planted trees, and he thought it might be taken for granted that as a rule newly-planted trees should be pruned. He knew there had been a controversy on the subject, but he was not certain which side won. They should be guided by common sense a great deal, and by circumstances. In fact, a great deal should be left to individual judgment.

Mr. RIVERS said he could fully bear out what had been said about twisting the branches. Constant pinching was not a success, and with cordon trees one pinching was enough, and it should be done in June. He was once in a garden at Rouen, belonging to a professor. The trees were beautifully arranged, but there was hardly a fruit on them. He asked the gardener whether there was any fruit in the orchard, and the gardener said there was. They had not got any fruit on the cordons because, added the gardener, they were pruned on the professor's system (laughter). With regard to root pruning, he thought it was absolutely necessary occasionally.

A gentleman asked whether it might not be worth while to get over the difficulty by preparing the trees before transplanting, in the same way as they ought to do with Rasp berry canes.

Mr. BENVARD said he would strongly advise that pruning should not be done the first year. As to pruning trees before they were sent out from the nursery, speaking as one who had to do a vast amount of packing, he would be very glad to do the pruning, as nurserymen were but mortal and tradesmen. But people would not like to pay 3s. 6d. for a well-pruned tree, because they would think it too small for the money. It should, however, be remembered that these trees were entrusted to railway companies. They were handled by inexperienced persons, and sometimes damaged seriously. If the trees were sent out properly pruned, and were then damaged, they would never be got into proper form again.

Mr. PEARSON said he hoped he had made it quite clear that close pruning was the thing he was fighting against. Replying to questions, he said that at present he had no dwarf stock for Plums. With regard to the bending-down of branches, one method was that adopted by their old friend, Shirley Hibberd, who used to tie bricks and stones to the ends of them. As to giving information in a catalogue, his experience was that the reader would take no notice of what was said, as he would be sure to think that the nurseryman had his own axe to grind. With regard to pyramids, there are a number of them which must not be pruned at all at the end of the branches. Cherries did not like the knife. As regards standard trees—Apples, Pears, and Plums—he believed most strongly in pruning them at the time of planting.

(To be continued.)

ONIONS AT BANBURY.

SEPTEMBER 19.—The annual Onion Show, established by the late Mr. Henry Deverill a few years ago, took place as usual in the Seed Establishment, Cornhill, Banbury, on the above date, the whole of the shop and one of the warehouses being filled with exhibits. Despite what many regard as an untoward season, Onions have finished in fine condition, as was evidenced by the splendid samples exhibited on this occasion, there being a very keen competition in several of the classes.

The Champion prize for the six largest and handsomest specimens of any one of Deverill's Pedigree Onions, was won by Mr. J. BOWERMAN, gr. to T. HOARE, Esq., Hackwood Park, Basingstoke, who had six of Ailsa Craig, weighing 17½ lb., all very nicely finished, handsome, plump, and solid. The largest of the six weighed 3 lb. 1 oz., and when lifted from the open ground, 3 lb. 6 oz.

The next class was for twelve specimens of either one of the following varieties—Ailsa Craig, Advancer, Cocoa Nut, and the original Excelsior. There were several competitors, and all four prizes went to Ailsa Craig, which is the largest Onion in cultivation; Mr. BOWERMAN again taking the 1st prize with twelve, weighing 30½ lb.; Mr. NICHOLLS, the Gardens, Nuneham Park, Oxford, winning 2nd, with 26½ lb.; Mr. N. KNELLER, the Gardens, Malsanger Park, Basingstoke, 3rd, with 23½ lb. With twelve specimens of the flat type, viz., Rousham Park Hero, Anglo Spanish, The Lord Keeper, or Royal Jubilee, Mr. N. KNELLER came in 1st with twelve very finely-finished examples of Anglo-Spanish, weighing 2½ lb.; Mr. R. LYE, the Gardens, Sydmonth Court, Newbury, taking the 2nd; and Mr. C. J. WAITE, the Gardens, Glenhurst, Esher, the 3rd, both showing Anglo-Spanish, in each case the dozen bulbs weighed 19 lb., Mr. LYE's were better finished.

With twelve examples of the Improved Wroctoo, said to be one of the best keeping Onions in cultivation, Mr. R. LYE came 1st with 12 lb. weight, all true to type; Mr. HAINES, The Gardens, Coleshill, Shrivenham, was 2nd, with 11 lb.

In the class for twenty Onions of any variety, offered by HENRY DEVERILL, Mr. KNELLER, Basingstoke, was 1st with Ailsa Craig, weighing 33 lb.; and two other prizes were awarded to this variety.

The next class was for twelve Onions of any variety, grown in Scotland and the Northern Counties; Mr. C. J. FISHER, York, came 1st with capital bulbs of Royal Jubilee; Mr. MILLER, Stockton-on-Tees, 2nd, with Anglo-Spanish; and Mr. G. COLES, Lancaster 3rd, with Royal Jubilee.

Valuable prizes were also offered for eight dishes of vegetables in the main varieties distributed by Mr. HENRY DEVERILL; the 1st was won by Mr. R. LYE with a superb collection; Mr. C. J. WAITE being a close 2nd. There was also an excellent competition in the class for eight dishes of vegetables, shown by cottagers and allotment holders, and a number of capital collections were staged.

This exhibition is very popular in Banbury, the town having long been famous for its Onions; and free admission is permitted to anyone desirous of witnessing it.

GRAND YORKSHIRE GALA.

SEPTEMBER 24.—A meeting of the guarantors and life members in connection with the Grand Yorkshire Gala was held on the above date, at "Harker's Hotel." Alderman Sir Joseph Terry, J.P. presided.

The balance-sheet submitted showed a profit of £413 7s. 4d. on the year, compared with £348 3s. 4d., on the gala of 1894. It was recommended that grants amounting to £300 should be made, and they were apportioned as follows:—County Hospital, £50; Dispensary, £50; Blue and Grey Coat Schools, £40; Boys' Industrial School, £10; Girls' Industrial School, £10; Bootham Asylum, £21; Home for Friendless Girls, £10; Home for Nurses, £15; Blind School, £5 5s.; Soldiers' Institute, £5; Penitentiary, £10; Yorkshire Society's School, £3 5s.; St. Stephen's Orphanage, £10; Charity Organisation, £10; Association for the Care of Young Girls, £10; Hungate Mission, £5; Sisters of St. Vincent de Paul (Crèche), £5; Gratuities, £7 10s. It was decided to invest £100 of the £222 at present in the bank, and a suggestion was made that the remainder, or a part of it, might be devoted to the improvement of the fixtures.

Obituary.

PETER GRIEVE.—By the sudden death of Mr. Peter Grieve on the early morning of September 26, 1895, the borough of Bury St. Edmunds has lost a useful citizen, and horticulturist a warm-hearted comrade and a distinguished practitioner. Though suffering for some years from heart disease, the deceased, with his usual pluck and perseverance, has attended to his customary duties as a member of the Burial Board, a regular attendant at the reading-room, &c. One of his last acts was the sending of a testimonial to Mr. Barron, the receipt for which was his first letter received after his death this morning. Knowing him so well as I have done for nearly fifty years, I believe he would hardly have had this other-

wise. Mr. Grieve was 83, and will be buried with his only daughter, Lucy Grieve (her Pear is fruiting well this year, close to her dead father in Bury), at Culford, close to his life-work. Mrs. Grieve, who is well known and gratefully remembered by so many gardeners for her hospitality, survives her husband, and will have the warm sympathy of many readers of this notice. The funeral took place in the churchyard at Culford on Tuesday, October 1.

I should like to say something—much, in fact—of the worth and work of my friend of nearly fifty years; but his loss is too recent, and too great. Located near him, associated with him in every possible way in horticultural matters for so long a period, his sudden removal leaves a vacant place which is hardly likely to be filled. I loved him as a friend, a companion, a neighbour; a brother of the pen, the knife, and spade; and never found him wanting in any good work, or kind word or deed. As to his great doings as a cultivator in all departments—are they not to be read in all the back records of Culford Gardens for years, and in many a back number of the *Gardeners' Chronicle*? His solid soundness as a juror; his practical experience as a



Peter Grieve.

writer, are also well known. His work among double Petunias and Pelargoniums was also duly chronicled as it appeared; and the art of raising Tricolors by the father of most or all of them, may, I believe, still be had.

Neither has the change of fashion in furnishing flower-beds detracted from the value of Mr. Grieve's work in hybridisation or cross-breeding Pelargoniums or other plants; his skill and perseverance were marvellous, and so were the products; the tricolors, bicolors, and bronzes had a brilliant reign for years; and it is quite possible that for various purposes they may have a renaissance. Be that as it may, Mr. Grieve did good work at Culford and other places as a landscape gardener, as well as a cultivator and cross-breeder. The grand Yew hedges inclosing the vegetable quarters in the princely kitchen gardens are of his planting, and will prove, perhaps, his most enduring monument. His flower-garden within the centre of the kitchen-garden, and in other directions; his raised beds of beauty on the vine-borders, were for years pictures of exquisite colouring and finishing. And now he rests under the shadow of the old fame and the old

beauty; and may his rest and his rising be alike blessed in the heart-felt wish of all his comrades who knew him best, and loved him most! *D. T. Fitch.*

[Our portrait is of Mr. Grieve in middle life, and originally appeared in our columns on August 28 1875, in illustration of a detailed account of his career. Mr. Grieve was one of our most valued correspondents, and we highly appreciated his judgment when, some years since, we had occasion to seek his advice. But it is as a hybridist that he will in the future be known. Those who knew him best will be called in their turn, but Grieve's work in advancing horticulture will remain a valued heritage to posterity.]

CHARLES V. RILEY.—It is with great concern that we extract the following paragraph relating to this distinguished entomologist from the columns of *Garden and Forest*, no other communication having up to the present reached us. CHARLES V. RILEY, the well-known entomologist, died in Washington on Saturday night from injuries received in a fall from a bicycle. He was born in London in 1843, came to this country at the age of seventeen years, and settled on a farm in Illinois. He served as a soldier in the last years of the war, and after some experience in journalism, he was made State Entomologist of Missouri, which position he filled for nearly ten years. His work in that State attracted much attention, and in 1878 he came to Washington, where, until last year, when he resigned his position, he has practically supervised all the entomological work carried on by the Government. Mr. RILEY was a tireless worker, with an aptitude for original research, and many of his published papers are of permanent value. He had a talent, too, for political management, and for many years he was recognised in the Department of Agriculture as one of the forces in directing its policy and selecting its agents.

PLANT NOTES.

CONVOLVULUS MACROSTEGIUS.

I RECEIVED seeds of the above-named plant from California at the commencement of this year, and was informed by the sender that, like the *Solanum xanti*, it was indigenous to the Island of Santa Cruz, and that it had yellow flowers, and was now in all probability sent to Europe for the first time. I distributed seeds to several friends, and sowed some myself, of which four germinated, and were in May planted out in my garden, where they have grown most vigorously, sending out long trailing shoots from 2 to 3 feet in length, but have not bloomed. I fear the winter frosts will kill it even here, and should be glad of some information about it. *W. E. Gumbleton.*

SOLANUM XANTI VAR. WALLACEI.

At the commencement of this year I received from the Director of the South Californian Acclimatization Society at Montecito, Santa Barbara, some seed of what he assured me was a most beautiful new *Solanum*, under the above name, and which came from the Island of Santa Cruz, and was now sent to Europe for the first time. He said that the flowers of this plant were of a beautiful shade of true blue, and sweet-scented, so that I thought I had got a treasure indeed. Nearly a dozen of the seeds came up, and keeping five for myself, I distributed the others amongst my friends, who are interested in new plants. I planted my five plants in a bed in my garden in the month of May, where they grew and developed very rapidly, sending up first a single stem to a height of between 3 and 4 feet, and then branching freely from the axil of nearly every leaf all up the stem. About the middle of July bunches of buds appeared on the points of all the topmost shoots, which opened towards the end of the month, when, to my great disappointment, the colour of the flowers turned out to be not at all true blue, as they had been described to me by the sender of the seeds, but of a purplish-lilac, with five little green and

white spots or marks round the centre of the flower, one at the base of each petal. I could not perceive any trace of perfume, which was another disappointment to me. I sent specimens to the herbarium at Kew for identification, which were pronounced to be merely the type form, *S. xanti*. Can it be that *S. xanti* var. *Wallacei* was a blue hybrid form, and that the seedlings have reverted to one of the parents? I think this must be the case. *W. E. Gumbleton.*



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.					RAINFALL.		BRIGHT SUN.			
	Above (+) or below (-) the mean for the week ending September 25.	Above 42° for the week.	Below 42° for the week.	Above 42° difference from mean since January 1, 1895.	Below 42° difference from mean since January 1, 1895.	More (+) or less (-) than mean for the week.	No. of Rainy Days since Jan. 1, 1895.	Total Fall since Jan. 1, 1895.	Percentage of possible Duration for the week.		
0	8 +	113	0	+ 320	+ 258	9	—	171	32.9	26	23
1	9 +	118	0	+ 106	+ 409	7	—	137	20.8	53	36
2	9 +	131	0	+ 268	+ 272	6	—	134	19.6	67	35
3	7 +	134	0	+ 182	+ 232	6	—	113	16.9	81	43
4	10 +	144	0	+ 210	+ 397	6	—	110	16.2	73	39
5	10 +	165	0	+ 146	+ 332	7	—	104	14.7	83	43
6	8 +	121	0	+ 173	+ 333	11	—	143	24.2	45	34
7	10 +	151	0	+ 237	+ 302	8	—	124	20.6	59	37
8	10 +	155	0	+ 158	+ 337	9	—	112	20.8	72	45
9	9 +	127	0	+ 122	+ 267	7	—	155	23.2	49	32
10	7 +	130	0	+ 35	+ 194	7	—	130	24.5	60	35
* 9 +	172	0	+ 201	+ 248	8	—	125	16.7	71	52	

The districts indicated by number in the first column are the following:—
0, Scotland, N. Principal Wheat-producing Districts—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending September 25, is furnished from the Meteorological Office:—

"The weather during this period was extremely fine, dry, and summer-like generally. Thunder and lightning were experienced, however, over Ireland on September 23, and over the more southern parts of England on September 24 or 25, but the storms were accompanied in most cases by very little rain.

"The temperature was unusually high for the time of year, the excess above the mean being as much as 16° over the greater part of England, and between 7° and 9° elsewhere. In the majority of districts, this week has been warmer than any experienced during the past summer. The height of the maxima were registered on September 24 at most of the English stations, but towards the end of the period in the Irish and Scotch districts. They were as high as 86° in the 'Midland Counties' and 'England, S.,' 85° in the 'Channel Islands,' 84° in 'England, E. and S.W.,' and 82° in 'England, N.E.,' while over Ireland and Scotland the highest readings ranged between 75° and 79°. The lowest of the minima were recorded either on September 22 or 23, when the thermometer fell to 32° in the 'Midland Counties,' 34° in 'England, E.' and 'Scotland, W.,' and to between 35° and 40° in most other districts. The diurnal range of temperature during the first few days of the period was exceedingly large at our inland stations; at Loughborough and Stamford, on September 23, the range was 45° during the twenty-four hours. Later in the week the minima were very high for the time of year.

"The rainfall was very slight, or altogether absent, over the kingdom as a whole, but a rather considerable fall occurred at one or two central and southern English stations during the thunderstorms of September 24. In some cases measurable amounts resulted from heavy dews or wet fogs.

"The bright sunshine was still deficient in 'Scotland, N.,' but was extremely abundant in all other districts. The percentage of the possible amount of duration ranged from 83 in 'England, S.,' and 81 in 'England, E.,' and from between 59 and 73 in the other English districts, to 49 in 'Ireland, N.,' 45 in 'Scotland, W.,' and to 26 in 'Scotland, N.'"

MARKETS.

COVENT GARDEN, October 3.

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

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.		ORCHIDS.—	
s. d. s. d.	s. d. s. d.	s. d. s. d.	s. d. s. d.
Arums, p. 12 blooms	3 0-6 0	Cattleya, 12 blms.	9 0-15 0
Azalea, 12 sprays	0 9-1 0	Odon toglossum	
Bonvardias, per bun.	0 6-1 0	crispum, 12 blm.	3 0-6 0
Carnations, 12 blms.	1 0-3 0	Pelargoniums, scar-	
Chrysanthemums,		let, per 12 bunch	3 0-6 0
per 12 blooms	1 0-4 0	— 12 sprays	0 6-0 9
Chrysanthemums,		Pyrethrum, 12 bun.	2 0-4 0
per 12 bunches	3 0-6 0	Roses, Tea, per doz.	1 0-2 0
Eucharis, per dozen	1 6-2 6	— coloured, p. dz.	2 0-4 0
Gardenias, per doz.	2 0-4 0	— yellow (Maré-	
Gladiolus, p. 12 sps.	1 0-2 0	chals), per doz.	3 0-6 0
Lapageria, 12 blms.	0 6-1 6	— red, per dozen	1 0-1 6
Lilium Harrisii, per		— mixed, p. doz.	3 0-8 0
dozen blooms	3 0-4 0	Stephanotis, dozen	
Lilium lancifolium,		sprays	2 0-4 0
per dozen blooms	0 9-1 6	Sunflower (small),	
Lily of the Valley,		doz bunches	1 6-3 0
doz. sprays	1 0-2 6	Sweet Peas, 12 bun.	2 0-3 0
Maidenhair Fern,		Tuberose, 12 blms.	0 2-0 4
per 12 bunches	4 0-6 0	Violets, 12 bunches	1 6-2 0
Marguerites, 12 bn.	1 0-3 0		
Mignonette, 12 bun.	1 0-4 0		

ORCHID-BLOOM in variety.

FRUIT.—AVERAGE WHOLESALE PRICES.		GRAPES, GUERNSEY.	
s. d. s. d.	s. d. s. d.	s. d. s. d.	s. d. s. d.
Apples, per bush...	1 0-2 0	Grapes, Guernsey, lb.	0 6-0 9
— dessert, in vari-		Melons, each...	1 0-2 0
ety, per half		Peaches, 1st size, doz	6 0-8 0
sieve	2 0-3 0	— 2nd size	3 0-4 0
Cobs, per 100 lb.	35 0-40 0	— 3rd size	1 0-1 6
Damsons, half sieve	1 0-1 3	Pears, Calabash, bush	8 0-9 0
Figs, per dozen	9-1 0	— Williams	4 0-10 0
Filberts, per 100 lb.	25 0-—	Pine-apples, St. Mi-	
Grapes, 1st quality,		chael, each	2 0-6 0
black, English, lb.	1 3-1 6	Plums, half sieve	2 6-3 0
— 2nd quality...	0 6-1 0	Plums, Pond's seed-	
— Muscats	1 0-2 0	ling, half sieve	5 0-6 0

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.		VEGETABLES.—AVERAGE WHOLESALE PRICES.	
s. d. s. d.	s. d. s. d.	s. d. s. d.	s. d. s. d.
Adiantum, per doz.	4 0-12 0	Mushrooms, per lb.	1 0-1 3
Aspidistra, per doz.	12 0-30 0	Tomatoes, Home-	
— specimens, each	5 0-15 0	grown, p. doz. lb.	
Asters, per dozen		— Smooth	3 0-3 6
pots	3 0-6 0	— ordinary	2 0-2 6
Chrysanthemums, p.		— Guernsey	1 6-2 0
doz. pots	6 0-12 0		
Coleus, per dozen	2 6-4 0		
Cyperus, per dozen	4 0-10 0		
Dracena, each	1 0-7 6		
— various, doz.	12 0-24 0		
Ericas, various, doz.	6 0-12 0		
Evergreen Shrubs,			
in variety, doz.	6 0-24 0		

SEEDS.

LONDON: October 2.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., describe to-day's market as bare alike of business and of buyers. Just now, consumptive sowing-wants are at a minimum, whilst no speculation whatever has yet sprung up. All kinds of Clover and Grass-seeds are consequently cheap and neglected. There is no change in either Rye or Tares, Canary-seed having for the past month exhibited remarkable steadiness, now shows decided signs of making a jump upwards. For Peas and Haricots, the inquiry is slow. Mustard and Rape-seed show no alteration.

FRUITS AND VEGETABLES.

BOROUGH: Oct. 1.—Quotations:—Onions, 2s. 9d. to 4s. per bag; Horse-radish, 1s. to 1s. 3d. per bundle; Peas, 3s. to 6s. per half-sieve; Apples, 2s. 6d. to 4s. 8d. per bushel; Plums, 2s. to 2s. 6d. do.; Damsons, 1s. to 1s. 9d. per half-sieve.

SPITALFIELDS: Oct. 1.—Quotations:—Apples, Werner's King Pippin, 2s. 6d. to 3s. per half-bushel; Lord Suffield, 2s. 6d. to 3s. do.; Pears, Callabash, 3s. to 3s. 6d. per half-sieve Dutch Bergamot, 1s. 6d. to 1s. 9d. do.; Cabbages, 4s. to 5s. per tally; Cauliflowers, 5s. to 6s. do.; Collards, 2s. 6d. to 3s. do.; Celery, 8s. to 10s. per dozen; Onions, 1s. to 1s. 6d. per dozen bunches; Greens, bunch, 1s. 6d. to 2s. per dozen; Beet, 1s. 6d. per bushel; Beans, 1s. to 1s. 9d. do.

STRATFORD, Oct. 1.—Quotations:—Cabbages, 2s. to 3s. per tally; Savoys, 2s. to 4s. 6d. do.; Cauliflowers, 8d. to 1s. 3d. per dozen; 2s. to 5s. per tally; Turnips, 1s. 6d. to 2s. 3d. per dozen bunches; 2s. to 40s. per ton; Carrots, household, 25s. to 35s.; do., cattle-feeding, 20s. to 27s. 6d. per ton; Mangels, 30s. to 75s.; Swedes, 20s. to 25s. per ton; Onions, 2s. 3d. to 2s. 6d. per bag; Dutch do., 2s. 6d. to 2s. 9d. do.; Apples, English cookers, 2s. to 4s. per bushel; do., dessert, 2s. 3d. to 5s. do.; Plums, 2s. to 2s. 6d. per half-sieve; Damsons, 1s. 6d. to 3s. do.; Tomatoes, English, 2s. 9d. to 3s. 6d. per peck; Cucumbers, frame, 1s. to 2r. 6d. per dozen; Scarlet Beans, 1s. to 1s. 3d. per bushel; and 2s. to 2r. 6d. per bag; Beets, 2s. to 2s. 6d. per dozen bunches; Celery, 8s. to 1s. per dozen heads; Horse-radish, 9d. to 1s. per bundle; Parsley, 1s. to 1s. 6d. per dozen bunches.

FARRINGTON: Oct. 3.—Quotations:—Cabbage, 6s. tally; Collards and Cauliflowers, 2s. per doz.; Celery, 1s. 2d. per roll; Beetroot, 2r. 6d. per bushel; Carrots, 2s. per bag; Turnips, 2s. 6d. do.; Marrows, 1s. per dozen; Parsley, 3d. per bunch; Sage and Thyme, 2s. per dozen bunches; Apples, Duches, 1s. 9d. per half-bushel; Canadian, Gravenstein, 11s. per barrel; English Grapes, 11d. per lb.; Lisbon, do., 11s. per case; Almeida, do., 14s. do.; Lisbon black do., 16s. do.; Tomatos, 3s. 9d. per 12 lb.; Pears, Marie Louise, 6s. per bushel; Damsons, 2s. per half-bushel; Plums, 2s. do.; Apples, Blenheim Pippin, 5s. 6d. per bushel Ribston Pippin, 2s. per half-bushel; Cucumbers, 3s. per dozen.

POTATOS.

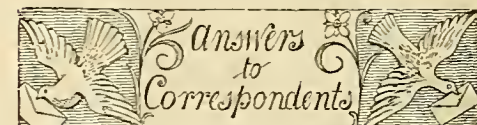
BOROUGH: October 1.—Quotations ranged from 55s. to 90s. per ton.

SPITALFIELDS: October 1.—Quotations:—Main Crop, 40s. to 50s.; Snowdrops, 50s. to 70s.; Bruces, 40s. to 60s.; Sutton's Abundance, 50s. to 60s.; Imperators, 60s. to 80s.; Reading Giants, 45s. to 60s. per ton.

STRATFORD, Oct. 1.—Quotations:—Dark soil Bruces, 33s. to 40s.; light do., 35s. to 60s.; Reading Giants, 45s. to 65s.; Snowdrops, 50s. to 70s.; Hebrons, 55s. to 70s.; Sutton's Regents, 45s. to 50s. per ton.

FARRINGTON: Oct. 3.—Quotations: White Hebrons, 70s. to 80s.; Red do., 70s. to 80s.; Jeannie Deans, 65s. to 75s.; Sutton's Abundance, 50s. to 60s.; Imperators, 45s. to 50s.; Magnums, 45s. to 50s. per ton.

LONDON AVERAGES: Oct. 2.—Snowdrops, 50r. to 70s.; Hebrons, 50s. to 80s.; Puritans, 60s. to 80r.; Imperators, 40s. to 60s.; Magnums, 35s. to 40s. per ton.



* * Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.

* * PLANTS, FRUITS, ETC., TO BE NAMED.—The applications to name flowers, and especially fruit, are so numerous at this season as severely to tax our resources. They entail an expenditure of time, labour, and money, of which our readers have no idea. We are always willing to oblige our correspondents as far as we can, but the editing of the *Gardeners' Chronicle* is our business, to which everything else must give way. Correspondents are respectfully requested to observe the rule that not more than six specimens can be dealt with at a time. If more are sent, it would be a graceful act on the part of the sender, to send also a small contribution to the *Gardeners' Orphan Fund*. Delay in any case is unavoidable. Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.

ADDENDUM.—CRYSTAL PALACE FRUIT SHOW: Mr. W. Taylor, gr. to C. Bayer, Esq., Forest Hill, S.E., wishes us to supply an omission in our report in last week's issue of the *Gardeners' Chronicle*. His exhibits of twelve bunches of Grapes in six varieties having been placed on a side-table, escaped the notice of judges and reporters alike. The varieties consisted of Gros Maroc, Mrs. Pearson, Madresfield Court, Mascot of Alexandria, Black Hamburg, and Black Alicante.

APPLES FOR NAMING: *Dartnall & Co.* Your fruit, unfortunately, got mislaid, and we should be pleased to endeavour to obtain their names if you would kindly send again.

BLACK AND WHITE GRAPES: *H. G. B.* The berries are affected with the so-called "spot," a fungus called *G. asporium lævicolour*; there is no known cure for it, although the free use of sulphur, which is a substance inimical to all forms of fungus life, might ward off future attacks. It should be applied mixed with white-wash as a dressing for the hot-water pipes, and for filling evaporating pans placed about the vinery. Remove as soon as seen all the affected berries, burning them forthwith.

CLERODENDRONS: *R. M.* Keep them moderately dry during the winter.

COELOZYNE CRISTATA: *R. M.* When growing, the temperature of the cool part of the Cattleya-house suits it well, but during the winter it should be kept in a cooler house, removing to a warm house before growth begins. It will flower from December to March, and if it be not exposed to damp, or the flowers are sprinkled with water, the latter will individually last in good condition for a long time. As autumn approaches the quantity of water afforded at the root should be gradually reduced, till in the winter just enough is applied as will keep the pseudo-bulbs plump. In the summer, a slight shade may be allowed on the house when the sun is hottest, at other times full exposure is best for the plant.

FLOWER POTS FOR PLANTS OF COLEUS TO BE WINTERED IN: *R. M.* Half-a-dozen cuttings would be a sufficient number for a large 48, i.e., a 5 inch pot.

FUMIGATORS: *K. L. G.* We are unable to inform you which is the best apparatus.

GRAPES: *A. L.* The berries came to hand in a decayed condition owing to the great heat and bad packing, and no caterpillars were found in the box. Please send the caterpillar carefully packed in a tin box, when we will endeavour to give you its name.

INSECT DESTROYING SAXIFRAGE: *E. L. B.* Probably a grub of some species of weevil. The beetles (weevils) themselves can be caught when feeding at night, but in the case of the grubs it is a difficult matter. You should take up the Saxifrage plants, searching carefully for the grubs, and then replant into fresh soil in another part of the garden.

INSECTS: *A. Parry.* The Pear trees were attacked by sawfly larvæ. Carefully hand-pick, and destroy them; or place a sheet, or something similar under the trees, and strike the lower part of the trunks sharply with a mallet, gathering up the larvæ that fall. If the trees are tall, spray with kerosene emulsion. *R. McL.*

NAMES OF FRUITS: *Hartwell.* Pear Hessele; Apples, 1, Duchess of Oldenburgh; 2, Cox's Orange.—*A. Reader.* 1, Hollandbury; 2, Golden Noble; 4, Hawthornden; 5, Brownlee's Russett; 6, Early Julian.—*C. R.* 1, Emile d'Héyst; 2, Fondante d'Automne; 3, Belle de Bruxelles; 4, Napulón; 5, Beauté Bosc.—*W. J.* 2, Duchess of Oldenburgh; 3, Keswick Codlin; 4, Lord Grosvenor; 5, Northern Greening; Pear Hessele.—*C. W. F.* 1, Round Winter Nonsuch; 2, Duchess of Oldenburgh; 3, Hoary Morning; 4, Royal Russet; 5, Danmelow's Seedling.—*A. E. F.* 1, Manx Codlin; 2, Round Winter Nonsuch; 4, Ecklinville Seedling; 5, Blenheim Orange; 6, Pear Winter Nelis.—*Conway.* 1, Egg or White Paradise; 3, Golden Noble; 4, Lane's Prince Albert; 6, Old English Codlin; 5, Lord Grosvenor; 8, King of the Pippins.—*A. J. K.* 1, Adam's Pearmain; 2, Gloria Mundi; 4, Golden Noble; 6, Besspool. Others uncertain. Thanks for donation for Gardeners' Orphan Fund, which has been forwarded to the Secretary.—*Alpha.* 1, Kerry Pippin; 2, Blenheim Orange; 6, Yorkshire Beauty; others probably cider varieties.—*W. G. E.* 1, Beauté Diel; 2, Williams' Bon Chrétien; 3, Verulam; 4, Thompson's; 5, Marie Louise.—*A. Berylly, Chichester.* Apple, Ribston Pippin.—*H. C. B.* 1, small Lane's Prince Albert; 2, Mère de Ménage; 3, Blenheim Orange; 4, Gloria Mundi; 5, not known; 6, Lord Grosvenor.—*G. W. R.* Apple, Hall Door.—*A. L.* 1, Maréchal de la Cour; 2, Fondante d'Automne; 3, Chamontelle; 4, Deux Sœurs; 5, Bergamot d'Esperen; 6, Josephine de Maloia.—*F. L.* 1, Doyenné Boussoch; 2, Besspool; 3, Vicar of Winkfield; 1, Cox's Orange Pippin. Peach, too far gone.—*T. B., Esher.* 1, Gloria Mundi; 2, Cellini; 3, not known; 4, Blenheim Orange; 5, Alfriston; 6, Mergil.—*Sherrington.* 1, Pear Marie Louise;

2, next week; 3, Catillac.—*Constant Reader.* Isabella, or some similar American Grape.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to consult the next number.*—*W. T. H.* You must send better specimens.—*R. G. K.* 1, Aster Tradescanti; 2, A. cordifolius; 3, A. acris var. punctata; 4, A. lævis.—*Bagshot.* Magnolia acuminata.—*E. A. T.* 1, Oncidium varicosum; 2, Oncidium dactyle.—*J. K.* 1, Polygonum cuspidatum; 2, Oncidium carthaginense.—*R. M.* 1, Matricaria inodora flore-pleno; 2, Polystichum aculeatum; 3, Lastrea spinulosa; also 3, Nephrodium molle.—*H. A.* Pentas carnea.—*J. T.* 1, Nephrodium molle; 2, Cystopteris bulbifera.—*G. A.* Nerine O'Brienii carminata.—*J. M.* 1, Crataegus coccinea; 2, Sambucus canadensis.—*G. K.* Amaryllis Belladonna.—*G. E.* Gnaphalium uliginosum.

PETUNIA: *W. A. G.* Not uncommon.

PYROS MAULEI: *E. W.* The fruits make a preserve, rather acid, but very agreeable to the taste. Pare the fruits thinly, and remove the seeds. Boil the fruit gently until it is quite soft, then pass it through a sieve, weigh it, and add half the weight of the best loaf-sugar (crushed) to the pulp, and boil the mixture until it "jellies" as it cools. Put it away in glass jars, carefully tied down.

SEEDLING BALDWIN APPLE: *J. D.* Without seeing the plant we are not enabled to form an opinion concerning the pruning that may be necessary. We should opine, having regard to the warmth of the autumn, that a small amount of shoot-thinning only will be all the pruning required. It is not good practice to crop young trees heavily, as it tends to check growth too much.

STONE FLOOR THAT GETS GREEN: *R. M.* Use Weed-killer, which is to be bought of the florists and nurserymen. It is a poison, and you must therefore be careful in its use, and not allow children, domestic animals, fowls, &c., to go into the room till the substance has done its work. It may be mopped all over the next day, and the dirty water poured into an underground drain. Scrub the floor with a best broom and hot soap-suds.

THANATOPHORE: *R. T.* We believe it to be an efficient means of killing insects infesting plants grown under glass, without injury to the latter.

WALNUTS: *H. G. B.* There is no difficulty in removing the outer covering of the nuts, if you allow them to remain ungathered till quite mature. Do not store them in heaps before removing the husks, but do it without delay.

WILLIAMS' BON CHRÉTIEN PEAR: *W. E. N.* You have let the fruits remain on the tree too long, with the result that they have become "sleepy." This variety should be taken from the tree as soon as the stalk parts readily from the stem, going over the tree each alternate day till the crop is gathered. After gathering any of the fruits, place them in a cool dry place till they begin to change colour. It is at this stage that they are the best eating, a perfectly yellow Bon Chrétien being nearly always over-ripe. In the South, except in cold clayey soils, this variety should not be grown on south walls, the fruits generally becoming mealy or else rapidly over-ripe. The flavour of the fruit is more racy from trees growing in the open quarters.

COMMUNICATIONS RECEIVED.—Oscar Tiefenthal.—*J. E. B.*—*J. O'B.*—*M. T. M.*—*F. W. S.*, Cannes.—*E. M.*—*Keynes*, Williams & Co.—*Dr. Kirk*, Wellington, New Zealand.—*Clarendon Press.*—*E. H. Krelage*, Haarlem.—*H. C.*—*W. S.*—*H. May.*—*J. J. W.*—*G. F. Scott Elliot.*—*W. W.*—*Harrison Weir.*—*E. B.*—*Mungo Temple.*—*P. H.*—*J. E. B.*—*W. G. S.*—*J. O'B.*—*E. C.*—*J. Pallett.*

PHOTOGRAPHS, SPECIMENS, &c., RECEIVED WITH THANKS.—*Dr. Kirk*, New Zealand.

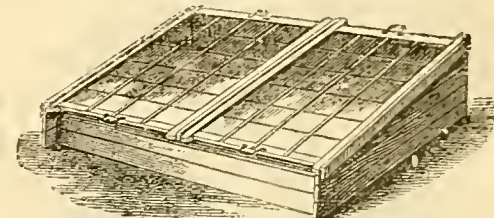
CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,

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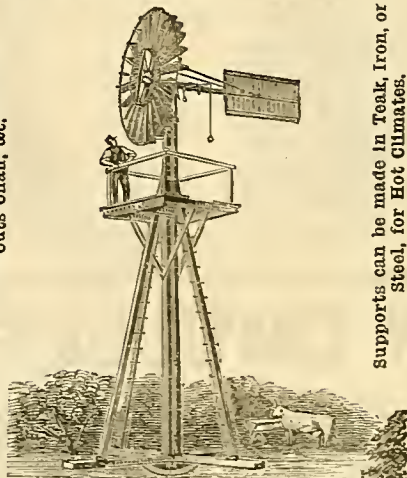
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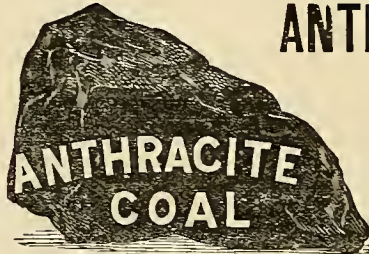
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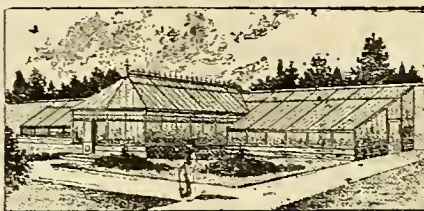
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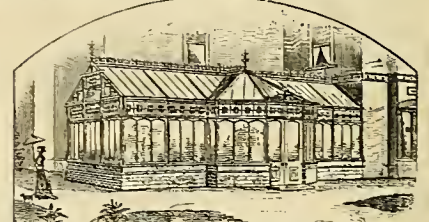
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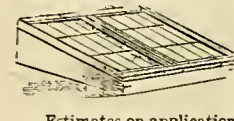


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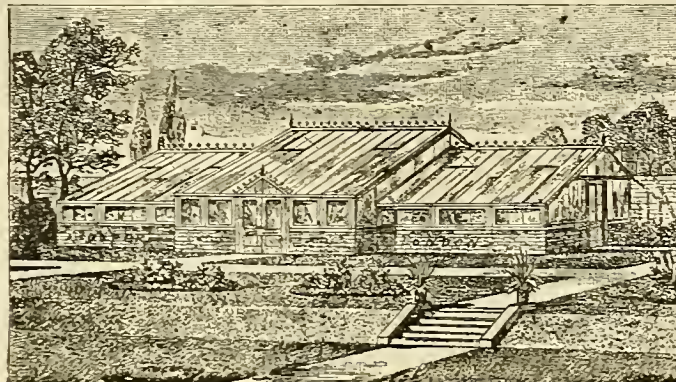
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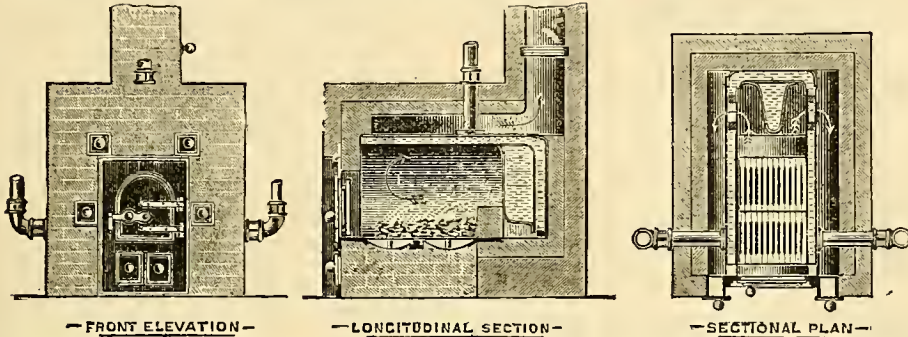
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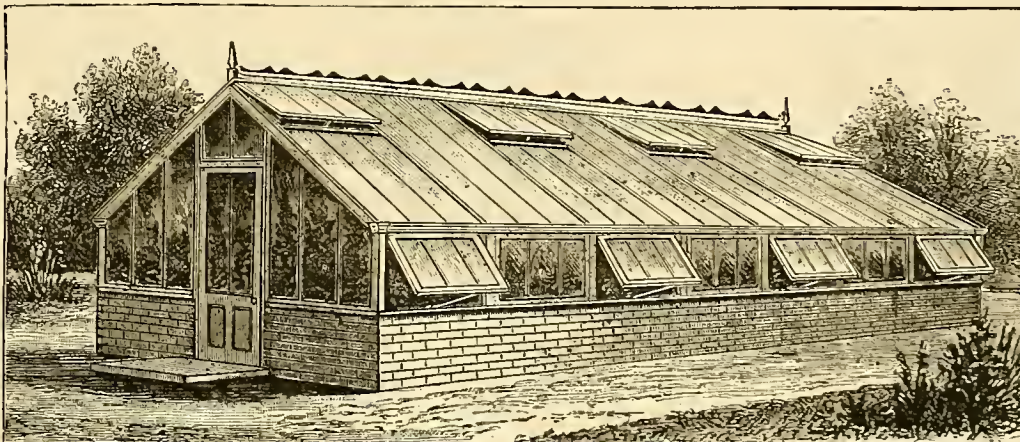
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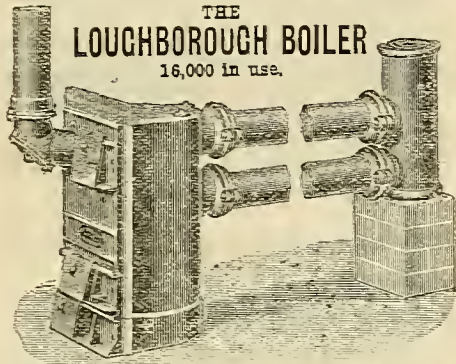
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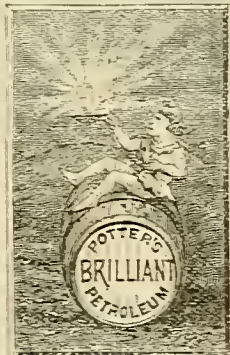
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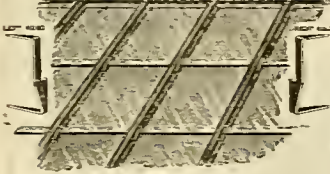
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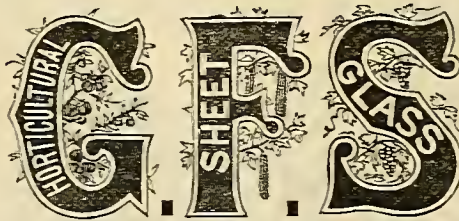
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PRACTICAL POMOLOGISTS, &c., MAIDSTONE.

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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

H. CANNELL AND SONS' Complete AUTUMN CATALOGUE, now ready, containing particulars of the best kinds of everything to keep the Conservatory and Garden in the highest state of perfection during the Winter and Spring at the least expense; most valuable and useful list issued, absolutely necessary both to Gardeners and Amateurs. Post free. We cordially invite all to come and see our establishments. Foreign orders a speciality. **SWANLEY, KENT.**

The Best Present for a Gardener. **VINES AND VINE CULTURE.** The most complete and exhaustive Treatise on Grapes and their Culture ever published. Third Edition just out. Price 5s.; post free, 5s. 6d. **A. F. BARRON, Royal Horticultural Society, Chiswick.**

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WANTED, 50,000 CALCEOLARIA CUTTINGS, GOLDEN GEM. **W. TYLER, 117, Angel, Road, Edmonton.**

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HORTICULTURAL BONES.—Pure Bones, in ½, ¾, 1-inch, and meal, specially prepared. For particulars and price apply to—**E. S. WILES AND LEWIS, Bone Works, St. Albans.**

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FORTHCOMING SALES BY MESSRS. PROTHEROE & MORRIS,

Horticultural Auctioneers and Valuers, CENTRAL AUCTION ROOMS and ESTATE OFFICES, 67 and 68, CHEAPSIDE, E.C. CATALOGUES FOR ALL AUCTIONS SENT FREE BY POST ON APPLICATION.

The Arboretum Nurseries, Wood Lane, Isleworth. MESSRS. PROTHEROE and MORRIS are instructed by Messrs. Charles Lee & Son, to SELL by AUCTION on the Premises as above, on MONDAY NEXT, October 14, at 12 o'Clock precisely:

5,000 ORNAMENTAL AND FLOWERING TREES including Limes, 10 to 12 feet; Planes, 12 to 20 feet; Laburnums, Purple Beech, Horse Chestnuts, 10 to 12 feet; Birch, Flowering Thorns, and Cherries; their beautiful tricolor Dogwood, CORNUS ELEGANTISSIMA, Common Hollies, 2 to 4 feet; Aucubas, variegated, 12 to 15 inches; Cupressus erecta viridis, 15 inches; and C. Intea.

3,000 GOOSEBERRIES and CURRANTS, best varieties; a quantity of Czar and Victoria Plums, 5 to 6 feet, bushy; Nuts and Filberts, oval leaved Privet, 3 to 4 feet.

3,000 RASPBERRIES, including Victoria, Baumforth Seedling, Pastori, &c. A quantity of standard APPLES, Cox's Orange, and other best sorts; and Pyramid Apples and Pears.

2,000 best Golden, Silver, and Green EUONYMUS, from 6 to 15 inches. GOLDEN YEW, 2 1/2 feet, and other Conifers; Myrsiniana Plums, Rhubarb, Royal Albert, &c.; 3,000 Quick, 2 1/2 to 3 feet.

500 dwarf H.P. ROSES, best sorts. A quantity of Azalea mollis and altaclarensis, all well budded, from 1 1/2 to 2 1/2 feet; also Rhododendrons, best named sorts, 2 to 4 feet.

May be viewed. Catalogues may be had on the premises, at the Royal Vineyard Nursery, Hammersmith Road, W., and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Putney, S.W.

CLEARANCE SALE of well-grown NURSERY STOCK, the ground having been taken for building purposes, by order of Messrs. S. Mahood & Sons.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, The Nurseries, Putney, near Putney Railway Station, on WEDNESDAY NEXT, October 16, at 12 o'Clock, without reserve, the clean and well-grown NURSERY STOCK, in capital condition for removing, consisting of 2000 Limes, with straight stems and good heads; 1000 Golden Privet, 1 1/2 to 2 feet; 5000 Green Privet, 2 to 4 feet; 2000 Aucubas, 1 1/2 to 3 feet; 3000 Irish Yew, in pots, 5 to 8 feet; 100 Standard-trained Peaches, fruiting trees, mostly Royal George; large Victoria Plums, fruiting trees; Standard and Pyramid Fruit Trees, Currants, and other Stock.

May be viewed. Catalogues may be had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Lincoln.—Absolutely without Reserve.

IMPORTANT TWO DAYS' CLEARANCE SALE of exceedingly well-grown GENERAL NURSERY STOCK and FRUIT TREES.

By Order of Messrs. Pennell & Sons, who require a portion of the Land for the purpose of Seed Growing, in consequence of the increase of their Seed Business.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, Bracebridge, near Lincoln, about 2 miles from either of the Lincoln Railway Stations, on THURSDAY and FRIDAY NEXT, October 17 and 18, 1895, at 12 o'Clock precisely each day, without reserve, a portion of the exceptionally well-grown

NURSERY STOCK,

The whole of which has been carefully transplanted, and is now in first-class condition for removal. The Stock comprises 4000 Evergreens and Conifers, 1 to 4 feet, suitable for boxes, pots, and growing-on; 400 Specimen Conifers, 2 to 8 feet, in the borders. These specimens have all been grown with great care, and are now adapted for immediate effective planting. 900 Green and Variegated Hollies, 1500 Green and Variegated Box, 1 1/2 to 2 1/2 feet; 300 new Golden Box, 1 1/2 to 2 feet; 2500 Austrian Pines, 1 to 2 1/2 feet, good plants; 1000 Laurels, best varieties, 1 1/2 to 3 feet; 2500 oval-leaved Privet, 3 to 4 feet; 1000 Standard Trees for Street and Avenue Planting; 100 Acer Negundo variegata, 5 to 6 feet; 1500 Flowering Shrubs and Forcing Plants 3000 Berberis aquifolia, 1 to 2 feet; 800 Dwarf Roses of the best varieties; 500 Iries and other Climbing Plants, Herbaceous Plants, 2500 Standard and Pyramid Apples, 5-yr. Trees, all true to name; 3500 transplanted Crabs, and other Stock.

NOTE.—The Auctioneers desire to call special attention to this important Sale. The whole of the Evergreens have been transplanted within two years, and have been allowed plenty of room, and have also been pruned. The Standard Trees are straight, and everything has been grown solely for a high-class retail trade. Messrs. Pennell & Sons will undertake to carefully lift and despatch any lots, charging only the cost of labour in careful and material used. Goods may be transmitted from the Lincoln stations to any part of the Kingdom without charge of truck.

May be viewed any day prior to the Sale. Catalogues may be had on the Premises; at the Seed Shop, High Street, Lincoln; at Messrs. PENNELL AND SONS' Chief Offices and Seed Warehouses, Gowt's Bridge, Lincoln; and of the Auctioneers, Estate Agents and Valuers, 67 and 68, Cheapside, London, E.C.

Brixton, S.W.

CLEARANCE SALE of well-grown healthy NURSERY STOCK, specially adapted for London and Suburban Planting, by order of Messrs. Ponsford & Son, who purpose converting the Land into Lawn Tennis Grounds.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the premises, the Loughborough Park Nurseries, Brixton, S.W., near the Loughborough Park Station, on FRIDAY NEXT, Oct. 15, at 12 o'Clock, 1000 LIMES, PLANES, and POLARS, 500 Box Aucubas, 1000 Privet, 3000 Euonymus, 1000 Laurels, 500 Rhododendrons, 1500 Lilacs, Syringas, &c., 2000 Mulberries, for which these Nurseries are so noted, including many very fine Trees, 500 Hardy Climbers, 2000 Palms, 2000 Ferns, 1000 Chrysanthemums, and other stock.

May be viewed any day prior to Sale. Catalogues had on the premises, and of the Auctioneers, 67 & 68, Cheapside, London, E.C.

Framfield, near Uckfield, Sussex.

About 2 miles from Uckfield Station, L.R. & S.C. Ry., where conveyances can always be obtained.

GREAT SALE OF ROSES, FRUIT TREES, and RHODODENDRONS, by order of Messrs. Wm. Paul & Son.

IMPORTANT TO THE TRADE.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, Arches Farm, Framfield, near Uckfield, on TUESDAY NEXT, Oct. 15, at half-past 12 o'Clock, 15,000 Dwarf and Climbing ROSES, embracing the leading sorts of Hybrid Perpetuals, Gloire de Dijon, and other Teas; 100,000 MANETTI STOCKS, 6000 Standard, Pyramid, and Bush APPLES, in all the most profitable kinds; 6000 Standard PLUMS and DAMSONS, very fine trees; Pyramid PEARS, 1500 Hybrid and Ponticum RHODODENDRONS, 1 to 2 1/2 feet, many of them large bushes; 1500 PINUS AUSTRIACA, 3 to 8 feet, quartered trees, all recently transplanted, &c.

May be viewed. Catalogues can be obtained on the Premises; or of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

NOTE.—The whole of the Stock is in splendid condition, and the Vendors invite an inspection by intending purchasers. Messrs. William Paul & Son will carefully lift, pack, and put any lots on rail at cost of labour and materials.

WEDNESDAY and THURSDAY NEXT.

The SECOND and MAIN PORTION of the well-known

COLLECTION OF ORCHIDS

of the Firs, Lawrie Park, Sydenham, S.E.,

To be SOLD by AUCTION, without the least Reserve.

MESSRS. PROTHEROE AND MORRIS have received instructions from C. Dorman, Esq., who is giving up the cultivation of Orchids, to SELL by AUCTION, on the Premises, The Firs, Lawrie Park, Sydenham, on WEDNESDAY and THURSDAY NEXT, October 16 and 17, at half-past 12 o'Clock precisely, without the least reserve, the SECOND and MAIN PORTION of his well-known COLLECTION, comprising—

- Odontoglossum Alexandra, the very best varieties, white and spotted forms
- " Pescatorei
- " Hybrids of exceptional beauty and scarcity, of which many have received F.C.C.
- " vexillarium superbum
- " leucoglossum
- " Cobiauianum
- " rabellum
- " Dormanianum
- " eulchoderianum
- " pulchellum Dormanianum
- " Rothschildianum
- " Hymeanum
- " Lyngbossum
- " ramosissimum liliiflorum
- " Marshallianum
- Oncidium Mantini (see plate)
- " Pollettianum (see plate)
- " pyramidense
- " macranthum hastiferum
- " angustifolium
- Ceoloyne cristata alba
- Lycaste Skinneri alba, several plants
- Anguloa eburnea, from the original plant
- Laelia Perrinii alba (not nivea) the pure white form
- Cattleya Arthuriana (hybrid), only two plants in existence
 - " calumnata magnifica
 - " Mossie Reineckiana
 - " Wagneri
 - " Arnoldiana
 - " Dormaniana
 - " Duke of Marlborough
 - " Morgania
 - " Skinneri alba
 - " Schroderi alba
 - " Rex
 - " Lawrenceana
 - " gigas Dormaniana
 - " Trianae Eboracensis
 - " magnifica
 - " Sunrise
 - " alba
 - " Butleri
 - " Empress
 - " Russelliana
 - " Backhouseiana
 - " rubra
 - " gigantha
 - " Dormaniana
 - " Conocoensis alba
 - " Gaskelliana alba
 - " Empress Frederick
 - " Emperor Frederick
 - " Delliense
 - " superbissima
 - " Virginialis
- Cattleya Trianae speciosa
- " Mendelii splendidissima
- " Alexandra
- " Dormaniana
- " plumosa
- Laelia anceps alba
- " Dawsoni
- " Williamsi
- Miltonia Moreliana atropurpurea
- Cymbidium Philbrickeanum, with flower-spike
- Celia bella
- Dendrobynum nobilis album
 - " nobiliss
 - " Murhinnianum
 - " pendulum
 - " elegans
 - " Sanderianum
 - " Dormanianum
 - Leodanum
 - splendidissimum
 - Schneiderianum
 - enormum leucopterum
 - Cooksonii
 - crassinode album
 - Cypripedium, many seedlings unnamed
 - " Savageanum superbum
 - " Morgania
 - " euryandrum magnificum
 - " Harrisonianum superbum
 - " Niobe
 - " Bartlettii superbum
 - " leucorhodium, large specimens
 - " cardinale rubrum
 - " orphanum
 - " grande, enormous specimen
 - " Elliottianum, grand specimen
 - " albopurpureum, grand specimen
 - " purpuratum, several plants
 - " Sedeni candidulum, grand specimen
 - " Vesta
 - " Schroderi splendens, enormous specimen
 - " Sallieri Hyeuanum, enormous specimen
 - " vexillarium
 - Masdevallia Veitchii grandiflora
 - " Arminii
 - " racemosa Crossii
 - " melanosantha
 - " elephantaiceps
 - " cucullata
 - " Harryana, Bull's Blood
 - " Hincksiana
 - Pleurothallis Roezlii, fine specimen; and many other Orchids of value.

May be viewed. Catalogues on the Premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Sunningdale, Berks.

SIX DAYS' UNRESERVED SALE of exceptionally well-grown NURSERY STOCK, being the most important Sale held at this Nursery for many years, by order of Mr. Charles Noble, including a portion of the unique collection of Specimen RHODODENDRONS, and matchless Specimen Golden RETINOSPORAS and HOLLIES.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, The Nurseries, Sunningdale, close to Sunningdale Station, and within easy distance of Bagshot, S. W. R., on MONDAY, October 21, and FIVE FOLLOWING DAYS, at 12 o'Clock each day, without the least reserve, several acres of unusually well-grown NURSERY STOCK, the whole in the best possible condition for removal, comprising thousands of Rhododendrons amongst them a large number of unique Specimens and Standards, unsurpassed in the trade, and forming one of the finest collections ever submitted to public competition. Several thousands of Ghent and other Hardy Azaleas, 10,000 oval-leaved Privet, thousands of Berberis aquifolia, enormous quantities of Conifers in various sizes, including Cupressus, Thuja, and Thujoopsis, suitable for hedges, screens, and general planting; a grand lot of perfect specimen Variegated Hollies, matchless specimen Golden Retinosporas, Dwarf Roses, a large quantity of Standard and Bush Apples, Gooseberries, Currants, Standard, Ornamental, and Forest Trees, and other Stock, which will be found fully described in Catalogues to be obtained (post free) of the Auctioneers.

It is impossible to adequately call attention to this important Sale within the limits of an ordinary advertisement, and intending purchasers are respectfully invited to inspect the stock, which will well repay a visit to these Nurseries.

May be viewed. Catalogues had on the premises, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Hollamby's Nurseries, Groombridge, near Tunbridge Wells.

GREAT UNRESERVED SALE of NURSERY STOCK, by order of the Executors of the late Mr. Edwin Hollamby.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, as above, close to the Groombridge Railway Station, on THURSDAY and FRIDAY, October 24 and 25, at 12 o'Clock punctually each day, 45,000 CONIFERS, named and other Rhododendrons, Azaleas, Laurels, Larch, Scotch Firs, Ash, Spanish Chestnuts, strong, transplanted Quick, Hardy Climbers, Dwarfs, Climbing, and other Roses, the whole in splendid condition for removal; also Seakale, extra strong for forcing, and other Stock.

May be viewed any day prior to the Sale. Catalogues may be had at the Nurseries; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Two Days' Sale.—Tottenham, N.

Adjoining the Tottenham Hale Station, Great Eastern Main Line.

Mr. Ware's GREAT ANNUAL SALE of immense quantities of NURSERY STOCK.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, The Hale Farm Nurseries, Tottenham, N., on TUESDAY and WEDNESDAY, October 29 and 30, 1895, at 11 o'Clock precisely each day, in consequence of the large number of Lots.

2500 ROSES IN POTS, EXTRA STRONG, of the best sorts. 100,000 CARNATIONS and PICOTEEs.—Named sorts in pots, consisting of the very best varieties in cultivation, both new and old kinds.

TREE CARNATIONS in variety, fine plants in 48-pots. 50,000 DOUBLE and SINGLE TUBEROUS-ROOTED BEGONIAS.—Probably the finest Collection in the world, and a special feature at this Nursery. These will be offered both in mixture and selected to colour. The tubers are remarkably strong and fine, not a bad variety will be found amongst them.

50,000 CLEMATIS and AMPPELOPSIS, and other Climbers; 10,000 IVIES in variety. 100,000 SEAKALE and ASPAGUS, extra strong forcing stuff. Both these are grown by Mr. Ware in enormous quantities at Tottenham and elsewhere. The season has suited the growth of both remarkably well, and Mr. Ware states that he never had them so fine.

25,000 HOME-GROWN LILIES. Of these, Mr. Ware holds one of the largest collections in the trade. All the Bulbs offered will be of good size, perfectly healthy, and such as cannot fail to give satisfaction.

200,000 BURLIN CROWNS LILY OF THE VALLEY.—These are exceptionally fine, being of the true Berlin or best forcing variety.

FORCING PLANTS and BULBS, in endless variety. 200,000 HERBACEOUS PLANTS and MISCELLANEOUS BULBS.

HOLLYHOCKS, selected to colour. CHRISTMAS ROSES, Double and Single PYRETHRUMS, LINKS, DELPHINIUMS, POENTILLAS, PHLOX, PÆONIES. Also thousands of other PLANTS, TREES, and SHRUBS, in great variety, including a large quantity of POLARS suitable for forming Screens, broad-leaved PRIVET, fine bushy stuff, &c.

The Stock may be viewed any day prior to the Sale. Catalogues may be had on the Premises; and of the Auctioneers, Land and Estate Agents, and Valuers, 67 and 68, Cheapside, London, E.C.; and Leytonstone.

Sales of Azaleas, Camellias, Palms, and Decorative PLANTS, FERNS, &c.

MESSRS. PROTHEROE AND MORRIS respectively announce that their SALES of the above will commence on MONDAY, October 21, and then take place EVERY MONDAY and THURSDAY throughout the season. Catalogues forwarded free by post on application.

Enfield Highway, N.
Sales of LIVE AND DEAD FARMING STOCK, by order of Mr. John Josiah Wilson, jun., who is giving up his Farm and Market Gardens in consequence of expiration of lease and retirement from business through ill-health.
Absolutely without reserve.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, Rose Cottage Farm, Enfield Highway, opposite the Black Horse, one mile from Brimsdown and Churchbury stations, and two miles from Enfield Town stations, G. E. Ry., on THURSDAY, October 17, at 12 o'clock precisely, 12 valuable CART HORSES, fit for brewers or contractors (all worked by Mr. Wilson), two Ponies, first-class Cob, over fourteen hands, five years, by Pireus; brindle Jersey Cow in Calf, four Spring Market Waggon, three Vans, eleven Market Gardeners' Carts, three light Spring Carts, and others; several Sets of Harness, Market Garden Implements, consisting of Ploughs, Subsoils, Horse-Hoes, Mould Ploughs, Rollers, five sets of heavy and light Harrows, 25,000 Strawberry Baskets, a large quantity of Red Willow Rods fit for Basket-making, the produce of over two acres of land, and two years' crop, one and a half acres of Champagne Rhubarb Roots, six acres of Savoys and Collards, and many other items.

On view two days prior to and morning of Sale. Catalogues may be had on the Premises; at the principal Inns in Enfield and district; at Mr. Wilson's Stand, Spitalfields Market; of J. Barrett, Esq., Solicitor, 7, Leadenhall Street, E.C.; and of the Auctioneers and Valuers, 67 and 68, Cheapside, E.C., and Leytonstone.

Woking, Surrey.—Without Reserve.

MESSRS. PROTHEROE AND MORRIS are instructed by Messrs. H. & C. Cobbatt, who are compelled to effect an immediate clearance of a large portion of ground, to SELL by AUCTION, on the Premises, the Horsell Nurseries, Woking, about a mile from Woking Railway Station on TUESDAY, October 29, and two following days, at 12 o'clock precisely each day, several Acres of well-grown NURSERY STOCK, which has been carefully prepared for removal, comprising a large quantity of Border Shrubs, in great variety; 30,000 Fruit Trees, consisting of Standard, Pyramid, and Dwarf-trained Apples, Pears, Plums, Peaches, Nectarines, and others; 30,000 Forest Trees, Scotch Firs, Pinus, Birch, Quick, &c.; 5000 Standards, Half-standards, and Dwarf Roses, in all the best varieties; 3000 Potting shrubs, 2000 Climbers, 5000 Standard Ornamental and Flowering Trees; 10,000 Fruit and Manetti Stocks, Rhododendrons, Hardy Azaleas, and other Stock.

May be viewed any day prior to the Sale. Catalogues may be obtained on the Premises, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.; and Leytonstone.

Friday Next, October 18, 1895.—Without any Reserve.
BY ORDER OF MESSRS. SANDER & CO., ST. ALBANS.

2000 CATTLEYAS,

In simply marvellous condition. The grandest lot ever imported, from San Huaca.

SANDER'S MONTANA TYPE OF IMPERIALIS and AUREA, Mixed. 441 Lots.

These are the first and only plants from these mountains, and are from quite a different part of Colombia to those sold by us on October 4. Remarkable Plants of—

CATTLEYA, probably GIGAS or AUREA section, MONTANA type. All Seeding Plants, and mostly all unflowered. A much diversified and most remarkable lot of plants.

CATTLEYA GIGAS IMPERIALIS TYPE.

The great crimson and purple gigas, 275 Lots. Also—187 lots of a form of SANDERIANA.

from a native collector, from the far exterior. These are of a wonderfully distinct-looking and promising character. Bulbs are long, as in *Lælia*, club-shaped, with thick, short, broad leaves. The plants are simply grand. This magnificent type of *Cattleya gigas*, together with *C. aurea*, will be as prolific in quite new forms as our celebrated Montana varieties of *Cypripedium insigne*. Our collectors are exploring vast districts at great expense to secure all the forms of these magnificent *Cattleyas*, which we shall hope to offer to Orchidists without any Reserve. We must sell them, if only to continue the great work of collecting we have undertaken in these new pathless wilds and hitherto impenetrable mountains. Every importation will be offered as it comes to hand. This is the best time of year to buy this type of *Cattleya*; this we guarantee, the plants are perfectly dormant, and could not be in finer or more perfect condition for growing. Also—

A NEW GUINEA DENDROBE,

with large white flowers, as large as *D. bigibum*, with bulbs in the way of *D. atro-violaceum*. Collector describes it as a GRAND NEW DENDROBE.

Together with other fine ORCHIDS, including 20 Boxes of MIXED ORCHIDS.

For all Particulars of Sale, see Catalogue.

Also *CYPRIPEDIUM INSIGNE*, from near the Siperianum district, and *CELOGYNE ASPERATA*, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on FRIDAY NEXT, October 18, at half-past 12 o'clock.

On view morning of Sale, and Catalogues had.

DUTCH BULBS.

GREAT UNRESERVED SALES.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., EVERY DAY, at 12 o'clock, large consignments of NAMED HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other BULBS from Holland, lotted to suit the Trade and Private Buyers.

Also ROMAN HYACINTHS, LILIAM CANDIDUM, SNOWDROPS, &c.

On view morning of Sale, and Catalogues had.

Thursday Next.

**MESSRS. LINDEN'S
FIRST GREAT ORCHID SALE
OF THE SEASON.**

Mr. J. C. STEVENS

Has received instructions from Messrs. Linden, L'Horticulture Internationale, Parc Leopold, Brussels, to SELL by AUCTION, at his Great Rooms, 33, King Street, Covent Garden, on THURSDAY NEXT, October 17, at half-past 12 o'clock precisely, a magnificent Collection of IMPORTED, SEMI-ESTABLISHED, and ESTABLISHED ORCHIDS, comprising—

A NEW HYBRID CATTLEYA,

probably a natural Hybrid between *Cattleya aurea* and *gigas* or *Hardyana*,

The Magnificent and Rare

SOBRALIA LINDENI.

The most beautiful and absolutely grandest *Sobralia* ever introduced. Only a few plants having been imported, a plant of the same has just flowered in the Collection of C. J. Lucas, Esq.

Linden's famous strain of

CATTLEYA MENDELI.

Superb Established Plants, all unflowered.

The New and beautiful

- LÆLIO-CATTLEYA LINDENI.
- LÆLIO-CATTLEYA TREYERANI.
- LÆLIO-CATTLEYA SAYANA.
- LÆLIO-CATTLEYA MARGARITÆ.

A grand lot of

**CATTLEYA MAXIMA
FLORIBUNDA.**

The freest-flowering *Cattleya*, producing as many as 20 large flowers on one spike, semi-established, in perfect condition, all unflowered, many in bud.

Also fine plants of

**CATTLEYA MAXIMA
GIGANTEA.**

Semi-established, unflowered, many in bud.

The New and Beautiful

ZYGOPETALUM JORISIANUM,

having been introduced under enormous difficulties from the Sierra de Marawaca, growing at an elevation of 6500 feet, the highest point of the Surina Chain, on the territory of the Mariquitares Indians, the most savage tribe known.

Selected Plants of Linden's Choicest

Varieties of

LÆLIA PURPURATA.

Together with a fine importation of *ONCIDIUM LANCEANUM*, in grand condition; fine Established Plants of *PHAJUS HUMBLOTI*, *CATTLEYA REX*, &c.

On view morning of Sale, and Catalogues had.

DUTCH BULBS—DUTCH BULBS.

Sales nearly every day, in Large and Small Lots, to suit all Buyers.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 33, King Street, Covent Garden, nearly every day, at half-past 12 o'clock, first-class consignments of Choice HYACINTHS, TULIPS, CROCUSES, NARCISSUS, and other BULBS arriving daily from well-known farms in Holland, in the finest possible condition.

On view morning of Sale, and Catalogues had.

WEDNESDAY NEXT.

IMPORTANT SALE.

A GRAND IMPORTATION OF ROSES, from a trustworthy German Grower, including many of the newest and most popular sorts of Standards, Half-Standard, Dwarf, and Climbers. (The Roses from the above Nurseryman sold last spring have given the greatest satisfaction during the past summer.)

A collection of CARNATIONS, a number of well-grown PALMS, 500 LILIAM HARRISII, from Bermuda, LILIAM CANDIDUM, and other, FRESIA REFRACTA ALBA, ANEMONES, GLADIOLI, and many other Bulbs. Also a special consignment of

BULBS FROM HOLLAND.

Including a Fine Collection of Double and Single HYACINTHS, a great variety of TULIPS, CROCUSES, SCILLAS, in splendid order for Winter and Spring Flowering, rare NARCISSUS, SNOWDROPS, ARUMS, IRIS, 1000 SPIRÆA JAPONICA, 1000 DIELYTRA SPECTABILE, EARLY ROMAN HYACINTHS, Paper-white NARCISSUS, ITALIAN HYACINTHS, &c., from France.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 33, King Street, Covent Garden, on WEDNESDAY NEXT, Oct. 16, at Half-past Twelve o'clock precisely.

On view morning of Sale, and Catalogues had.

Saunders Lane Nursery, Woking, Surrey.

About 1 mile from Worplesdon and 3 miles from Woking Stations on the L. & S. W. Railway.

UNRESERVED CLEARANCE SALE.

MESSRS. WATERER AND SONS are instructed by Messrs. T. Holdforth & Son, who are declining business, to SELL by AUCTION, upon the Premises, on MONDAY, October 21, 1895, and TWO FOLLOWING DAYS, at 11 for 12 o'clock, the whole of the Young and Well-grown NURSERY STOCK, comprising 20,000 Berberis of sorts, 8 in. to 3 ft.; 20,000 Green and Variegated Hollies, 30,000 Privet ovalifolium; 1 to 3 ft.; 10,000 Dwarf, Tea, and Hybrid Perpetual Roses; 20,000 standard and Dwarf Roses in maiden bud; 10,000 Manetti Stocks; 8000 Standard, Pyramid, and Dwarf-trained and other Fruit Trees; 15,000 Gooseberry and Currant Bushes; 10,000 strong Raspberry Canes; 6000 Lime, Mountain Ash, and Laburnum, from 6 ft. to 15 ft.; 3000 Pampas Grass, 10,000 Virginia Creepers, 10,000 Ivies of sorts, 10,000 Hypericum Calycinum, English Yew, from 3 ft. to 5 ft.; and thousands of Conifers, Ornamental, Evergreen, and Deciduous Flowering Shrubs. The whole of the Stock is in fine condition for removal, and well worthy the attention of Nurserymen and others.

May be viewed six days prior to the Sale, and Catalogues had upon the Premises, and of the Auctioneers, at either of their Offices, at Chertsey, Weybridge Station, and Walton-on-Thames.

THE FREEHOLD NURSERY, comprising about 6 acres, with Two Cottages, forming a most Magnificent Site for the Erection of a Residence, TO BE SOLD.

ORCHIDS.—ORCHIDS.—ORCHIDS.

MESSRS. POPE AND SONS have received instructions from J. Fellows, Esq., J.P., of Churchfields, West Bromwich (who is removing to a distance, and will have no accommodation for Orchids), to SELL by AUCTION at their Sale Rooms, 6, Phillip Street, Birmingham, on THURSDAY NEXT, Oct. 17, at Half-past 1 o'clock prompt, the whole of his very CHOICE COLLECTION OF ORCHIDS, including very fine *Cattleyas*, *Oncotoglossums*, *Oncidium*, *Cypripediums*, *Mastodallias*, *Maxillarias*, *Dendrobium*, *Thunias*, *Pleionias*, *Phalenopsis*, *Sophranitis*, *Lycastes*, *Ceologynes*, *Cymbidiums*, &c., amongst which will be found many Rare and Choice Varieties.

On view the Afternoon before and on Morning of Sale, Catalogues post-free on application to the Auctioneers.

West Drayton, Middlesex.

ELEVENTH ANNUAL SALE OF NURSERY FRUIT STOCK.

MESSRS. NORMAN AND SON are instructed by Messrs. Smith & Son, to hold the ELEVENTH ANNUAL SALE OF NURSERY FRUIT STOCK on the Ground, on TUESDAY and WEDNESDAY, October 29 and 30, 1895, each day at 11 o'clock punctually, in consequence of the number of Lots, comprising about

30,000 2, 3, and 4-year-old Standard and Half-standard APPLE TREES, including several new kinds, which have not been brought before public notice, except at these Sales; about

30,000 Standard and Half-standard PLUM TREES, 30,000 Cluster DAMSONS, 5000 Standard CHERRY TREES, 3000 PEARS, 100,000 CURRANTS and GOOSEBERRIES, and about 3 Acres of RHUBARB STOOKS.

Full grown, and suitable for Forcing and other purposes, including Linnaeus, Champagne, Albert, &c., of which particulars will be given in the Catalogues.

On view the day prior to the Sale, and Catalogues had of Messrs. J. SMITH AND SON, Growers, Sipson, and 445 and 449, Covent Garden Market, London, W.C.; and of the Auctioneers, Uxbridge, Middlesex, and Beaconsfield, Bucks.

WANTED TO RENT, on Lease, several acres of ARABLE and PASTURE LAND, with some Glass preferred. Full particulars to C. T., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

SALES BY AUCTION.

To Market Gardeners, Fruit Growers, and Estate AGENTS.

THE NURSERY, DOWNHAM MARKET.
IMPORTANT TWO DAYS' SALE OF VALUABLE NURSERY STOCK.

MR. CHARLES HAWKINS is favoured with instructions from Messrs. Bird & Vallance to SELL by AUCTION, on FRIDAY and SATURDAY, October 18 and 19, 1895, commencing each day at half-past 10 o'clock—

12,000 FRUIT TREES, specially grown for Market Gardeners and Fruit Growers, including the best varieties and most popular sorts; 1500 ORNAMENTAL TREES and SHRUBS of various sizes, all growing as specimens; 100,000 FOREST TREES, &c.; well worthy the attention of Planters; 1000 ROSES, 1000 CARNATIONS, and HERBACEOUS PLANTS.

The Stock may be viewed at any time before the Sale upon application to Messrs. BIRD and VALLANCE, Downham Market. Descriptive Catalogues may be obtained of Messrs. Bird & Vallance, Downham Market; or of the Auctioneer. Offices: Downham Market and Bank Chambers, King's Lynn.

MR. W. DORANT will SELL by AUCTION, at St. Peter's and Catherine Lane Nurseries, St. Albans, Herts., on October 24 and 25, 1895, at 11 o'clock each day, the valuable STOCK IN TRADE of a Nurseryman and Florist, comprising large Span-roof Conservatories, Forcing-houses, Frames, large Halifax Boilers, 800 feet 4-inch H.W. Piping, Furnace Fittings, Cisterns, Specimen Plumosa and other Ferns, Bouvardias, Climbing Begonias, Palms, Aspidistras, Solanums, Plumbagos, Double Primulas, large Azaleas, Clerodendrons, Genistas, and other pot Plants; Hardy Perennials, 5000 Manetti Stocks, choice Maiden Apples, Pears, Plums, Apricots, Cherries, Bush Trees, Roses, Ivies, Creepers, &c.

On view day previous and morning of Sale, and Catalogues obtained of W. DORANT, Auctioneer, St. Albans.

WANTED, TO RENT, SMALL NURSERY with 300 ft. to 600 ft. run of Glass. W., 41, Wellington Street, Strand, W.C.

WANTED, TO RENT, one or two thousand feet run of MODERN GLASS-HOUSES, with open ground and Dwelling-house, within 20 miles of London.—G. L., 41, Wellington Street, Strand, W.C.

WANTED, TO RENT on Lease, not less than ten years, a NURSERY, about three acres of land, with four hundred feet run of Glass or more, within two miles of a Town; with no Stock or very little. W. H., 41, Wellington Street, Strand, W.C.

FOR SALE.—Price £400. High-class Fruiterer's, Green Grocer's, &c., with Small Nursery. South Coast Town.—Particulars from H. E., 4, Lordship Terrace, Brixton Road, Dorking.

TO BE DISPOSED OF, a MARKET GROWER'S NURSERY, in one of the best growing districts, consisting of 6050 square feet in five Houses, erected within last three years; nearly 1 acre of rich pasture, and 3/4 acre of Garden Ground. I less cause of giving up. This is one of the most genuine things ever offered. Twelve miles from London.—A. B., 41, Wellington Street, Strand, W.C.

Splendid Opportunity to Gentlemen at command. TO BE SOLD, as a Going Concern, Goodwill free, of Old-Established FLORIST and MARKET NURSERY.—Glass nearly 20,000 feet, greater part recently erected; situated at well-known watering-place; well stocked, and in thorough working-order; great and increasing demand for Cut Flowers, Cucumbers, Tomatoes, and every kind of Market Produce in Plant Trade. Being a sound and genuine concern, it is well worth attention. Long lease, small ground rent. The Stock (which is clean and well-grown, being grown on for Autumn and Spring work) at low valuation. Price for Land, with all the Glass Erections and Pippings, £1,750. No Agents. Apply, OWNEE, Gardeners' Chronicle Office, 41, Wellington Street, Strand, W.C.

Splendid Opening for Fruit and Flower Growing. KENT (SWANLEY).—FOR SALE, a compact FREEHOLD NURSERY of 5 acres of good Arable Land, well adapted to Fruit and Flowers, with eight Glass Houses 150 feet long, one 100 feet long, Cottage and Sheds, Stabling for three horses, together with a well-built modern Residence. Price for the whole, £2600. Or would be sold in two Lots. For further particulars, apply to Messrs. PRALL and PRALL, Land Agents and Valuers, Dartford.

Hooton Estate, Cheshire. TO NURSEYMEN, FLORISTS, and OTHERS. TO BE LET, the productive gardens of HOOTON HALL, extent nearly 5 acres, having an excellent stock of Standard Apple and Pear Trees. The glass comprises Greenhouse, three Vineries, Peach, Orchard, Tomato, Cucumber, and Melon Houses; there are the usual Potting Sheds, Fruit Room, Office, Gardeners' Bothy, Stabling, &c., also good Gardener's House.

For further particulars, apply to Messrs. SMITHS, GOBE and CO., 18, Whitehall Place, London, S.W., and 6, Newgate Street, Chester.

SMALL COMPACT NURSERY TO LET, 8 miles from Covent Garden, 6 Greenhouses, and about 1/2 Acre of Land, on Lease. Rent, £15. Stock optional. Dwelling-house adjoining may be had.—G. E., Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, W.C.

To Nurserymen and Florists commencing business. HAMPTON-ON-THAMES, on THE MARLING PARK ESTATE, free from London fogs, a deep rich loam, the favourite neighbourhood for Growers, FREEHOLD LAND for SALE, on easy system of payment. Excellent sites for residences.—For full particulars apply to Mr. FREDK. G. HUGHES (Surveyor), the Estate Office, Hampton-on-Thames.

To Florists and Gardeners with Capital. FOR SALE, important high-class LOCAL BUSINESS, splendid position, main road. Nine miles from Covent Garden. Same hands twenty years. Fifteen Greenhouses and Pits, all heated by Hot-water. Long lease, moderate rent. Dwelling House attached. Price includes all Glass, Stock, and Plant. Full particulars of Mr. DELL, North Finchley.

FOR SALE, a small valuable long leasehold NURSERY, 6 miles from Covent Garden. Seven large Greenhouses, well stocked; two Vineries. Cucumber-house, Plant-houses, five-roomed Cottage. Low Ground Rent. Lease eighty-six years to expire. Eighty-five feet Glass. Facing main road. All particulars of FLORIST, 11, Dafforne Road, Tooting, Surrey.

MANCHESTER WHOLESALE FLOWER MARKET.

CUT FLOWERS FOR FLORISTS. GEO. FORBES, the largest Salesman of Cut Flowers and Ferns in the North of England, is prepared to SEND CONSIGNMENTS on receipt of letter, telegram, or telephone, with quickest possible despatch. Write for weekly PRICE LIST. All Florist's Requisites kept in Stock. National Telephone, 1059. Established 1878.

UNEQUALLED ARE THE FOLLOWING

- FOR FORCING :—
BUDS INNUMERABLE.
RHODODENDRONS, finest named,
AZALEA MOLLIS, in great variety.
GHENT VAR., finest in the Trade.
PONTICA, unequalled.
ANDROMEDA FLORIBUNDA.
JAPONICA.
KALMIA LATIFOLIA.
MYRTIFOLIA, very fine.
RHODORA CANADENSIS.

Dozens, Hundreds, or Thousands.
CHARLES NOBLE, BAGSHOT.

CHRYSANTHEMUMS.

THE RYECROFT SET OF DRESSING INSTRUMENTS.

Three pairs of Forceps, Brush and Case complete, 10s. 6d.; Large Forceps, for pulling cuttings, 3s. 9d.; Smaller ditto, for Dressing, 2s. 9d. Free for cash.

The BEST CUPS and TUBES are—

- THE BECKETT.—All sizes, both for Japanese and Incurved, at 9s. per dozen; or, with additional tube, for raising the bloom 3 inches higher than the ordinary one, 12s. per dozen.
THE SPRINGTHORPE.—For Japanese and Incurved, all sizes, 9s. per dozen.
All free for cash with order.

H. J. JONES,
RYECROFT NURSERY, HITHER GREEN, LEWISHAM.

15,000 PRIZE CARNATIONS & PICOTEEES

(Strong, well-rooted, and very plump hearts).
Price, 12s. per doz. Special terms for quantity. Catalogues free.
ARTHUR PIKE, 3, Windsor Place, Cardiff.

BULBS

Hyacinths, Tulips,
Narcissi, Lilies,
Crocuses, Scillas,
Snowdrops, Irises, &c.

BEST QUALITIES AT LOWEST PRICES
Delivered Free by Rail or Parcel Post.

Descriptive Catalogue No. 455
POST FREE ON APPLICATION.

DICKSONS Bulb Growers
& Importers,
CHESTER.

EXHIBITIONS.

KENT COUNTY CHRYSANTHEMUM and HORTICULTURAL SOCIETY.

The EIGHTH ANNUAL EXHIBITION will be held in the BINK HALL, BLACKHEATH (opposite S.E.B. Station), on WEDNESDAY, October 30, and THURSDAY, October 31, 1895; when Prizes amounting to upwards of £100 will be offered for Competition.

Schedule of Prizes, and all particulars, may be obtained on application to Mr. FRED. J. GARWOOD, Hon. Sec., 37, Turner Road, Lea, S.E.

HEREFORDSHIRE FRUIT and CHRYSANTHEMUM SOCIETY.

The FOURTH ANNUAL SHOW will be held in the Shire Hall, Hereford, on TUESDAY and WEDNESDAY, November 5 and 6, 1895, when upwards of £100 in PRIZES will be awarded for FRUIT and CHRYSANTHEMUMS.

Classes open to all England, and to Amateurs, Tenant Farmers, and Cottagers. Special Prizes are offered, and Prizes for the Best Packed Basket, Box, or Barrel of Apples for Market.

Schedules and particulars on application to the Hon. Sec., Mr. JOHN OUGH, F.R.H.S., Hereford.

BATLEY CHRYSANTHEMUM SHOW.

NOVEMBER 16, 1895.
OPEN CLASS.—Cup, value 20 guineas, for 35 cut blooms; and Cup, value 6 guineas, for 24 cut blooms, in addition to Money Prizes. Full particulars on application to the Secretary, Mr. ALLEN HALL, High Street, Batley, West Yorks.

BRADFORD and DISTRICT CHRYSANTHEMUM SHOW.

in St. George's Hall, November 15 and 16. £100 and THREE SILVER CUPS to be competed for. Entries close November 11.—J. COLLIN, Hon. Sec., 51, Midland Road, Freezinghall, Bradford.

Under the Patronage of Her Majesty the QUEEN, and the Presidency of the Right Honourable Lord WINDSOR, Lord-Lieutenant of the County of Glamorgan.

THE CARDIFF FINE ART, INDUSTRIAL, AND MARITIME EXHIBITION, 1896,

WILL BE OPENED IN MAY, 1896, And Continue Open a period of Six Months.

The Exhibition will comprise the following (amongst other) Sections:—

- AGRICULTURE and HORTICULTURE,
- HEALTH and HYGIENE,
- SPORTS and PASTIMES and AMATEUR EXHIBITS,
- MACHINEERY, ELECTRICITY, and LOCAL and GENERAL INDUSTRIES,
- MARITIME,
- PHOTOGRAPHY,
- SCIENTIFIC INSTRUMENTS, SPECIMENS and INVENTIONS.

Copies of Prospectus and Regulations for Exhibitors, and Forms of Application for Space, may be obtained of the Hon. Secretary,

Mr. WALTER COOK,
93, St. Mary Street, Cardiff.

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

CACTI.—Imported and nursed recommended. H. ZEISSOLD, Leipzig, Glockenstr. 13. Price List forwarded on application.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free. P. McARTHUR, The London Nursery, 4, Maida Vale, London, W.

CABBAGE PLANTS.—Mein's No. 1. Strong plants, 3s. per 100. MANN AND SONS, Whitton, Middlesex.

TRADE.—Adiantum cuneatum, Pteris cristata, in 48's, 5s. doz.; Grevillea robusta, Cypress Natalensis, in 48's, 3s. 6d. doz.; A. Cuneatum, in thumbs, 12s. and 16s. per 100; Cypress alternifolius, Aralia Sieboldii, in thumbs, 9s. per 100; Dwarf Box edging, 30s. 100 yards. Packed and on rail free.—FOREMAN, Nightingale Nurseries, Bath.

J. C. THIBAUD LYAND, Nurserymen, Seeds-men, and Landscape Gardeners, Chêne, Geneva, Switzerland. Established 1850. CONIFERS, ROSES, HARDY FERNS, PERENNIALS, ALPINE PLANTS, beside the Fruit. Highest rewards in Switzerland and in other countries for Laying out Parks and Landscapes. Agent for Great Britain—E. DELANOUE, 56, Rangemore Rd., South Tottenham, London.

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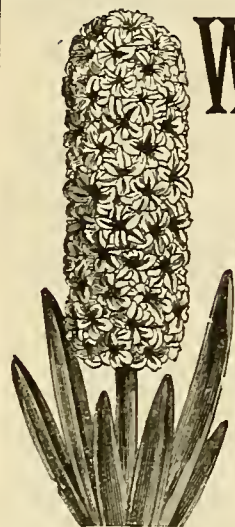
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MONTANA TYPE OF IMPERIALIS AND AUREA MIXED
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These are the first and only plants from these mountains, and are from quite a different part of Colombia to those sold by us on October 4.

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THE GREAT CRIMSON AND PURPLE GIGAS. 275 LOTS.

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From a Native Collector, from the far interior. These are of a wonderfully distinct-looking and promising character—bulbs are long (as in *Lælia*), club-shaped, with thick, short, broad leaves. The plants are simply grand. This magnificent type of *Cattleya gigas*, together with *C. aurea*, will be as prolific in quite new forms as our celebrated Montana varieties of—

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This is the best time of year to buy this type of Cattleya; this we guarantee, the plants are perfectly dormant, and could not be in finer or more perfect condition for growing.

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A NEW GUINEA DENDROBE,

With large white flowers, as large as *D. bigibbum*, with bulbs in the way of *D. atro-violaceum*. Collector describes it as a GRAND NEW DENDROBE.

Together with other fine Orchids, including TWENTY BOXES OF MIXED ORCHIDS.

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On FRIDAY, OCTOBER 18, 1895, by Messrs.

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THE

Gardeners' Chronicle.

SATURDAY, OCTOBER 12, 1895.

THE "SPOT" DISEASE OF ORCHIDS.

THE disease known as "spot," which appears under the form of brown spots or blotches on the living leaves of Orchids, is unfortunately too familiar to cultivators and admirers of these plants, and although the health of the plant is not materially affected, except when the spots are unusually numerous, nevertheless the unsightly blotches on the leaves detract greatly from a full appreciation of the beauty of Orchids when in bloom.

The disease first appears under the form of minute pale spots, one to two millimetres in diameter, on the upper surface of the leaf, which vary considerably in number and arrangement, being in some instances numerous and crowded, in others, few in number, and scattered. Every portion of the leaf is equally susceptible to the disease, and the fact that very young leaves of diseased plants frequently show "spot," has been considered by some as strong evidence in favour of the disease being due to some parasitic organism; this, however, is not the true explanation, the disease proving conclusively to be of a non-parasitic nature, and with proper precautions to be entirely under the control of the cultivator. My previous note* announcing that "spot" was due to the presence of an organism called *Plasmodiophora orohidis*, was based upon the absolute agreement with the microscopic details of two diseases of Vine-leaves described by Viala and Sauvageau,† and attributed to the presence of two organisms called *Plasmodiophora vitis* and *Plasmodiophora californica* respectively. Returning to the Orchid disease: the minute pale spots already alluded to, which, it may be remarked, are not at all conspicuous, and are likely to escape observation unless specially looked for, soon assume a pale brown colour, and gradually increase in size, retaining an irregularly-circular outline, until they attain a diameter varying from four to eight millimetres. When the spots are numerous and near together, they frequently run into each other, forming irregular blotches of variable size and form. As the disease progresses, the spots become darker in colour, and owing to the collapse of diseased cells beneath the epidermis, the surface of the spot becomes depressed below the level of the surface of the leaf. In many instances, the disease passes completely through the leaf, forming a corresponding brown depressed spot on the under surface.

* *Annals of Bot.*, vol. ix. p. 170 (1895).

† *La Bruzière et la Maladie de Californie. Journ. de Bot.*, tom. vi., pp. 355 and 378, pl. xii. (1892).

Microscopic examination shows the following details. The first indication of disorganisation is plasmolysis, followed by the complete disappearance of the chloroplasts from the palisade-cells of the leaf, hence the pale colour of the spots during the first stage of the disease. This is immediately followed by the appearance of a highly refringent, hyaline, oleaginous-looking sphere in each cell. During the early period of formation, the centre of the sphere presents a granular appearance, and when broken up and treated with a solution of iodine, the granules prove to be minute starch grains, which were liberated from the disintegrated chlorophyll grains, and engulfed during the formation of the sphere. Within three days from the first appearance of the spheres, the enclosed starch grains have become completely dissolved, and their substance added to the common mass. If at this stage a section through a diseased spot be placed in water and examined under the microscope, the spheres will be seen to undergo vacuolation, gradually changing from the previous solid condition into hollow vesicles, the walls of which become irregularly perforated or reticulated, the configuration of the network slowly and constantly changing after the fashion of the movements presented by the vegetative phase of *Plasmodiophora Brassicæ*, but differing in the movements, being of a purely physical nature, the perfectly homogeneous membrane becoming thinner in proportion as the vesicle increases in size, and in constantly retaining a rounded, even contour. Increase of size usually continues until the vesicle fills the cell in which it is contained. Vacuolation takes place exactly as stated above when sections are placed in a 1 per cent. solution of osmic acid instead of water, which, taken alone, is sufficient proof that the spheres in question are not of an amoeboid nature. In some instances, instead of one, several spheres are formed in a cell, each undergoing vacuolation, but remaining comparatively small in size.

The composition of the spheres is proved by the action of reagents to be complex, and although I have sometimes spoken of them as tannin-vesicles, it must be clearly understood that I do not intend to convey the idea that they consist entirely of tannin, although agreeing in many respects with the structures called tannin-vesicles by Klercker.*

That tannin is present is shown by the following reactions: Potassium bichromate produces a bright-brown precipitate, insoluble in water; an aqueous solution of cupric acetate causes a dingy-brown colour, which changes to green when subsequently treated with an aqueous solution of ferrous sulphate; a 1 per cent. solution of osmic acid blackens the spheres, but as previously stated, does not prevent vacuolation. Finally, the accumulation of methylene-blue by tannin-bearing cells, as pointed out by Pfeffer,† held good, the vesicles becoming stained deep blue after remaining in an exceedingly dilute aqueous solution of methylene-blue for twenty-four hours; iodine-green may be substituted for methylene-blue with good results. All the above reactions are most decided before vacuolation takes place; in fact, when the vesicles are fully distended, but little coloration is produced by any of the reagents mentioned. On the other hand, the presence of proteids in the spheres is suggested by the rapid staining of the mass, on the application of such reagents as eosin, carmine, iodine, &c. Carbohydrates are also in all probability present.

The spheres originate in the cell-sap, and their presence depends entirely on plasmolysis of the cells, which occurs during the earliest phase of the disease.

Contemporaneously with the formation of the tannin-vesicles the cytoplasm becomes turbid, the primordial utricle at the same time becoming tinged brown, and undergoing important changes. In some cases, the inner surface of the latter becomes uniformly covered with minute, spherical masses, and in this condition resembles, superficially, cells filled with the spores of a *Plasmodiophora*; here, how-

ever, the resemblance ends, as the minute spheres are found to form only a single layer lining the primordial utricle, and not completely filling the cell, as in *Plasmodiophora*; furthermore, reagents show that the spheres consist of tannin, and not protoplasm. In other cases, the inside of the epiplasm, and sometimes also the cell-wall—which, along with the other parts, undergoes disintegration—is covered with tubes or variously branched, very slender rods of a brown colour. Usually, however, the epiplasm or primordial utricle becomes entirely disorganised, drops of tannin accumulate at various points in its substance, accompanied in many instances by minute crystal-like bodies. These eventually disappear, leaving holes in the membrane, which, along with others previously present, produce an irregular reticulation, the whole being of a brown colour. The nucleus of the cell frequently remains unchanged throughout the entire cycle of disease.

In Viala and Sauvageau's account of the Vine disease previously alluded to, vacuolated tannin-vesicles and the reticulated primordial utricle have been respectively interpreted as constituting the vegetative phase of their supposed *Plasmodiophora vitis*.

The investigation of the disease under consideration was at first pursued along lines suggested by the preconceived idea that a fungus was the cause of the mischief, and it was only after numerous and varied experiments had failed to demonstrate the existence of the hypothetical fungus, that a search was made for bacteria, but with a like result. Finally, failing to induce the disease in healthy plants by inoculation with the expressed juice from diseased spots, even when introduced under the epidermis, thus proving the absence of an enzyme or organic ferment, which would have been due to the presence of fungi or bacteria, this was accepted as corroborative evidence of the absence of these organisms.

At this stage, Mr. W. Watson, assistant curator, Royal Gardens, Kew, whom I take this opportunity of thanking for numerous practical hints during this investigation, suggested a sudden chilling of the plants as a probable cause of the disease. Acting on this suggestion, the following somewhat drastic experiment was undertaken.

A young healthy plant of *Habenaria Susanæ*, R. Br., perfectly free from "spot," and which, up to the date of the experiment, had been growing in a house having a temperature ranging between 75° and 80° Fahr., was selected for experiment. Minute particles of ice were placed at intervals on the uninjured epidermis of the upper surface of the leaves, the plant—along with the pot in which it grew—was then placed in a sink and covered with a bell-jar, and cold water from a tap allowed to flow over the bell-jar for twelve hours, during which time the temperature inside the jar ranged between 41° and 45° Fahr. Twenty-four hours after the experiment, the points on the surface of the leaves originally covered by particles of ice were pale in colour, and on examination under the microscope, plasmolysis of the cells of the palisade-tissue, and degeneration of the chloroplasts, were found to have taken place. The remaining spots were examined at intervals, and within four days, every phase of the disease was observed, agreeing in every respect with the features already described.

The foregoing experiment showed that a sudden fall of 30° of temperature could not induce "spot" on the dry surface of the leaf, but only at those points where it had been moistened by the melted ice. That the chill caused by contact with the ice itself was not necessary for the formation of "spot," was proved by a second experiment with the same species of plant, all the conditions being as nearly as possible counterparts of those in the first experiment, excepting that minute drops of water at a temperature of 45° Fahr., were placed on the leaves instead of particles of ice. A diseased spot appeared at each point previously occupied by a drop of water, and showed all the microscopic characteristics of true "spot." Numerous additional experiments, with the object of determining the minimum depres-

sion of temperature necessary to produce the disease, showed that the formation of "spot" could not be induced by a fall of less than 9° Fahr., from the average temperature in which the plant had been previously growing. One other point in regard to temperature was clearly demonstrated by the experiments, viz., that plants which had previously grown in a high temperature, became diseased at a much smaller reduction of temperature than plants previously accustomed to a comparatively low temperature.

In conducting the experiments described above, irregularity in the appearance of the spots in different specimens of the same species, even when conducted under precisely similar conditions as to temperature, showed that some other undetermined factor exercised an influence. After repeated experiments this proved to be the relative amount of moisture present in the plant. After a pseudo-bulb with its accompanying leaf had been removed from a plant and allowed to remain for three days in a dry place, it was found impossible to produce spot by the method mentioned above, whereas with a similar specimen removed from the same plant, and having the pseudo-bulb placed in water at once, fully developed "spot" could be produced in four days. Similar results were obtained when experiments were made with entire plants; those copiously supplied with water at the root, and grown in a high temperature, "spotting" readily; whereas plants in a resting condition, scantily supplied with water and kept in a low temperature, usually resist all attempts to produce "spot" artificially.

It may be mentioned that, other conditions being equal, "spot" can be produced with the greatest certainty, and in the shortest amount of time, when the experiment is conducted in an atmosphere saturated with moisture. This agrees with the experience of gardeners, who state that "spot" is most prevalent in foggy weather.

Experiments show that "brunissure," or browning of Vine-leaves, when the plants are grown in the open air, can be caused by the following combination of meteoric conditions. A copious deposition of dew and rapid fall of temperature, following heavy rain. Similar conditions produce the disease in the leaves of Tomatos, which has been described by Abbey* as due to an organism named by him *Plasmodiophora Tomati*.

SUMMARY.

The Orchid disease known as "spot" is of non-parasitic origin; the initial cause being the presence of minute drops of water on the surface of the leaves at a time when the temperature is exceptionally low, and the roots copiously supplied with water.

The effect of the chill produced by the drops of water under the above-mentioned conditions, is to cause plasmolysis of the cells of the leaf underlying the drops; this is followed by the precipitation of tannin and other substances, and eventually the complete disintegration of the cells.

"Spot" in the broadest sense of the term, which would include the effects of exceptional meteoric conditions on the living parts of plants, more especially the leaves, when growing in a state of nature, is, in the case of cultivated Orchids, mainly, if not entirely, caused by the three following conditions: 1, too high a temperature; 2, too much water, and not sufficient air in contact with the roots; 3, watering or spraying with a falling instead of a rising temperature. *George Masee, F.L.S., a principal Assistant, Royal Herbarium, Kew, in "Annals of Botany," October.* [The original is accompanied by a coloured plate showing the microscopical changes referred to.—ED.]

LÆLIO - CATTLEYA × CLONIA
SUPERBA (L.-C. × ELEGANS TUR-
NERI ♂, C. WARSCEWICZII (GIGAS) ♀).

Our illustration (fig. 74, p. 421) represents *Lælio-Cattleya × Clonia superba*, one of the finest hybrids of the season, and which was exhibited by the

* Studien über die Gerbstoffvakuelen. Tübinger Inaugur.-Dissert. 1888.

† Ueber Aufnahme von Anilinfarben in lebenden Zellen, Unters. a. d. bot. Instit. zu Tübingen, Bd. II., p. 179.

* The "drooping" disease in Tomatos. *Journ. Hort.*, Ser. 3, vol. XXX., p. 350 (April 25, 1895).

raisers, Messrs. Jas. Veitch & Son, Royal Exotic Nursery, King's Road, Chelsea, at the meeting of the Orchid Committee of the Royal Horticultural Society held at Chiswick on September 5, when it was awarded a First-class Certificate. The sepals and petals are of a soft rosy-lilac, with an indescribably beautiful tracery of bright purple lines. The labellum is of a glowing magenta-purple hue, the outside of the side lobes lilac, with purple veining.

years naturalised in Mauritius, where it was introduced from South America in 1790, and where it took possession of waste lands to such an extent as to lay the foundation of a considerable fibre industry, which was started in Mauritius about twenty years ago, and has grown considerably since. It is also cultivated in India and Ceylon. An interesting account of this industry in Mauritius was published in the *Kew Bulletin* for 1890, p. 98.

epines. The species (this identical plant, no doubt) first flowered at Kew in the Succulent-house in 1860, and as the plant does not flower till it has attained considerable size, the specimen under notice is probably half a century old.

CEREUS TRIANGULARIS.

There were no fewer than thirty-six magnificent flowers expanded one morning this week upon a plant of this night-flowering Cactus in the Succulent-



FIG. 74.—*LELIO-CATTELEYA CLONIA SUPERBA*: ROSY LILAC, LIP PURPLE.

KEW NOTES.

FURCRAEA GIGANTEA.—This plant may now be seen in flower in the Succulent-house at Kew, or rather outside it, the spike having pushed up through the roof to a height of 25 feet. The plant, which has scarcely any stem, consists of a large rosette of about sixty leaves, which are about 5 feet long and 6 inches broad, spineless, bright green, and is a striking object even when out of flower. The spike bears numerous branches of whitish star-shaped flowers, 2 inches across, and drooping. The plant will, of course, perish as the result of flowering. The last time this species flowered at Kew was in 1874. This is one of the most important of fibre-yielding plants. It is known commercially as the Mauritius Hemp-plant, or Green Alocs (*Alcôs vert*), having been many

PITCAIRNIA FERRUGINEA.

There is a large example of this, the largest of all the Pitcairniae, in the Temperate-house at Kew, where the comparatively cool temperature appears to suit it, the head of leaves being fully eight feet through, and perfectly healthy. This year the number of flower-scapes it has produced is larger than usual—they are 6 feet long, branched, clothed all over with a dense rust-like down; the flowers, which are 4 inches long, are at first of a pale steel-blue colour, afterwards changing to white. According to Mr. Baker, this species attains to a height of 12 feet, with a stem as thick as a man's arm. The Kew plant has a stem 6 inches in diameter, and about a dozen branches or rosettes of leaves; these are about a yard long and 2 inches wide, shining green above, whitish beneath, the margins armed with stout

house at Kew. The bright weather we have experienced this year has given us more flowers than usual in the Cactus-house, and if we could be certain of such weather every year Cacti would soon find general favour. *C. triangularis* is one of the oldest of cultivated Cacti, a plant of it being recorded in the Hampton Court garden in 1690. The stems are stouter than those of most of the night-flowering scandent species, distinctly trigonous, and the flowers are a foot across, the narrow reflexed sepals coloured greenish-yellow, and the lacceolate petals milk-white with a large cluster of bright yellow stamens filling the whole cup. The Kew plant is trained along the rafters of an unshaded house of intermediate temperature, but it would be happier if trained against a wall to which its aerial roots might cling.

CATTLEYA ELONGATA (C. ALEXANDRÆ).

This is again in flower at Kew, and again falls short of what we were led to expect when it was first introduced. It has an erect scape 1 foot long, bearing three flowers, each having a pedicel 2 inches long, and measuring 2 inches across the segments. The colour of the sepals and petals is a coppery brown, with a flush of rose about the tips, the lip being deep rose, above which the white top of the column shows conspicuously. In a broad sense, I should say this is a form of *C. guttata*, although for garden purposes it requires to be distinguished on account of the length of the pedicels, the waviness of the petals, and the peculiar colour of the sepals and petals. It grows well when treated as a tropical Orchid. The name preferred here was given to this plant in 1877 by M. Rodrigues [Orchid., Nov. 1, 72, ex *Indice Kewensi*], fifteen years before it was named *C. Alexandræ*, by its introducer, M. Linden.

STANHOPEA HASELOWIANA.

We have had this plant in cultivation three years, thanks to an importation of it by M. Linden, although it was described by Reichenbach forty years ago. It is one of the handsomest and largest-flowered of the many species now known, and it is as easily managed as any of them. The Kew plant is now in flower, filling the warm Orchid-house with a delicious fragrance, and delighting visitors with its extraordinary form and delicate colours. Before the segments curled back each flower was fully 6 inches across, and coloured pale creamy-yellow, with a suspicion of apricot in it, the whole being dotted over with irregular ring-like blotches of lilac-purple. In structure the flower is not unlike *S. Wardi*, from which, however, it differs in having the mesochil, or middle portion of the lip, being unusually long, as well as in being much larger, and different in colour. To those who cultivate this beautiful genus I would recommend *S. HaseLOWIANA* as a plant worth procuring. A figure of it has been prepared for the *Botanical Magazine*. Mr. Rolfe thinks *S. Moliana*, figured in *Lindleya*, v. vii., t. 333, is probably the same species. *W. W., Kew.*

FLORISTS' FLOWERS.

FINISHING THE BLOOMS OF CHRYSANTHEMUMS.

If blooms of the finest exhibition quality are to result, the finishing processes must be closely attended to, or the ten months' labour and anxiety will be thrown away. If suitable accommodation exists this last phase of culture is quite simple, but not so if the houses are unfitted for the proper development of the flowers in the month or six weeks previous to their opening. The worst kind of house is one that is lofty and lacking in light. Such houses are usually much too moist, causing injury to the petals and lengthening of the flower-stalks, with consequent weakness long before the blooms are fully developed. In this kind of house the conditions are such that the buds do not swell satisfactorily. Sometimes a season's labour is thrown away by a single act of carelessness on the part of the gardener or his assistants, or by want of knowledge as to the requirements of the plants at that time.

After the Chrysanthemums are housed and the colour of the florets is visible, developing begins. It should be remembered that buds which have become deformed ever so little cannot become perfect flowers, and it is better to remove them and thus relieve the plant. The blooms that remain will be all the better if the energies of the plant are spent upon two blooms rather than three, which is the usual number allowed to each plant.

It is seldom that a house can be devoted entirely to Chrysanthemums, although it is best if it can be managed. A span-roofed greenhouse affords good accommodation for the plants in the final stage of growth; and in such a house the tints of the blooms ought to be of great excellence, owing to the abundant light and air enjoyed—and it is upon these two points that so much depends in the finishing of the blooms. Generally, Peach-houses or vineries, after the fruit is gathered, are utilised for Chrysanthemums,

and here also the plants obtain sufficient light and air; moreover, the foliage in the case of the Vines is useful as shade for the flowers. The Vines leaves must not be left too thickly on the rods, or epindling will occur. Air must be afforded day and night till the blooms are generally expanding, when some reduction in the amount of air admitted may take place; as at that stage I object to a direct current passing over the plants in such a manner as to cause a draught, the more especially when—as is sometimes the case—the house faces north or east. If the weather is cold, wet, or foggy, use slight artificial heat so as to ensure buoyancy. The air should be admitted freely at the front, and come at the top of the house. Shade of some kind is always necessary while the blooms are expanding to prevent scalding, or as some term it damping, and the shade should be of a temporary character because of the importance of light in dull weather. The plants should not lack manorial assistance, although some growers would have no believe that directly the colour of the florets becomes visible manuring should cease. This is a fallacious practice, the plants requiring feeding as much then as at any time. My practice is to feed the plants until the blooms are three-parts expanded, and then to afford no more. The kind of manure should be varied, and affording strong doses of any one kind is bad for them—weak and often is a much more prudent practice; besides, the same kind of stimulant always afforded, ceases to have any good effect. A return to pure water only for two or three waterings is conducive to success, especially where animal manures have been employed, the clear water acting as a purifier. It is allowed to be more difficult to finish an incurved than a Japanese bloom. If the latter are large in diameter and depth, the petals proportionate in breadth, and the colour rich and clear, and the florets evenly disposed so as to form a perfectly symmetrical flower, everything necessary in a Japanese bloom is attained. But in the incurveds we must not only obtain size, but also depth, and what is perhaps more important, solidity of petals; and blooms which lack any one of these requirements are not perfect. If the diameter of a bloom of any of the "Queen of England" section is 5 inches, and the depth 2 inches, the bloom is not properly developed.

I have, perhaps, entered rather too fully into the requirements of the blooms, and especially those belonging to the incurved section; but having seen so many mistakes made by exhibitors in ignoring essential points, I am impressed with the idea that beginners cannot have the matter placed before them too plainly. There is too much hankering after size in incurved flowers, and beginners sometimes have the idea that early crown buds give the largest blooms—and so they will in diameter, perhaps; but if they are "taken" before the middle of August, the blooms are sure to be rough as well as "thin," and quite useless in competition against flowers that were not taken until somewhere near the 25th of the same month, or the following week. Earlier-formed buds develop florets that are more inclined to reflex than incurve, when this tendency is common. In these cases the opening blooms should be turned upside down by removing the branches from the upright stake, and making the branches equally safe by some other means. In the case of vineries or Peach-houses being employed, I usually tie the branches to the wires, and bend the blooms downwards. In this manner the florets incurve much better than they will do when growing upright. Daily attention is necessary in removing mis-shapen petals, for all the bending in the world will not make all the petals grow towards the centre. If these deformed petals are removed, those of perfect shape will fill their places, and grow evenly, making a perfect bloom. By following the details here given, the work of dressing the blooms is much facilitated when they are cut and ready for the exhibition stand.

Japanese blooms can be much improved whilst opening by the same means. Sometimes, the plants having received a check at the roots in some way or other, development in the flower is retarded; instead

of unfolding evenly and straight, the tips of the florets curl inwards, which is a deformity. A little attention paid to relieving such by the aid of the tweezers, is time well spent. The development of the blooms may be much retarded if insect pests are not well looked after. Earwigs are very troublesome, being partial to the succulent petals, and they will climb almost any height to get at them. Traps made of Bamboo-cane or Bean-stalks 1 foot long, thrust in amongst the leaves, still constitute the most efficacious manner of checking their progress and depredations. *E. Molyneux.*

ORCHIDS IN THEIR HOME.

We disembark, say at Savanilla U.S. of Colombia, or at the mouth of the mighty Rio Magdalena.

The river is navigable for a distance of 600 miles, and under favourable conditions, the voyage will take from nine to ten days, whereas under reversed circumstances it might take fifteen to twenty days. The lower parts do not offer much of interest to the traveller, as the surrounding country is very low and swampy. Indeed, large stretches are inundated, but after a time habitations and small towns begin to appear. Most of the habitations are built of Bamboo and earth; a good many consist simply of a few Bamboo poles secured in the ground, with a few leaves of *Cocos batyracea* tied on for roof and walls. The principal foods are corn, rice, Bananas, and Yuccas. The latter are the tubers of *Manihot utilisima* (known in commerce as Tapioca).

The vegetation on the Lower Magdalena is somewhat monotonous, but, gradually ascending, the number of species increases. The scenery in many places is magnificent; imagine the river banks covered with trees or shrubs of all descriptions, festooned with Vines and climbers down to the water's edge, forming a dense mass, here and there brightened by the presence of lovely flowers and beautifully-coloured birds. Behind this extends a beautiful landscape dotted with Palms, and in the background the blue chains of the Cordilleras, towering one above the other. The collector will feel not a little disappointed by the almost total absence of Orchids along the river, if it be his first trip.

After the terminus of the Lower Magdalena is reached a short railroad takes the traveller to Honda. Here the river forms some mighty rapids, which divide the Magdalena into sections, the Upper and the Lower. From Honda the only means of transportation left the traveller is on mule or horseback. After three or four days' hard riding on a stubborn mule over hot plains, wading rivers, climbing and descending hills, Ibaguè is reached. The latter used to be, and still is, to a certain extent, the centre for *Cattleya Trianai*. However, at present the plants are becoming very scarce there. Ibaguè is situated at the foot of the Tolima, a snowy peak, forming part of the central mountain chain of Colombia, and at an elevation of 4000 feet above sea-level.

WHERE THEY GROW.

One of the most important items to the collector is the finding of a good district, not only where plants are abundant, but also where a good strain of varieties may be obtained. This involves a great many hardships and inconveniences, but it certainly pays, though a good deal of money and time has to be spent before obtaining results. In districts where plants are plentiful and help easily procured, the collecting is, comparatively speaking, a pleasure compared to what the exploring trips are. Before commencing to gather the plants, a good central place must be selected as head-quarters—a place situated, if possible, in the district itself, or in the immediate outskirts, or, in short, in some place from which there is an exit permitting the collector to transport the plants on muleback. By head-quarters I mean a few ranches or tents pitched for the occasion in which to store and dry the plants and make cases, &c. When tents or ranches are ready, men are sent out in different directions in parties of twos and threes, after previously being shown what and how to collect. They carry provisions to last them sometimes for two weeks. They bury themselves in the mountains, ready to destroy anything in their way

bearing an Orchid. Whenever a plant is detected, the tree is cut down and the plant torn off from the trunk or the branches. The plants are packed in string bags, and carried down to the ranch. The vegetation is most exuberant in the Cordillera mountains, with their spurs and hills; rivers and streams, forming valleys and gullies, hollows and precipices impossible to describe or imitate; and in these secluded localities it is where the Orchida luxuriate, and where they display their magnificent flowers to the best advantage, inviting the collector to come and pick them, yet oftentimes defying every attempt to capture them. If the collector is a lover of plants, he will here see Nature in all its marvellous beauty. For a moment or two he is likely to forget himself, forget all hardships and worries, while a feeling of enthusiasm steals over him, leaving an impression which he will not soon forget. *J. E. Lager, in "American Gardening."*

(To be continued.)

PEA TRIALS IN LINCOLNSHIRE.

WHEN at Boston about the middle of July, I had an opportunity of seeing a large and very successful trial of Peas in the seed-trial grounds of Messrs. W. W. Johnson & Sons, seed merchants of that town. Mr. Alfred Johnson had spared no pains in getting together all the new varieties he could obtain; the seeds of which were sown in good ground. Every trial sample was staked, and all that good cultivation could do was done to ensure a complete test. To add to the success of the trial, the weather had proved highly favourable. For while the southern midlands, London, and districts stretching to the sea had felt the drought severely, most refreshing rain-showers had visited the Boston district; and while the pasture in the South was brown, in this portion of Lincolnshire it was living green. Peas had, therefore, done well, they had made a healthy clean growth, and developed fine well-filled pods.

Taking the earliest varieties, William Hurst and English Wonder (Barbury) led the way. The earliness, dwarfness, cropping qualities, and good character of William Hurst are well known; not so in the case of English Wonder, a dwarf early wrinkled variety, with dark green pods which fill well, the pods being a little pointed. I have heard this Pea so well spoken of in different parts of the country, that I am gratified to have my own high opinion of it confirmed; it is an excellent Pea for small gardens. Sutton's AI, an early indented variety, will be found very serviceable to those who prefer an early crop of the Ringleader type. But a coming early Pea will be found in Sutton's Seedling, a dwarf, first early, wrinkled variety, growing strongly in the fertile Lincolnshire loam, and not exceeding a foot in height, the pods pale green in colour, a little pointed, and well filled with fine Peas. As it was sent out only in the present year, it may not be widely known, but visitors to the Temple Show had an opportunity of seeing bearing plants of this Pea in pots. Sutton's Favourite Marrowfat, new in the present year, was doing well also, a wrinkled marrow, producing pale-coloured, broad square-tipped pods, well filled, the plants bearing freely, height 20 inches or so. Chelsea Gam was here also, closely resembling William Hurst, from which it is a supposed selection, but with pods more scimitar-shaped. Daisy, growing here to the height of 2 feet, is an excellent garden Pea to produce an early crop, it bears large full-pointed pods, and it is an excellent cropper, and valuable for small gardens. Witham Wonder, appeared to be a curved-podded variety of the English Wonder. Stanley (Horsford) is a promising Pea, a little taller in growth than Sutton's Seedling, producing large full-curved whitish pods, and an excellent cropper; like the preceding, a very useful variety for small gardens. Plentiful has all the character of a green form of Day's Sunrise, growing to a height of 2½ feet, coming in after William 1st, a rare cropper, producing straight well-filled pods, to all appearance a very prolific and hardy Pea for market gardens. Gradus, announced as a large-podded first early wrinkled variety, produces fine-pointed pods of the character

of those of Duke of Albany, but the work of selection is by no means complete, judging from what was seen at Boston. But with rigid selecting, a very good type of early Pea is likely to be produced; in height it is about 2 feet. May Queen, sent out by Messrs. Sutton & Sons as a first early wrinkled variety, as early as American Wonder, is one of the earliest in flowering and podding, and produces a fairly good crop of medium-sized pale pods. Here it was about 18 inches in height; it is an early variety well worthy a trial. A green form of Earliest of All does well in the sandy soil of Lincolnshire, and is considered valuable for market purposes. Sutton's Bountiful is a fine Pea, bearing pods somewhat curved at the points; it is in the way of Gladiator, but much earlier. Sutton's A 1 Marrowfat, which follows their May Queen in bearing, is a first-class Pea, having well-filled pods of good size; it should be noted as a valuable garden variety, at Boston it was from 2½ to 3 feet in height. Sutton's Empress of India is like the foregoing, a valuable garden Pea, it has large well-filled pods of the Duke of Albany type, somewhat pointed, a variety which appears to be becoming very popular in the country, height 3½ feet; it comes into bearing directly after William 1st. Oracle (Laxton), sent out as a main crop variety, produces very fine green pods and foliage; the dry seed a blue round, somewhat wrinkled; a second early of a fine robust growth—the pods containing on an average ten Peas. This a variety that appears to suit Lincolnshire well, and it grows to a height of 2½ feet. Gladiator may be described as in the way of Telegraph, but earlier, pods large and curved, 2½ feet. The foregoing may be said to form the section of first and second early varieties.

Among the main crop Peas, Laxton's Alderman must find a place; it grows to the height of 5 feet, and produces handsome large green pods, like those of Duke of Albany; and whether employed for garden or exhibition purposes, will be greatly esteemed.

Eckford's Critic, grows to about the same height, and produces very fine blunt tipped pods, and as seen here well deserved the three marks given to it in the Chiswick trials. Sutton's Royal Jubilee is a very fine late Pea, probably one of the latest, bearing large scimitar-shaped pods, 3 feet in height, very robust in growth. It may be described as a late Windsor Castle—it appears to be a Pea with a great future before it. Duke of York has appearance of being a selection from Duke of Albany, but earlier, and likely to be very useful. Censor (Eckford), is a Pea growing to the height of 2½ feet, having fine full dark green pods, slightly incurved, certainly a very fine garden variety. Yorkshire Hero was also here represented by a very fine stock, and still holds its own despite rivalry. Sharpe's Queen is a very robust grower, about 3 feet in height, pods large, green, slightly curved, a great cropper of a fine quality; apparently of somewhat delicate constitution, as it is subject to mildew. Sutton's Perfection Marrowfat appears to resemble the foregoing in many respects, but to all appearance a more robust grower. President Garfield is a Pea said to be difficult to keep true; it is of the same style and quality as Prince of Wales, but the seed is larger and more wrinkled. Prince of Wales is an old Pea of good quality, but needs improving by means of rigid selection; it is in considerable demand in some parts of the country. Consummate (Eckford), is very like Sharpe's Queen in height and general appearance. Satisfaction, in height 2½ to 3 feet, bears very fine and well filled pointed pods, and is said to be of excellent quality. Dr. Maclean, a fine old variety in considerable demand in the West of England, was also here in excellent character; and Veitch's Perfection, still a fine old garden Pea, was represented by a very fine true stock which crops wonderfully well, and which yet remains one of the most useful garden Peas. Invincible (Johnson), is a blue wrinkled variety, 3½ feet in height, bearing freely, very fine, slightly curved pods, the quality high. Autocrat is a most valuable late Pea, with medium-sized dark well-filled pods; a dwarf Ne Plus Ultra, height 3½ feet—it is ex-

cellent for shewing at late exhibitions. Sutton's Dwarf Mammoth Marrowfat is a very fine garden Pea, producing immense slightly-curved pods, extra fine for exhibition, height 3 feet. Sutton's Conqueror bears large white pods which curve back a little at the points, and the pods are apt to be a little indented; a very fine variety, in height 3 feet—a new Pea of the present year. Sutton's Late Queen is also new of the present year, pod the shape of that of Ne Plus Ultra, a little paler in colour, a robust grower and free cropper, and a fine garden variety, 3 feet. A Pea of unusual excellence is found in Johnson's Unrivalled, a dwarf and prolific wrinkled Marrow, somewhat of the character of Telephone, with large bright green pods, averaging ten Peas in a pod; height 4 feet—a fine and robust garden variety. A variety named George Clelland is a robust grower, with dark foliage, long deep green pointed pods of the Queen type, very promising; the plants were from a late sown sample introduced from America. Sutton's Windsor Castle appears like a selection made from their Royal Jubilee on account of its lateness; of robust growth, free cropping, large pointed, well-filled pods, very prolific, an excellent garden variety, height 3½ feet.

Of the taller section, Eckford's Epicure is an illustration, growing to the height of 6 feet, large, slightly curved Telephone pods, and a great cropper. Boston Hero, also 6 feet, is said to be the result of a cross between Duke of Albany and John Bull, and in Lincolnshire it requires to be grown in a rather dry, shallow soil; in a generous one, it goes very much to haulm—it is a very free bearer. Wem (Eckford) is a very tall grower in Lincolnshire, producing very large whitish pods of excellent quality in the seeds; it is a free cropper. Memorial (Eckford) is a deep green wrinkled Marrow, growing quite tall, with very long, slightly-pointed pods, promising to be very fine for exhibition.

In the next group appeared Telegraph, represented by a very fine stock, a variety in great demand in Yorkshire; a Leeds seedsman informed me that he sold more of this than of any other variety. Goliath appears to be a round-seeded form of Telephone, and yet distinct from Telegraph. Harrison's Glory and Bedman's Imperial represent two varieties largely grown for cooking purposes in winter; both were fully podded. Day's Commander appears to be King of the Marrows; Ambassador, a pointed-podded Ne Plus Ultra; Goldfinder, a very fine stock of Ne Plus Ultra, as it is exactly like it. Duke of Albany, one of the Peas most generally grown, was very fine here.

I had opportunities of seeing some of these Peas growing in large breadths in open fields, where, they were, of course, not staked. Here Sutton's Bountiful was very fine, apparently ready to gather four or five days after Earliest of All; a fine market variety. English Wonder was really superb in the open, as early as any variety, green in foliage and pods—literally a mass of well-filled pods. So prolific is it, that I was informed a short time ago by Mr. J. Perkins, of Northampton, that he had harvested 5½ bushels of seed from 1 gallon of seed—a return of over 44 fold. Sutton's Early Marrowfat is also a very fine market Pea, bearing heavily. Sutton's Dwarf Mammoth Marrowfat may be regarded as an improvement of Stratagem; on an extensive plantation the individuals were found to be bearing large, well-filled pods in pairs. Windsor Castle is also a fine field Pea; the same may be said of Invincible. Market gardeners should keep an eye on both of these. Sutton's Exhibition Marrowfat under field culture produces large curved pods, and is a great cropper—a fine variety for late exhibitions; height, 3½ feet. Duke of York (Cooper, Taber & Co) seemed better under field culture than when staked; it was producing a wonderful crop of fine pods. Superabundant (Eckford) was very fine under field culture; it is a flat-podded variety, and very prolific. Sutton's Magnum Bonum Marrowfat, which grows to a height of 3 feet, is a grand cropper, producing very fine pale-green pods, slightly curved. Gradus (Harrison & Sons) was in the field as early as Earliest of All; it bears pointed

Pods, is a great cropper, and excellent for field culture. Sutton's Royal Jubilee is a vigorous grower and heavy cropper under field culture. Critic and Censor were also very good.

That it may be fairly said we have too many Peas, there can be no doubt. Messrs. Hurst & Sons' catalogue for the present year contains 122 names, and of these a few may be accepted as synonyms; perhaps the growth in numbers is not very remarkable after all, for their catalogue issued in 1852 contained forty-nine varieties. It is perhaps well to have an ample choice to meet individual tastes, and adapted to certain localities; still there is an amount of bewilderment in the contemplation of so many, and the differences between some are only very slight. Perhaps the old adage, that it is possible to have too much of a good thing, may be accepted in the case of Peas; and it does appear as if the list is likely to be extended rather than reduced. Certain it is, that no one who values Peas as a cooked vegetable can fail to have his taste gratified among so many claimants to his favour. *R. D.*

BERLIN.

CYPRIPEDIUM Charlesworthii is one of the best *Cypripediums* of its class, as was shown here at the last meeting of the Horticultural Society, by Mr. Lackner, of Steglitz, near Berlin. Young plants imported in 1894 were beset thickly with flowers; a good many of them bore two flowers upon one stalk. There were two forms, one with the upper sepal folded backwards, thus resembling *C. Spicerianum*; the other one with this petal quite flat. In the large collection exhibited there were differently coloured forms: the most interesting one, an imported plant of this year, had a dark red petal. *Vanda Kimballiana* is also a fine plant when in flower. Mr. Lackner exhibited more than 100 plants, all flowering at once—indeed, a fairy-like picture. The cut flowers of this, as well as of the *Cypripedium*, keep fresh in water for over three weeks, whilst they last upon the plant for from two to three months.

A very fine new *Dahlia* of the Juarezi group, the colour of "La Reine Rose," won a First-class Certificate from the Horticultural Society. The grower was Mr. Schwiglewski, of Carow, near Berlin.

Helianthus rigidus (?) is a giant among Sunflowers. A flower-stalk of 4 mètres 35 centimètres (about 14 feet), was exhibited at the last meeting.

A large International Horticultural Exhibition will be held at Berlin in the spring of 1897, when the Horticultural Society will celebrate its seventy-fifth birthday. The Society has granted 50,000 marks for medals, &c. A new feature at this exhibition will be a section for amateurs. It is proposed that only such amateurs as grow their plants without any help from a gardener shall be allowed to exhibit in this section. Another clause runs thus, that only such plants shall obtain a prize as have been cultivated by the exhibitor for at least one year. Of late years it has been observed more and more here, that the highest prizes are taken not by such gardeners as cultivate the best plants, but by those who have the most money, and can therefore buy up the most and best plants. The amateur section of the Horticultural Society thinks that this is wrong, and therefore has framed the above clause, which will bring the prizes within the reach of the best growers.

PALMS IN LIVING-ROOMS.

Some good Palms for living-rooms are the following, judging by those in my collection; *Elais guineensis*, the West African oil Palm; it grows thus very well, almost better than in a nursery. *Pinanga javanica*: this highly interesting Palm is somewhat difficult to root. I potted my plant in a large pot, containing saw-dust, so that the earth maintained a more equable temperature; since then the plant has grown rapidly. The leaves are reddish when young, and afterwards become bright green. *Chamædorea corallina* needs time before it can

accommodate itself to the dry air of a living-room, as the older leaves are apt to turn black; but once acclimated, it grows rapidly. A very fine Palm, which is quite hardy, is *Martinezia caryotifolia*; it grows very well. One of the most rapid growers is *Wallichia caryotoidea*, of which I have young plants about a year old and a foot high; they have from five to six leaves. My *Phoenix humilis* is a most delicate plant; it is like *Cocos plumosa* in habit, but of as graceful form as *Cocos Weddelliana*. This latter gave me much trouble at first, until I learned that the plant disliked much water. It became yellow when I watered it too much; it is now turning dark green, since it has received as little water as possible. The *Cocos Datil*, on the contrary, cannot get water enough; indeed, it is a plant which grows best in a swamp. Here it in a short time attains immense dimensions; my specimen, one and a half year old, is about 1 mètre (3 feet) high. A somewhat more difficult plant to grow is *Areca rubra*. I had two large specimens, one more than 6 feet high. Both died without my being able to tell why. Now I am experimenting with a young plant about a foot high; this is doing very well. A very hardy and fine Palm is *Hyophorbe Verchaffeltii*. Very variable plants are the *Chamærops humilis*. I have three large specimens, but all three are so different one from the other, that they might well belong to three distinct species. My collection of Palms, containing some thirty species, and about sixty or seventy specimens, gives me much pleasure, as I grow the plants from seed. The plants are accustomed from the first to the dry air of a room, and many a species, cultivated in the hot-house in nurseries, grows well in my rooms without any other attention than a protecting pot containing saw-dust—for, as I have found, the roots are the weakest organs of the Palms.

Ageratum mexicanum flore roseo: this long-desired variety, with pure rose-coloured flowers, was exhibited by F. C. Schmidt at Erfurt; the new variety will certainly become popular in gardens. *Pueraria Thunbergiana* is a leguminous climber from Japan; its habit resembles a giant Bean, and in foliage also. The flowers, crimson-red, are set on long, straight spikes, which appear on the outmost apex of the plant. The plant is perennial, quite hardy here at Berlin. Its greatest merit is, that it grows rapidly; a two-year-old plant in the nursery of Mr. Späth, at Rixdorf, near Berlin, who imported the seeds from Japan, measures now about 12 mètres (about 36 feet). *Amaryllis Belladonna* does not thrive when grown in pots. A very fine plant, with over a dozen flowers, was exhibited by the gardener of the famous Wörlitz Park, near Dessau, at the last meeting of the Horticultural Society at Berlin. It is hardy at Wörlitz, where it grows best in warm, sunny borders near walls; here at Berlin it is necessary to protect the plant during the winter. *Paulownia imperialis*, which here must be protected during the winter each year, and which, notwithstanding, often dies, is best grown as an undershrub. If the plant is cut down yearly in the autumn to a foot high, and then protected, it sends up in the spring a great many shoots, the tallest of which reach a height of more than 4 mètres (13 feet). Treated thus, the plants form bushes of unrivalled beauty. *U. D.*

ORCHID NOTES AND GLEANINGS.

EPIDENDRUM GODSEFFIANUM.

This is perhaps the most handsome of its section, and well away from the merely botanical class of *Epidendrum*, its tall branched spikes of large yellow-ground coloured flowers, veined with purplish-brown, and with ample white lip veined with bright purple, making it a really handsome species. As its flowers endure for a very long period of time, it is a very desirable plant. It was imported by Messrs. F. Sander & Co., of St. Albans, with the true *Cattleya labiata*, and named in honour of the manager of the St. Albans Orchid nursery.

A very fine form of it is flowering with C. J.

Lucas, Esq., Warnham Court, Horsham (gr., Mr. Duncan).

CYMBIDIUM GIGANTEUM.

Although one of the earliest-known species, and one which has been represented in collections for over sixty years, this fine species has become rare, although it has much grace and beauty. A very fine variety, having long sprays of flowers, in colour yellowish, closely striped with purple, and with bright yellow lip spotted at the base with purple, and at the apex with brownish-red, is in flower at Sunningdale Park gardens. The plant is one of a small collection brought by Mr. Joicey, jun., from the Himalayas.

SOBRALIA LINDENI.

Under this name a few fresh imported tufts of *Sobralia* were sold by Messrs. Linden, of Brussels, at Messrs. Protheroe & Morris' Rooms in Cheapside, on September 12, 1893. A flower from a specimen then purchased is kindly forwarded by C. J. Lucas, Esq., Warnham Court, Horsham, and, as Mr. Lucas says, it certainly a most charming species. The flower is large, the sepals and petals of a delicate bluish-white, and the lip is also bluish-white on the basal half, but the front portion is of a rich deep crimson-purple, shading off into a nearly blue tint towards the margin. This finely-coloured area is traversed by well-defined branching white lines, which make it a very distinct feature. At a distance the flower resembles a light form of *Cattleya Luddemanniana*.

THE PUBLIC PARK AT DARLINGTON.

Most large towns are now in possession of public parks and flower-gardens, but few possess one which has so many charming features as Darlington in its situation and surroundings. It is distant but 1 mile from the centre of this fine old town, which, among other things, is celebrated for its connection with George Stephenson, of railway fame, and contains in the railway station the redoubtable No. 1 engine and tender by which the first railway journey was made. Darlington was honoured this year by a visit of the Royal Agricultural Society of England, and the many visitors to the town which this visit occasioned were drawn to the public park, whose excellent keeping and numerous fine features came in for well-deserved eulogy. The approach to the chief entrance to the park on the town side is a broad, well-kept road, bounded on the right by the river Skearn and the public gymnasium; on the left, by a row of villas, having well-kept front gardens. The park, together with the lake, has an area of 46 acres, and entrance is made to the park through ornamental gates of iron, having lodges at the sides, and a broad road with an avenue of promising Lime-trees that were planted fifteen years ago when the park was enclosed by the corporation of the town. Since that time, much work in laying-out, tree-planting, and otherwise improving the park, has been carried out by Mr. James Morrison, the superintendent.

The natural undulation of the ground lends itself well to the methods of planting and bedding-out which are adopted, there being no elaborate geometrical design of flower beds, but something fresh and novel takes the eye at every turn. The pavilion and superintendent's house are beautifully situated on the terrace; on the grass slope below the terrace and in front of the pavilion, are five designs in carpet bedding; the centre bed of the five being a large circle, carefully planted, so as to represent the arms of the borough of Darlington, surmounted by a naked arm holding a pickaxe; below this the No. 1 engine, with two trucks, and the hales of wool, and the head of a bull; on the quarter surrounding the arms the words "Insignia Burgi de Darlington;" and below is the motto on a scroll, "Floreat Industria." The groundwork consists of *Antennaria tomentosa*; the engine and bull's head are worked out with the dark-leaved *Ajuga reptans*, the letters and woolpacks with golden-leaved *Pyrethrum*, and a bordering of a dark blue *Lobelia erinus*. The two

beds which are on either side of the borough arms, represent eight rayed stars, outlined with *Echeveria glauca*, the centre of one of them containing a representation of the royal crown, in *Pyrethrum*, on a groundwork of *Herniaria glabra*, the jewels being represented by crimson and blue flowers; the other bed is planted so as to represent the crest of the Prince of Wales, the feathers being worked out with *Mesembryanthemum cordifolium variegatum* and *Pyrethrum*, and the motto, "Ich Dien," is shown on a groundwork of dark green. The beds at each end are circular, and are surmounted by a crown; in the centre of the circle are the letters R. A. S. E., the monogram of the Royal Agricultural Society of England. This is enclosed by a Garter, bearing the motto of the Society, "Practice with Science;" and below each bed, on a scroll, are the words, "Welcome to the Royal." [The Darling-

edging of *Cerastium*, and dotted with *Dactylis glomerata*. A bed of golden *Pelargoniums*, Harry Hieover, with a broad band of *Viola Mulberry Queen*, dotted over with *Lilium auratum*; a bed of mixed single-flowering tuberous *Begonias*, dotted with *Hydraagea paniculata*, was good. In another, silver and green-leaved *Pelargoniums* were planted together; in another *Love Lies Bleeding* was intermixed with blue-flowered *Lobelia* and *Dracæna indivisa*.

As will be imagined by the reader, the talent of the superintendent in devising pleasing mixtures of flower-beds is of no mean order, and I could very considerably lengthen my list of combinations, did it appear desirable to do so. The *Pentstemon* finds abundant use in the park, mixed with *Violas* and *Musk*, &c. *Lilium longiflorum* var. *Harrisii*, *Dahlias*, *Gladiolus*, *Enlalia gracillima*, and *Ficus elastica* are

viz., *Abies concolor*, *Thujaopsia dolabrata*, *Tunga canadensis*, *Cupressus Lawsoniana variegata*, &c. A large lake for skating and boating is supplied by water from the river Skearn.

The lake is furnished with several islets, grottos, and waterfalls. The shrubs and trees with which the isles are planted consist of golden-leaved *Elder* and *Willow*, the latter having leaves of light green tint, and the whole contrasts well with the surrounding trees. Some old *Willow* trees of large size growing near the lake contribute greatly to the general good effect seen in this part of the park. For the amusement of the public, boats are placed in the lake, and bowling, croquet, and lawn-tennis grounds have been laid out. Some useful span-roofed houses stand in the garden, together with cold frames, and pits for the propagation of the great number of plants that are required for the beds and borders. *Spergula arvensis aurea*, a small yellow-foilage plant suitable for carpet bedding, has been largely increased for use another season, and a large stock of *Viola Countess of Hopetoun* is in course of preparation. B. W.

VEITCH'S SCARLET MODEL CARROT.

This new variety of Early Horn Carrot, shown in our illustration (fig. 75), belongs to the stamp-rooted class, of which *Nantes* and *Carentan* are good types of late varieties. In this class the root has an almost equal diameter at top as at bottom, and there is, therefore, less of the central watery portion. The variety is well adapted for hotbed and early out-of-doors sowings, coming quickly into use. When full-grown it makes an excellent exhibition specimen-root, as was well observed at the vegetable show at Chiswick on September 5 last, in roots grown by Messrs. R. Veitch & Son of Exeter.

PLANT NOTES.

LYGODIUMS AS ROOF AND PILLAR PLANTS.

THESE plants are especially adapted for covering roofs and pillars in glasshouses. They are evergreen stove or warm-house plants, and in most cases the stems are better left until they turn brown, but in the case of *L. japonicum*, it will be found best to train up fresh foliage each year, entirely removing the old stems. The compost should be a rich one, as they are vigorous-rooting plants, and when the soil becomes filled with roots, they will be benefited by liberal applications of liquid-manure. The species best known, and most useful in our gardens are *L. japonicum*, a native of the tropics of the Old World, and a very elegant light-growing plant, the lower fronds upon its stems being barren and less divided in the segments than are the upper and fertile ones. For covering the roof or a back wall, this is perhaps the best.

L. dichotomum is of a much more robust habit, producing a profusion of dark green foliage, the stems of which are much stronger, and last in good condition for two or three years; this is a native of Tropical Asia. *L. venustum*, introduced about 1850 from the West Indies, &c., is a most desirable plant. The hardiest species is *L. palmatum*, a native of the United States of America, a rather small but useful pot plant, with small four to six-lobed palmate pinnules; the fertile pinnules are much divided, and give the plant a distinct appearance. Other species less often observed in gardens are *L. pinnatifidum*, *L. articulatum*, a New Zealand plant forming a good stage plant, and *L. reticulatum* from the Polynesian Isles. In some cases these plants will not take kindly to the division of their rhizomes for propagation, but remain stationary after the performance, but ultimately start into growth. Where spores can be obtained (and they are freely produced upon some species), they should be utilised for their increase. R. L. Harrow.

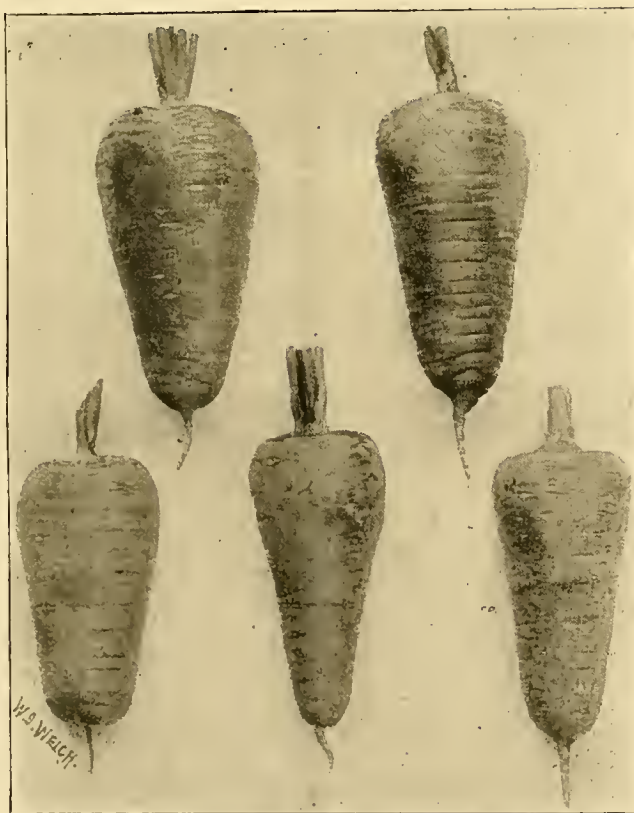


FIG. 75.—CARROT, SCARLET MODEL.

ton people will not be long before they recognise the incongruousness of such decorations. Ed.]

On the terrace were some good examples of bedding, in which the blaze of scarlets, pinks, and other colours was toned down by dot plants of a graceful character. *Pelargoniums*, at the time of my visit, were in good bloom, better than I had seen them at places further south. Some fine beds consisted of blue and white *Lobelias*, with *Harrison's Musk* as groundwork, the latter just showing through the *Lobelia*, the bed being thinly dotted with small plants of *Grevillea robusta*. One good bed was planted with *West Brighton Gem Pelargonium* and dark *Heliotrope Garibaldi*; another had *Pelargonium John Gibbons*, dotted with *Abutilon Thompsoni variegata*. Other beds consisted of *Henri Jacoby Pelargonium*, with thin lines of the variegated *Grass*, *Dactylis glomerata*, planted diagonally across the beds. Some raised beds were edged with *Echeveria secunda glauca*, and planted with blue and white *Lobelia* and *Love Lies Bleeding*. Another bed had a filling of *West Brighton Gem*, and an

much employed, and the usual class of subtropical plants lend grace and beauty of leaf to the more sheltered parts of the ground. *Roses* are in excellent condition here, and although the plants were cut down to the snow-line by frost last winter, very few were lost, and they have since made vigorous growth and flowered well. Many of the best varieties are to be found here, and the soil appears to be very suitable for the *Rose*, as well as for *Gladiolus Brencleyensis*, the latter being planted early in the spring between the *Roses*, so that a bright mass of colour is obtained in the beds when the *Roses* are past. Many of the spikes had three and four branches. The herbaceous border occupies a good position between a large tennis-court and a bowling-green, and is 30 feet wide, and 200 feet long. The plants with which it is planted seem very well chosen, and consisted chiefly of *Pæonies*, *Poppies*, *Delphiniums*, *Phloxes* and *Helianthus*; *Cactus* and other varieties of *Dahlias* being planted amongst the perennials for affording an autumn display. In a small arboretum near the band stand, are nice specimens of *Conifers*,

DUNEDIN, STREATHAM HILL.

THE residence of N. Sherwood, Esq., head of the well-known firm of Huret & Son, seed merchants of Houndditch, London, is a model of a pleasant retreat within easy distance of the City, and around it the gardens are in keeping with the comfortable dwelling. Within their moderate limits something of every branch of horticulture is done in a creditable manner, the whole forming a pretty and interesting example of what may be accomplished in the space usually allotted to the suburban garden. Adjoining the house is an ornamental octagonal structure, whose interior is converted into a beautiful rockery planted with Ferns, and over which a miniature waterfall runs into an ornamental basin beneath. A pleasing feature in the rockery is that no crude imitation of nature is attempted, such as one often sees in rockeries under glass, and which seems altogether out of place under a roof; but, rather is the rock of the stalactite cave imitated, and that, too, with happy effect. From the terrace outside the Fernery the eye takes in the smooth well-kept lawn, bounded on each hand by borders, etill gay with flowers, and especially with the late-flowering annuals, which also make such a fine show among the Gladiolus in the garden at the end of the lawn; and through which runs an arched path, clad with Roses and climbers, having fragrant flowers. Striking objects on each side of the lawn are clumps of Rhododendrons, large Arancaria imbricata, Cedar of Lebanon, and other trees, all of which have been planted with a view to effect. The show of flowers in the open garden may now be quickly terminated at any time, and then the beauties of the stately trees and ornamental shrubs will become more visible.

Of chids of the showier species have for a considerable time been grown at Dunedin with success, so far as the cool-house species, which are most liked by Mr. Sherwood, are concerned, and the success is in a great measure due to the suitable house provided for them. The ground beneath the plant-stages not taken up by the rain-water tanks is planted with Ferns, foliage Begonias, &c., the foliage reaching up to the staging which runs on each side, and over the edge of which depends *Isolepis gracilis*, mingled with Maidenhair Ferns. Such an arrangement is not only beneficial to the plants, but makes a pretty feature in the house. The bulk of the plants consist of *Odontoglossum crispum*, which, judging by their stout, plump pseudo-bulbs and the many robust flower-spikes, show the correctness of the treatment afforded by Mr. Jones, the gardener. Here, too, the *Masdevallias*, *Ocicidium mecranthum*, *Odontoglossum Edwardi*, and others of that class thrive, and are at the present time sending up flower-spikes; and a row of *Sophrontia grandiflora* represents that pretty cool-house plant at its best.

At one end of the house are several strong plants of *Ceogyne corrugata*, which thrive here, and bloom profusely grown with the *Odontoglossums*. In many places where it is grown in warmer houses, the plant does not flower, and in some cases soon perishes. Among others, *Masdevallia bella* and *Odontoglossum grande* are in bloom, and many others well advanced in bud. Near the cool house is a small, rock-lined, unheated nook filled with very fresh-looking specimens of *Todea superba*, *Todea pellucida*, &c.

At the end of the Cattleya-house is a group of *Dendrobium formosum giganteum*, *D. Phalenopsis Schroderianum*, *Cattleya maxima*, *Ocicidium Jonesianum*, and other showy species; and in the small warm-house beyond, *Dendrobium Johnsoniæ* and other hot-house *Dendrobiums* are thriving. The Cattleyas are the least satisfactory, probably owing to a difficulty in applying bottom ventilation on one side of the house, but to obviate which an attempt is being made. In this house variegated *Panicum* and *Pellionias* trail over the stages with pleasing effect.

In another little house, a batch of *Miltonia vexillaria*, *Ceogyne cristata*, and the *Cypripediums* are

doing well. Then follow a house of *Cyclamens*, *Primulas*, and *Bouvardias*, and a very pretty rock-house planted with Ferns, foliage *Begonias*, and other ornamental plants, and with the trailing *Ficus stipularis* clinging to the rock; and at the end a Fern-house is reached, in which the different varieties of *Gymnogramma* are truly magnificent, the large specimens of gold and silver varieties being specially beautiful. The *Adiantums*, too, are good, as also fine plants of *A. Farleyense* and other Ferns, which are arranged with the *Gymnogrammas*.

FRUIT REGISTER.

THE STRAWBERRY-RASPBERRY.

THIS magnificent fruit is one not generally known; it is a native of Japan, and is known botanically as *Rubus sorbifolius* [= *rosæfolius*?]. In manner of growth, it is somewhat similar to our common Raspberries. The young plants commence bearing when only about 2 inches high, and full-grown bushes yield heavy crops of fruit. The leaves of this plant are somewhat like a Rose bush. The fruit is of large size, a brilliant red colour, and very deliciously flavoured; it resembles a huge Strawberry very much, and hence the name, Strawberry-Raspberry.

Being such a fine fruit, and so different from all other kinds, it will be widely cultivated when better known. It can no doubt be used for every purpose that our Strawberries and Raspberries are put to. In regard to hardiness, I believe it will succeed over a wide range of country. *S. L. Watkins, Grizzly Flats, California*, in "*Canadian Horticulturist*."

THE WEEK'S WORK.

THE FLOWER GARDEN.

By BAILEY WADDS, Gardener, Birdsall Gardens, Fork.

CLIMBING PLANTS.—Those that are planted against walls, pillars, or on rustic-work of any kind, and which have grown strongly, should have the strong shoots thinned out, and then be nailed or otherwise secured. Most persons prefer a free mode of securing climbing plants, so that their natural habit is not overmuch constrained, and any severe cutting-back at this season should be avoided, especially of those which are evergreen.

IVY.—This, if of rampant habit, should have all the shoots that are not clinging fast to whatever they are growing against, removed, but on no account should the foliage generally be cut off at this time of the year. The planting of Ivy wherever it is required may now be done, and beyond the necessary securing of the plants quite close to the wall, &c., after the soil has sunk, not much further training is called for, it being better for the young plants to get strong at the base, and form a good foundation of young shoots that will cling to the wall of themselves. Edgings of Ivy will, after a few years, become weedy, and impossible to clean. In such case, it is the best practice to take up the plants of which the edgings consist, dig the ground, adding new soil and leaf-mould, and planting it with young plants.

AMPELOPSIS QUINQUEFOLIA, and other species that have grown out away from the wall, should have the shoots thinned where growing too thickly and heavily. The shoots themselves have a graceful appearance when the foliage has fallen, but care should be taken to make them secure against the wind.

JASMINES.—The evergreen species should be thinned, and treated in the same manner as *Ampelopsis* for the present. *Jasminum nudiflorum* is now generally coming into bloom, and the shoots should be left in the way they have grown till flowering is past.

CLEMATIS FLAMULA (Virgin's Bower), and *C. vitalba* (Traveller's Joy), should be left for the present in their wild beauty, also the hybrid garden varieties, although these last will require to be made secure against the wind. Most of them are secure enough if there be anything to which the shoots and tendrils can cling to or twine around. This year the *Clematites*, &c., have grown and bloomed luxuriantly. *Chimonanthus fragrans*, *Choisya ternata*, *Cotoneaster microphylla*, *C. Simonsi*, *Cratægnæ*

pyracantha, *Cydonia japonica*, *C. Manlei*, *Elaeagnus reflexa*, *Eucallonia macrantha*, *Garrya elliptica*, and the various species of *Lonicera* may now be planted, care being taken to have the drainage made good. Fibry half-rotted loamy leaf-mould and rotten manure make a compost for these plants, which affords them a good start.

RHODODENDRONS.—The present is a good time to make new beds of peat or light fibry-loamy soil for these plants. The soil, if it must be excavated, should not be less than 2 feet in depth, and the sub-soil if not naturally drained must be artificially denuded of its moisture. If lime be present in the staple, every means must be adopted to keep the water from it getting into the peat. In some districts a mixture of peat, leaf-mould, loam, and burnt refuse will grow these plants satisfactorily, as also *Pontica*, Ghent, and mollia *Azaleæ*. *Kalmias*, *Andromedas*, *Ericas*, *Gaultherias*, *Menziesias*, &c., although a peaty soil is best. Provided these plants are well furnished with root-masses, the planting may proceed in mild weather till the end of November. The present season will be favourable for obtaining plants with well-matured wood and plenteous flower-buds.

THE ORCHID HOUSES.

By W. H. WHITE, Orchid Grower, Burford, Dorking.

CATTLEYAS GIGAS AND DOWIANA AUREA.—

Owing to the large consignments of *Cattleya gigas*, *C. Dowiana aurea* and its variety *chrysofoxa*, that reach us at this season, the excellent condition in which they arrive, and from the fact that they may be purchased for low prices, many new growers may attempt their cultivation, and to such a few hints on their management may be useful. Immediately they are bought, carefully sponge them with tepid rain-water, and thoroughly examine every bulb for the *Cattleya-fly*. The pest may be found in the deformed pseudo-bulbs, or if a small round hole be observed in any part of the bulbs, its existence is proved. Sometimes these insects appear in the new growths when they are only a few inches high; the growths then commence to swell at the base and to gradually taper off thinly at the top, and make but little further progress. When the plants are so affected the young growths should be cut off and burnt immediately. If once the flies are allowed sufficient time to establish themselves in the house, it is impossible to eradicate them before much damage has been done, and perhaps many valuable plants irretrievably ruined. After the imported plants have been well cleaned they should be placed singly in the smallest pots possible—just large enough to allow for one season's growth. The pots should be nearly filled with rough drainage material, then hold the plant a trifle above the rim of the pot and fill up to the rhizome with smaller crocks, and steady the plants if necessary by tying the pseudo-bulbs to neat stakes, but use no moss or peat. The crocks in which the plants are placed should for a time be very sparingly watered. This being the season in which the plants make most roots, these will soon commence to push out from the last-made pseudo-bulbs, when the plants may then be supplied with peat and sphagnum-moss in equal parts. This should be packed firmly around the roots, intermixing with the compost a few thick pieces of crock to keep it open and to prevent decomposition. These newly imported species should not be subjected to the *Cattleya-house* temperature now, otherwise the dormant eyes which are showing at the base of the foremost pseudo-bulb will probably start away into growth before proper root action commences, and although the plants may make a fairly good pseudo-bulb, they will not, owing to the lack of sunshine during winter, become properly matured, and when their natural season arrives for growth, those plants that break again will be weak and unsatisfactory. It is not possible to prevent every imported plant from making new growth now, and those which do start should be given encouragement, by heat and moisture, to grow quickly. The primary object should be to induce root-activity, and prevent growth as far as is practicable. While the growths are dormant, keep them in the coolest part of the intermediate-house, where water will only be required occasionally. Some growers use Teak-baskets in preference to the ordinary flower-pot, but I see no advantage in doing this, as baskets are very liable to decay. Baskets are light and convenient for suspending the plants close to the roof-glass; but where low-roofed houses exist, the plants when in pots are just as easily brought to the light, and are more under the grower's eye.

THE HARDY FRUIT GARDEN.By W. POPE, *Gardener, Highclere Castle, Newbury.*

DIFFERENT ASPECTS FOR WALL TREES.—Some amount of care and forethought are needed in selecting the most suitable aspects for different sorts and varieties of fruits. In most districts, south walls are best suited for Apricots, Peaches, and Nectarines; but here, and doubtless in many other places, a west aspect suits them better, Apricots being healthier, and Peaches more free from leaf-blisters in such an aspect. A Cherry-tree or two, if the fruit is wanted early, however, should be given a place on a south wall, good varieties for this purpose being Mayduke and Black Tartarian. Three useful Plums well deserving the same aspect are Rivers' Early Favourite, July Green Gage, and Early Prolific. A few early Pears, which should be cordons, as the fruits are not often required in large quantities, might be Doyenné d'Été, Jarzonelle, Williams' Bon Chrétien, Clapp's Favourite, Berré d'Amant, and Souvenir du Congrès. These should not be left on the trees till fully ripe, but gathered as soon as they show indications of ripening, or they will be mealy and insipid. Figs in the southern counties generally do well on south walls, Brown Turkey and White Marseille being good varieties. If space can be found for a few cordons of red and white Currants, they will be found of great service in somewhat lengthening the season. Of Apricots, Hemekirk, Kaisha, New Large Early Peach, and Moorpark are among the best. Good Peaches are Alexander, Hale's Early, Early York, Dr. Hogg, Grosse Mignonne, Belle de Doué, Dymond, Noblesee, Violette Hâive, Barrington, Walburton Admirable, Stirling Castle, Sea Eagle, and Salway. Of Nectarines, Early Rivers, Balgowan, Violette Hâive, Stanwick Elrage, and Humboldt are good. Walls with an east aspect are best for the main crop of Cherries and Plums. Good varieties of the former are Werder's Early Black, Reine Hortense, Early and Late Duke's, Bigarreau Napoleon, Black Tartarian, Early Jaboulet, and Elton. Of dessert Plums, Green Gage, Donnion's Superb, Huling's Superb, Jefferson, Kirke's, Transparent Gage, Coe's Golden Drop, Reine Claude de Bayay, De Montfort, Monarch, Grand Duke, Angelina Bardett, Blue Imperatrice, Ickworth Imperatrice; and of culinary varieties, Early Prolific, Orleans, Prince Eaglebert, Pond's Seedling, Victoria, Magnum Bonum, Diamond, Belle de Septembre, and Gibborne's. West walls are good for Pears. Berré Superb, Doyenné à Comice, Durondeau, Maréchal de la Cour, Marie Louise, Thompson's, Berré Diel, Pesse Colmar, Berré Bachelier, Easter Berré, Les Plus Meuris, Marie Louise d'Uccle, Emile d'Hayet, Glou Moréau, Pitmaston Dacches, Souvenir du Congrès, Madame Treyve, Winter Nelis, and Josephine de Malines being some of the best for the different seasons; while for stewing there is nothing better than Castillac and Belleime d'Hiver. North walls are especially useful for Morello Cherries, of which it is hardy possible to have too many. Red Currants should also be planted in quantity on this aspect, and a tree or two of the Victoria Plum, if room can be spared.

PLANTS UNDER GLASS.By W. H. SMITH, *Gardener, West Dean Park, Chichester.*

FREESIAS.—If these bulbous plants are required in bloom at the end of the month of December, a batch of them should be placed in a house having a temperature of about 60° at night and 65° by day, and afforded plenty of water; and when the pots are filled with roots, some suitable fertilizer may be used. The blooms of Freesias are very useful for cutting, and a succession of them may be obtained throughout the winter by placing batches of the bulbs in heat at intervals of three weeks. Place sticks to the plants when 3 or 4 inches high, and syringe them frequently in bright weather.

DOUBLE-FLOWERED PRIMULAS.—These plants should be removed to a house having a temperature of 55° by night, and 60° by day. Such a house, if admitting plenty of light, will suit them admirably if they be placed close to the glass on shelves. Here they may remain till flowers appear, when if desirable, they may be placed in the conservatory. These Primulas require much light and plenty of space in which to develop their leaves, or the latter soon spoil.

POINSETTIA PULCHERRIMA.—These plants should now be afforded a temperature of 60° by night and about 70° by day, and a liberal treatment if large bracts are looked for. Always keep the

plants near the glass, to prevent drawing of the stems and leaf stalks.

WINTER-FLOWERING BEGONIAS.—If these plants have been properly treated, a good show of bloom will be obtained towards the end of the year. To show off Begonias in the best manner, they should be placed thinly in a well-lighted glass-house, raising them somewhat over a carpet of Maiden-hair Fern. The temperature of the house should not be lower than 56° by night, nor higher than 68° to 70° by day. Gloire de Sceaux is admitted to be one of the finest varieties, and groups of it look well if bordered with B. Gloire de Lorraine. These winter-blooming Begonias require water in abundance, when the pots are filled with roots, and growth is active. A top-dressing of some kind of mild fertilizer will benefit them. Neatly stake and tie each plant; use the syringe in bright weather, and keep the air of the house moist. If aphid appear on these plants, fumigate the house with tobacco, or better still, vaporise it with X.L. All, a very safe and effectual remedy.

FUCHSIAS.—If Fuchsias have been used in bedding-out, shoots fit for making cuttings will be plentiful on the plants, and a good number should be made. They strike readily under hand-lights at this season, and when rooted they should be potted into 60's, and placed on the greenhouse shelf. If potted on in the early spring, these will make fine plants for summer decoration. [In cooler parts of the country than that in which our correspondent resides, bottom-heat will be needed in the striking of Fuchsias at this late part of the season. Ed.]

THE KITCHEN GARDEN.By JOHN LAMBERT, *Gardener, Powis Castle, Welshpool.*

GENERAL WORK.—Endive and Lettuce will now require constant attention in regard to blanching. Lift the Endive, and transplant into frames for protection. If a mild autumn occur, Endive may be kept good outside up to Christmas by the protection afforded by mats, and the plants may be lifted and transplanted into boxes, and put into the Mushroom-house, where they will soon blanch, and be ready for use. Lettuce should be carefully looked over on warm, moist mornings, for slugs, and a dusting of soot or lime given in their haunts. Where a few Peas and Beans are still sown in the autumn, the ground should be got ready, choosing a warm situation, usually a south border, and ground that is well drained, lies high, and is fairly dry. See that dwarf Beans in frames receive plenty of air, and on all favourable occasions the lights may be taken off entirely. Water them when dry, and do not let them get overcrowded. Damp the soil occasionally during suitable weather with soot-water, as a preventative against red-spider. Make sowings of Beans at regular intervals from now onwards, if they are grown in pots, afford a not higher night temperature than 60°. The bulk of the late Celery will require another earthing-up, for it will not be safe much longer, but do not cover it up too much at once. That it may keep well through the winter, the last earthing-up should be left as late as possible, but the leaves should not be exposed to sharp frost before this is done. A few mats thrown lightly over the plants will prevent this, in the event of a sharp frost occurring before the work is done. The same remarks will apply to Leeks, except that frost is not so harmful to them. If the Leeks are full-grown, they should be earthed-up forthwith. Carrots will now be ripening, especially in early districts, and may be lifted, choosing a nice dry day for the purpose. Do not cut the tops closer than 1 inch from the crown. In a good root-house, built nearly, or entirely, underground, and one not subject to influx of water, roots do not require so much sand or ashes for covering them; all risk from frost is avoided, and the roots are always ready for use. If sand or ashes be used in such a house at all, very little indeed will be required between them. Roots will keep much better stored in this way than in a clump, where often they are allowed to grow. Beetroot should be removed before sharp frosts occur. Lift with care, and twist the tops nicely off instead of cutting them. No roots, so Beet in particular, should be bruised or broken. Overgrown Beet should be rejected, as being not worth storing. Hedges of Holly, Box, Hornbeam, or Q. tick, still found in many gardens, where they have been planted for shelter, if given a final trimming now, will not grow again, and frost will not disfigure them, as in the case of those which make young growths late in autumn. Abundance of

work will be found in clearing away exhausted crops of Peas, Beans, &c. New Pea-sticks should be saved for use next year. If it is desired to save any particular variety of Peas or Beans, take advantage of dry days to pick the fully-matured pods without delay; and expose them in a vinery or shed to harden before shelling or thrashing them.

FRUITS UNDER GLASS.By RICHARD PARKER, *Gardener, Gortwood, Chichester.*

FRUIT TREES GROWN IN POTS.—The repotting or top-dressing in accordance with the requirements of the trees, should now be finished off, and the trees placed in their winter quarters shortly afterwards. These fruit trees will be benefited by having the fullest exposure, provided the pots are protected from frosts, which would cause the latter to bare. The pots should be plunged above their rims in coal-ashes, but failing this, protection may be afforded by using tree-leaves, bracken, or long stable-litter; and a quite open position is best for them, away from the drip of trees, and where water does not collect. The trees should at this season be examined for the "brown scale," American blight, or other pest, and the proper remedies applied. For the first-named, nothing is safer or more effective than repeated syringing the trees with water at a temperature of 130°; and for American blight, the infested branches should be well cleaned with a stiff brush, the tip of which should be moistened with petroleum. The main stems and branches may also be painted over with whitewash made from freshly-elaked lime. Trees which have occupied the same pots for several years may be planted out-of-doors with advantage, younger ones being potted-on to take their places. The present is a good time for potting-up new trees; and in making a selection of varieties, preference should be given to small healthy trees. On receiving these from the nursery, the strongest roots should be shortened somewhat, and the plants placed in rather small pots for the first season. Good drainage is an essential point, and good maiden loam as the basis of the soil used in the potting; to this should be added a relatively small quantity of wood-ashes and crushed bones. The potting must be firmly done, using a wooden rammer 2 inches in diameter at the butt end. The pots containing these young trees may be plunged with the rest of the orchard-house trees for the winter. Trees potted at about this date soon push roots into the new soil, and make early growth the following season.

STRAWBERRIES.—Before the end of the present month, potted plants should be placed in such a position that the pots are not likely to be split by the action of frost. The general stock and late successions may be plunged anywhere in the open, as severe weather does not harm them, providing the pots can be protected, and plants which get covered with snow often go through severe frosts with less injury than others placed in orchard-houses or other cool glass structures. Those plants which are required for forcing early may be placed in pits and frames, where they can receive thorough protection from frost, and where the plants can be taken out of the plunging material at any time during the winter.

POT VINES.—The canes have ripened well since they were stood outside, and the foliage should be allowed to remain on them, and allowed to fall naturally. At the approach of frost the pots should be stood close together and protected by bracken or long litter. Those intended for early work will be none the worse for exposure to frost, as it ensures thorough rest in the plants. The canes may be shortened back to the required length some time before they are brought into the forcing-pit, and those intended for "cut-backs" may be cut-back at any time while growth remains dormant. In pruning these Vines (cut-backs), three buds must be left at the base of the vine-rod, the strongest shoot which results from these buds being selected, the two others being then removed.

DISTRIBUTION OF PLANTS AT THE LONDON PARKS.—Arrangements have been made for the distribution to the public on the days named of any surplus bedding plants there may be at the following places:—At Chessold Park, on the 8th inst.; Dulwich Park, 14th; Ravenhurst Park, 15th; Finsbury Park, Myatt's Fields, Victoria Embankment Gardens, and Southwark Park, 16th; Battersea Park, 18th; Royal Victoria Gardens, North Woolwich, 21st; Waterlow Park, 22nd; Kennington Park, 23rd; at Brockwell Park there are no surplus plants this year.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

TUESDAY, Oct. 15 { Royal Horticultural Society's Committee, at the Drill Hall, James Street, Westminster.
Horticultural Club.

SALES.

MONDAY, Oct. 14 { Dutch Bulbs, at Protheroe & Morris' Rooms.
Sale of Nursery Stock, at the Arboretum Nurseries, Wood Lane, Isleworth, by Order of Messrs. C. Lee & Son, by Protheroe & Morris.

TUESDAY, Oct. 15 { Dutch Bulbs, at Protheroe & Morris' Rooms.
Sale of Roses, Fruit Trees, and Rhododendrons, at Arches Farm, Framfield, near Uckfield, by Order of Messrs. Wm. Paul & Son, by Protheroe & Morris.

WEDNESDAY, Oct. 16 { Dutch Bulbs, at Protheroe & Morris' Rooms.
Clearance Sale of Nursery Stock, at the Nurseries, Putney, by Order of Messrs. Mahood & Son, by Protheroe & Morris.
Sale of the Collection of Orchids of the Firs, Lawrie Park, Sydenham, by Order of C. Dorman, Esq., on the Premises, by Protheroe & Morris (two days).

THURSDAY, Oct. 17 { Dutch Bulbs, at Protheroe & Morris' Rooms.
Important Clearance Sale of Nursery Stock and Fruit Trees, at the Nurseries, Bracebridge, near Lincoln, by Order of Messrs. Pennell & Sons, by Protheroe & Morris (two days).

FRIDAY, Oct. 18 { Sale of Live and Dead Farming Stock, at Rose Cottage Farm, Eufield Highway, by Order of Mr. J. J. Wilson, Junr., by Protheroe & Morris.
Linden's First Great Orchid Sale, at Stevens' Rooms, Covent Garden.

SATURDAY, Oct. 19 { Dutch Bulbs, at Protheroe & Morris' Rooms.
Clearance Sale of Nursery Stock, at the Loughborough Park Nurseries, Brixton, by Order of Messrs. Ponsford & Son, by Protheroe & Morris.
Orchids, from Messrs. F. Sander & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—50°.7.

Sexuality of Flowers.

A PAPER on "Physiological Researches on the Sexuality of the Flowers of *Pinus densiflora*," by KENJIRO FUJII, Rigakushi, Post-graduate Student in Botany, Imp. Univ., Tokyo, Japan, has been sent to us, and shows that the interesting subject of the origin of the sexes in plants is being studied in the far east, as it has been in Europe and America; but at present the problem is not solved, and the question arises, is it ever likely to be? We think not, because we cannot fathom the phenomena of life, nor the immediate causes of its various physical manifestations. We know that plants can be bisexual or unisexual, monoecious or dioecious; we know that in the latter cases the plant may return to bisexuality, and that, as far as all angiosperms are concerned, it is pretty evident that bisexuality preceded unisexuality. But how does the latter arise? We see that trees and plants can change their sexes in different years and in different climates. We even see bisexual plants become

unisexual late in the season, all the flowers, e.g., of some Umbelliferae being male. But what is the cause? One general reply to this question is, that it depends upon varying degrees of nutrition. Mr. MEEHAN and others have observed that, speaking broadly, the more vigorous trees or branches of a normally bisexual character tend to produce female flowers; the less vigorous, males. Thus, *Castanea*, *Hop*, &c., have been exemplified, so that any cause which can bring about an increase or decrease of nutriment may have the effect of producing female or male flowers, respectively. Again, it has been observed, as by KNIGHT, that a high temperature tends to the development of male flowers, as in Melons; a relatively lower temperature, the production of fruit. Again, fresh Melon seeds produced plenty of male flowers, but old seed an abundance of female. HOFFMAN and others have found that if the seeds of a bisexual plant, as *Spinach*, *Mercurialis*, &c., be sown thinly or thickly, the proportion of male plants is greater in the latter case.

Hence a great number of coincidences of the above kinds have been noted from time to time; but still this does not bring us one whit nearer to the solution of the question—what determines the sex? or why does the sexless embryo grow up into a male or female plant? We may know something of the external conditions requisite, but we can only see that the protoplasm or living substance of the plant responds to them and gives such or such result.

The late Mr. CROLL wrote a pamphlet entitled, "What Determines Molecular Motion?—The Fundamental Problem of Life." He observes that there is always an "object" in all the results of life action; and that not one of the known properties of physical forces can throw the slightest light upon the immediate cause of this "object." In the question before us this object is either a stamen or a carpel. Why does the sexless papilla on the floral receptacle grow into one rather than the other of these two organs? No microscopical examination throws the smallest light upon it whatever. The fact is, we neither know the nature, nor understand the powers of life. At this point the biologist is brought up sharply to a dead halt!

If we must be contented with knowing only the external influences, then it is here that the practical or experimental part of the subject comes in. Taking a local increase of nourishment as a primary cause of the production of a female flower, the author of the paper mentioned above finds that this can easily be effected in spring-time if the young shoots of *Pinus densiflora* are cut, as is usually done in Japan, by an annual pollarding. A second method is by keeping only one or two shoots, and breaking off all the other adjacent young shoots at the top of the last year's shoot; thirdly, by combining these two processes.

The author supplies a table showing that "out of forty-five branches experimented on, nine produced female or hermaphrodite flowers in the positions proper to male flowers; that out of twenty-one branches with marks of previous injuries, the shoots of five branches produced female or hermaphrodite flowers in the positions proper to male flowers. And that out of 2283 branches which were neither pollarded nor had any marks of previous injuries, the shoots of only seven branches produced female or hermaphrodite flowers in the positions proper to male flowers. The ratio $\frac{9}{45}$ or $\frac{5}{31}$ " is very small when compared with $\frac{9}{45}$ or $\frac{5}{31}$."

He observes in a summary that "the sex of the flowers of *Pinus densiflora* is not determined by their morphological positions on the shoot. The

sex is undetermined until a certain stage of their development. A flower which will otherwise develop into a male has a tendency to become a female when local increase of nourishment takes place at a certain stage, or during certain stages of its development."

These experiments corroborate those of MAUZ, who found that male plants repeatedly pruned gave rise to female flowers. Others have met with similar results. Thus, Mr. A. HENRY succeeded in inducing the formation of female plants only by removing two out of the three stigmas of *Begonias*, and in fertilising by the third stigma alone. HOFFMAN experimented on dioecious plants by fertilising them early and late in the season and with fresh and old pollen; though his results were in some degree contradictory, one, however, was interesting. Experimenting with *Lychnis vespertina*, which he regards as the same species with *L. dioica* (white), when the period of impregnation was more or less delayed, it seemed to have an influence upon the colouring of the flowers. The "precocious" impregnation favoured the production of the rose tint, for the proportion of red flowers to 100 white was 146 male and 147 female plants. Of those impregnated late, the proportion was about seventy male and fifty-six female. This result tallied with that of CARRIER, who found that by crossing *Amaryllis vittata* with *A. pulverulenta* and *A. brasiliensis* (plants with red flowers, being varieties, not species), he obtained a very great quantity of red flowers like those of the male plants, some few only were nearly white. This result followed from the impregnation by freshly-collected pollen.

How far florists experiment in this way with fresh or old pollen we do not know; but since different and important results followed on the above occasions in the colouring of flowers, there would seem to be some opening for experiments in this direction. With regard to the subject of the paper, however, on the origin of sex, further investigations are wanted to discover, if ever it be possible, the immediate cause of sex.

GROUP OF CATTLEYS AT BURFORD (see Supplementary Illustration).—*Cattleya* are amongst the most gorgeous of Orchidaceans plants, and highly appreciated accordingly. The centre plant of the group in our Supplementary Illustration is the magnificent specimen of *Cattleya Lawrenceana*, which was exhibited before the Orchid Committee of the Royal Horticultural Society on April 9 of the present year, which was justly awarded a Silver Flora Medal as a mark of good culture. This superb plant measured over 3 feet across, and bore thirteen spikes of bloom, the number of flowers on the largest spike being eleven. It may be of some interest to those who had the opportunity of observing the plant when shown, to learn that at the present time it is sending up eighteen strong growths with fifteen flower-sheaths, which promise well for a good show of bloom next spring. The cultural treatment required by *C. Lawrenceana* is of the simplest kind. Usually the plant is late in starting into growth, and the bulbs are only half formed when the dull days of autumn are upon us; it therefore requires to be placed in the warmest and lightest part of the house, so as to complete its growth quickly. This point is an essential one. As regards affording water at the roots, resting, &c., the course to follow is the same as is found suitable to its congeners. To the right-hand of the illustration is the delicately-tinted *C. Schroderae*, its sweetly-scented and perfect-shaped blooms of great attractiveness. The left-hand specimen is a noble plant and grand variety of the popular *C. Mendeli*, but unfortunately the brilliant colouring of the lip cannot be reproduced by photography.



GROUP OF ORCHIDS IN SIR TREVOR LAWRENCE'S GARDEN, BURFORD, DORKING.



ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Fruit and Floral Committees will be held on Tuesday, October 15, in the Drill Hall, James Street, Victoria Street, Westminster, at 12 o'clock; and at 3 P.M. a lecture on "Nut Culture in England" will be given by Mr. J. OMER COOPER.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.—The secretary of this excellent gardening institution informs us that Mr. F. MILLER, gardener to J. T. FRIEND Esq., of Northdown House, Margate, has paid over to its funds the sum of 10 guineas, being the proceeds of an exhibition of two large American Alces or Agaves, flowering specimens, as mentioned in our columns.

CHRYSANTHEMUMS IN SOUTHWARK PARK.—We are requested by Mr. COULE, the Superintendent of this new park, to state that the display of Chrysanthemums in the conservatory will be opened on Saturday, October 12.

"BOTANICAL MAGAZINE."—*Anthurium Gustavi*, Regel, figured at t. 7437, is a New Guianan species, with long-stalked cordate ovate green leaves, 3 feet across, slender purplish cylindrical spathes only slightly shorter than the spadix. *Mormodes Rolfeanum*, t. 7438 (see *Gardeners' Chronicle*, 1892, i., p. 203, f. 30).

Polygala Galpini, Hook. fil., t. 7439.—A very distinct shrubby species from Natal and Swaziland, with shortly stalked lanceolate hirtulous leaves and terminal racemes of pale rosy-lilac flowers. It flowered in the Temperate-house at Kew in 1874.

Tulipa violacea, Boissier.—A Persian species with relatively small red or violet flowers with filaments hairy at the base. Kew.

Sternbergia Fischeriana, Romer, t. 7441.—Like a fine form of *S. lutea*, but flowering in spring instead of in autumn. Kew.

"INTRODUCTION."—The name of *Introduction* has been given to a new journal avowedly devoted to "instruction, entertainment, and general social topics," and which is to be published every Saturday at 30, Newcastle Street, Strand. The contents are indeed light and miscellaneous, to judge from the first issue of the paper, and among them must be something to suit the taste of everyone. This variety is the more comprehensible and praiseworthy when we hear that the journal is intended for colonial and American as well as for European circulation.

DEATH OF MR. ANDREW JAMIESON.—The *Kew Bulletin* for September announces the death at the General Hospital, Madras, on August 17, of Mr. ANDREW JAMIESON, Curator of the gardens and parks at Ootacamund, Nilgiris. Mr. JAMIESON was fifty-three years of age, and had been connected with the Ootacamund Gardens for nearly twenty-seven years. He was formerly a member of the gardening staff at Kew, and was appointed to Ootacamund in September, 1868, being in sole charge of the gardens on the Nilgiris for many years, until they were placed under the control of the present Director, Mr. M. A. LAWSON, who spoke most highly of Mr. JAMIESON'S skill and perseverance in all his duties.

VIOLA CONFERENCE.—The proceedings of the second conference, held at Birmingham, on May 29 of this year, were duly noted in our columns at the time. We have only to mention that the complete report is now published, and may be had from Mr. R. DEAN, Ranelagh Road, Ealing. The papers read and published in full are the following:—"The Genus *Viola*," by Prof. HILLHOUSE; "Older Varieties of *Viola*," by Mr. RICHARD DEAN; "*Viola* that do well in Surrey," by Mr. E. BURRELL; "Newer Varieties of the *Violetta* Type," by Dr. STUART; and "Winter Treatment of *Viola*," by Mr. A. J. ROWBERRY.

STOCK-TAKING: SEPTEMBER.—The optimist who, during the past year or two, expressed continued confidence in the pluck and energy of his fellow countrymen, and in the return to common-sense views of things commercial on the part of many of our

best customers, has had, and is having, his reward in the increased revenue of the country, and the extension of trade. Thus, the increase in the Exchequer receipts for the first six months in the current financial year is placed at £3,916,837 over those for the same period last year; the gain in the imports for September is represented by the figures £378,393, the decrease for the nine months having been reduced to some £662,301. Of the exports, which make a fine show, more anon. Here may be given our usual excerpt from the summary table of imports:—

IMPORTS.	1894.	1895.	Difference.
Total value of imports	£ 30,210,461	£ 30,618,854	£ +378,393
(A.) Articles of food and drink—duty free	10,664,372	10,792,959	+108,587
(B.) Articles of food and drink—dutiable	2,282,725	2,099,457	-183,268
Raw materials for textile manufactures	2,247,273	2,023,436	-223,836
Raw materials for sundry industries and manufactures ..	4,262,855	4,379,668	+53,813
(A.) Miscellaneous articles	1,026,074	1,140,909	+114,835
(B.) Parcel Post ...	61,667	69,129	+7,462

Taking note of the word "Hops," in the general figures, we are forcibly reminded of some changes going on in France, on the matter of viticulture. Within the past few weeks an English official travelling through Burgundy, was amazed to see long extending lines of Hop-poles; and on inquiring found that the wretched little vermin, the Phylloxera, had effected the transformation; the Vines had been grubbed up, the planting of American stocks being too expensive, and the beautiful Hop plant substituted. A fine light ale, we are told, was manufactured for market; but one of the upper-class merchants of the district insisted that our rejected Local Veto Bill would have to be introduced into the Chamber of Deputies, and passed into law! It is an easy step from Vine culture to our fruit, root, and vegetable imports, concerning which we give the following figures for the month just ended:—

IMPORTS.	1894.	1895.	Difference.
Fruits, raw:—			
Apples bush.	567,117	202,331	-364,786
Cherries ... .. "	...	...	...
Plums "	148,407	125,502	-22,905
Pears "	394,400	89,191	-305,209
Grapes "	191,702	170,043	-21,659
Unenumerated "	134,128	138,254	+4,126
Onions "	693,206	621,439	-71,767
Potatoes ewt.	29,470	66,104	+36,634
Vegetables, raw, unenumerated value	£ 106,533	£ 113,308	£ +6,778

This is the most encouraging array of facts in this direction we have printed for years past, and they read their own lesson. As to prices obtainable for the home product, an evening journal very recently reported, on the authority of a correspondent, that a Somersetshire fruit-grower having sent on a ton of good Apples to a salesman in London, received in return stamps for less than a shilling! Something wrong here, surely.

EXPORTS

deserve brief notice at our hands. The figures for the past month show an increase over those for September last year amounting to £1,862,620, the increase for the nine months past being represented by the figures, £5,157,866. This increase is spread over all, excepting three, of the classes usually specified, and these three are (1) raw materials; (2) metal and articles manufactured therefrom; and (3) chemicals, &c. It has been suggested that we shall find a strong competitor for our Eastern trade in little Japan. The Japanese are taking steps to greatly increase the output of coals, and to start a big thing in shipbuilding

and repairing. Surely, however, there is room enough and to spare among the Celestials and adjacent countries. Formosa will require a lot of looking after and expenditure, and as we learn that China is negotiating a treaty of commerce with Japan, a splendid opening for everybody's exports may shortly be found where twelvemonths since no such thing was expected. We do not observe, however, that our exports to the East are at present very much affected by our supposed competitor.

CANADIAN FRUIT.—We are informed that arrangements have been completed by which a firm of London ship-owners will convey Apples and all other fruits grown for commercial purposes in Nova Scotia, from that favoured colony, *via* the Ship-canal to Manchester. By this means travelling expenses may be lowered, and the price per barrel reduced to the consumer.

H. WITTE.—Forty years ago, on October 1, 1855, the well-known curator of the celebrated Leyden Botanic Garden, Mr. H. WITTE entered into the position, which he still occupies in perfect health, with the exception of deafness. Under Mr. WITTE'S management the Botanic Garden at Leyden has attained a very high standard of perfection, and Mr. WITTE is the friend of all the horticulturists, botanists, and gardeners of Holland, and of a large number abroad, who appreciate him as a man, as the best Dutch author on horticultural subjects, and as a promoter of horticulture in all branches. On the 1st inst. a splendid banquet and concert was offered to the hero of the day, who had been complimented in the morning by the *employés* of the Botanic Garden, a reception held in the afternoon enabled the curator's numerous friends to congratulate him. The mayor of the City of Leyden handed the cross and ribbon of a knight of the royal order of Orange Nassau, a distinction which has never before been bestowed upon a horticulturist; the jubilee committee offered a valuable gift with a nice album containing autographs of the subscribers; the old pupils supplied a highly interesting album containing autographs, photos, and other souvenirs of former pupils, who are now in all parts of the world; Professor SURINGAR, the Director of the Botanic Garden, made a most cordial speech; the Leyden section of the Royal Netherlands Horticultural and Botanic Society appointed Mr. WITTE a honorary member; the Councils of this and other societies read letters of congratulation; and the new *Tydschrift voor Tuinbouw* published a special "Witte" number, with an excellent portrait and extracts from the curator's oldest press work. In fact, it was a splendid festival, and a day which Mr. WITTE and those who were present will never forget.

ENGLISH AMBER.—Professor CONWENTZ had some interesting facts to state at the meeting of the British Association concerning the formation of amber in different parts of the world. It seems that Baltic amber—succinite—is the most esteemed variety; whilst English amber, which is also succinite, is found mostly on the coasts of Norfolk, Suffolk, and Essex, and contains insects, wood, flowers, &c., which indicate the oldest Tertiary formations. From the fact that some specimens of amber contain fragments of Magnolia and Cinnamon, it seems probable that the flora of the amber period was entirely different to that of modern Europe. *Pharmaceutical Journal*.

WHAT OUR FRIENDS THINK OF US.—A dispatch from London to the *Sun*, of this city, states that this year there has been such an enormous crop of Plums in Great Britain that the price of the fruit has fallen to 2*l.* a pound, which is so little that it does not pay the cost of gathering and freight. One would naturally have supposed that the growers would have made haste to dry the fruit, since England pays annually two million dollars for dried Plums imported from France. English farmers are extremely conservative, however, and they sat still and allowed the fruit to fall on the ground and rot. It may be, that these Plum-growers can give some reasonable excuse for their failure to meet such an

emergency. Farmers and fruit-growers are often accused of a lack of enterprise, when in reality it is practically impossible to solve offhand the problems which suddenly confront them. *Garden and Forest*.

"EVERGREEN."—This is the name of a book issued in parts, and published simultaneously in Edinburgh, London, and America. The second issue, now ready, is sub-titled "The Book of Autumn," and, according to the prospectus, "will be divided into four correlated parts:—I., Autumn in Nature; II., Autumn in Life; III., Autumn in the World; IV., Autumn in the North." The publication is to contain biology, sociology, fiction, poetry, and other very diverse kinds of contributions, all from practised pens, and many of them illustrated. Further information may be obtained from PATRICK GEDDES and colleagues, Lawnmarket, Edinburgh.

VEGETABLE PRODUCTS IN PORTO RICO.—Besides Sugar and Coffee, both of which are intimately associated with Porto Rico, Tobacco also holds an important position, but though already cultivated to a very large extent, it is stated that its growth might be extended almost indefinitely if it were not for the old question of excessive taxation. The soil is of the very best for Tobacco growing, and quite equal to the best of the Cuban plantations, but as a rule, there is some carelessness in the process of curing. Good Tobacco requires no great labour in its cultivation, but considerable care and attention, especially as regards insect pests, and when the leaf is stripped, selected and dried. In all these matters the native of Porto Rico is exceedingly careless, and this it is that prevents so good a final product being obtained as in Havana. Still, a considerable quantity of Porto Rico cigars find their way to the States, Spain, France, and England; but the Tobacco trade is one which ought to be largely extended, if only proper facilities were given by the Government. Large quantities of Tobacco-leaf are exported to Cuba, to be made up there into the world-famed Havana cigars. On the subject of fruits, it is said that, though the Plantain, Banana, &c., are grown everywhere, and are much used as fruit in the country, the export trade is not large, nor yet of the Pine-apple, which grows to perfection when any care is taken of it. It is remarkable that the Pine-apple is not exported in larger quantities than is actually the case, seeing that it is a fruit that could easily be shipped and carried the short distance to the United States, where it can command good prices. The Cocoa-nut grows in immense quantities all around the coasts of the island, and to a considerable distance inland, but little or no use is made of it, and exports are few and far between. The contents of the green nut are much used as a beverage, but the great bulk of the crop, which has a continuous growth, is allowed to go to waste. The Mango, covered with its green and golden fruit, is common everywhere, and lines the roadsides in many parts for miles and miles. The Sevilla, or Bitter Orange, grows wild in the woods, but none of the fruit is exported, and by far the greater part goes to absolute waste.

"DICTIONNAIRE PRATIQUE DE L'HORTICULTURE."—This has now reached the letters *Nar*. As an illustration of the care taken to bring this valuable work up to date, we may instance the article *Musa*, which embodies the information recently published in the monographs of BAKER and of MORRIS.

"HANDBOOK TO THE FLORA OF CEYLON."—Dr. TRIMEN'S most useful handbook makes steady progress. The plates by which it is illustrated now number seventy-five. *Barleria Arnottiana*, with large tubular blue flowers would be a desirable introduction to our stovea. The text of the third volume has now reached the *Balanophoraceæ*. The terse descriptive paragraphs admitting ready comparison are in marked contrast to the diffuse dissertations admitting of comparison with difficulty if at all, which are employed by the laboratory school of botanists.

CEDAR OF GOA.—Among the various conjectures as to the origin of this *Capressa*, is one that it may be of Chinese extraction, and that it was taken from Macao to Goa. To obtain information on this point, we applied to Mr. TUTCHER, of the Hong-Kong Botanic Garden, who kindly informs us that from frequent, and, indeed, quite recent visits to Macao, he is able to say there are no species of *Capressa* cultivated there now, and none wild in the immediate neighbourhood.

THE TEMPERATE HOUSE AT KEW.—The erection of the south wing of the Temperate-house was sanctioned by the Treasury last year. The care required in the preparation of the detailed working drawings, and the securing the necessary contracts as soon as the supplementary estimates had been passed by the House of Commons, prevented the work being immediately taken in hand. The contractor, however (according to the September *Kew Bulletin*), commenced work on the site on August 19, and building is being pushed on with all possible speed. It is hoped that the new wing will be completed by the middle of next year.

WIRE FENCE AT KEW.—The permission of the QUEEN has been obtained for the removal of the fences, excluding the public from the Palace Meadow, and since then, according to the September *Kew Bulletin*, the First Commissioner of Her Majesty's Works and Public Buildings has authorised the removal of the wire fence which since 1844 has separated the Botanic Garden from the Arboretum. As for many years there has been no difference in the administration of the two areas, which are equally devoted to botanical purposes, the fence had become devoid of any practical object; and the four gates by which alone it could be passed had become wholly inadequate to the convenient movement of the large crowds which now frequent the Royal Gardens in fine weather.

PAY OF KEW EMPLOYÉS.—The *Kew Bulletin* for September says, that on the recommendation of the First Commissioner of her Majesty's Works and Public Buildings, the Treasury has agreed to the minimum wage at Kew being raised to 21s. In addition to this, both labourers and gardeners receive gratuitous medical attendance during sickness, sick-pay according to length of service, and extra pay when employed on Sundays. On the other hand, retirement at 60 is compulsory, and pensions in the shape of "compassionate allowances" are abolished by the Superannuation Act, 1887, which only allows a gratuity of one week's pay for each year of service. It will be interesting to trace the gradual rise of wages at Kew since 1841, when it became a national establishment:—

Year.	Labourers.		Gardeners.	
	£.	s.	£.	s.
1841	12		12	
1847	14		...	
1865	15		14	
1873	17		16	
1885 ... ..	...		18	
1889	18—20		...	
1894	19—20		...	
1895	21		21	

IRISH AGRICULTURAL STATISTICS.—A Report has been published containing abstracts from Irish Agricultural Statistics, showing the acreage under crops, and the number and description of live stock in each county and province (in 1894-5); also reports from the superintendents of enumeration upon the state of their crops in their several districts at the time of the collection of information for the returns. These statistics, published by authority of the Government, should prove of great use to agriculturists, both present and future.

APPLE.—A correspondent sends us a ripe Apple with a small flower growing out from its side. Of course, there is nothing very extraordinary in the

presence of a flower in that situation, as that may be accounted for on morphological and anatomical reasons; the difficulty is to account for the late production of the flower from a fruit already ripe.

"THE PIG."—The first book of a series to be published under the above name has appeared, and is devoted to "Rational Pig-keeping to ensure Profit." The author is Mr. W. J. MALDEN and his practical and well-arranged treatise deserves every attention from those interested in this subject. The publisher is Mr. WILLIAM A. MAY, *Farm, Field, and Fireside* Office, 1, Essex Street, Strand, W.C.

NEW BOOKS:—*Index Kewensis*.—We have to announce the publication of the fourth and last part of this monumental work. The gratitude and sympathy of all workers in botany should be extended to Mr. B. D. JACKSON, Sir J. HOOKER, and others, connected with this useful publication. *Kerner's Botany*.—This work is now completed under the editorship of Professor F. OLIVER. We have alluded to it in its course through the press, and its completion will give us another opportunity of referring to it. Two other books lie on our table, and will demand early notice, viz., Rev. G. HENSLOW'S *Origin of Plant-structures*, a fascinating and suggestive book; and Mr. G. MURRAY'S *Introduction to the Study of Sea-weeds*, a book for which there was a great need, so great has been the progress since similar works have been published. Mr. BURBERRY has also published a second edition of his *Amateur Orchid cultivators' Guide-book*.

NEW PUBLICATIONS.—*Ten New England Blossoms and their Insect Visitors*, by CLARENCE M. WEED. (Published at Boston and New York, by HOUGHTON, MIFFLIN & Co., The Riverside Press, Cambridge.)—*Analytical Key to the Natural Orders of Flowering Plants*, by FRANZ THONNER. (London: SWAN, SONNENSCHEIN & Co. New York: MACMILLAN & Co.)—*Insects and Insecticides*, a practical manual concerning noxious insects and the methods of preventing their injuries, by CLARENCE M. WEED, D.Sc. (New York: ORANGE JUDD Co. London: KEGAN, PAUL, TRENCH, TRUBNER & Co., Paternoster House, Charing Cross Road.)—*Les Engrais Les Fermiers de la Terre*, by M. P. P. DEHÉRAIN. (Paris: RUEFF ET CIE, Editeurs, 106, Boulevard Saint Germain.)—*Handbook of West American Cone-bearers*, J. G. LEMMON, Oakland, Cal., third (pocket) edition.

BOOK NOTICE.

DAS TROCHNEN UND FARBEN NATÜRLICHER BLUMEN GRÄBER, ETC. By Heinrich Hein; published by B. F. Voigt, Weimar (2nd edition).

We have, in this manual of 163 pages, full directions in the German language for bleaching, dyeing, and drying nuts, fruit-carpals, ears of corn, Palm leaves, Fern-fronds, flowers, grasses, reeds, rushes, &c., and the preparation of natural materials for the making of bouquets. We are accustomed to see in a few shops in London and other large towns at Christmas-tide and other seasons, quantities of coloured or bleached grasses, Palm leaves, Fern-fronds, tree leaves of various species, rushes, &c., but few persons are acquainted with the methods by which these charming decorative objects are prepared, and to most gardeners and florists these remain the closest secret. And the little knowledge which some have acquired is seldom put to any useful commercial purpose either here or abroad. This absence of enterprise or initiative may be due to the extreme reticence on the part of those who have mastered these methods of manufacture, and the carefully-guarded manner in which the secrets of the trade are kept by them. Previous to the appearance of the first edition of this manual, there existed, as we learn from the preface, no book which gave competent instructions, and the booksellers knew of no work

that could supply the information that was lacking; but the business began to grow, and in certain directions wholesale manufacture was being carried on—a few successful establishments existed in the suburbs of various towns which are the centres of horticulture in Germany, which had laid the foundation of their present celebrity. To-day the business of preparing materials for, and the manufacture of dried bouquets and other objects is an important one in Germany, and seems likely to extend.

The first part of the book consists of an enumeration and concise description of the methods of cultivation, time at which to gather the blooms, and other essential information of those flowering plants found suitable for drying or bleaching, and dyeing, beginning with Compositæ, Acrocinium roseum being the first plant taken; then Ammobium, Antennaria, Helichrysum, Helipterum, Leontopodium, Rhodanthe, and Xeranthemum. Then come flowers which are not immortelles, including Delphinium, Pansy, Dianthus, Hollyhock, Sweet Pea, Roses, Atractia, Eryngium, annual Astera, Daisies, Meadow Sweet, annual Chrysanthemum, Zinnias, and many more. The same plan is followed with grasses and rushes, and this part seems to us a very useful one, these plants affording graceful materials for forming winter bouquets, mixing with flowers, either dry or freshly gathered, and other devices. The drying and colouring of mosses and moss-like plants also meet with satisfactory treatment. The second part of the book is taken up by the technique of the preparation of materials; a description of the required apparatus and appliances, and the way to use them. In this section the sun-bleaching method is fully described, and the various plants alluded to which can be subjected to it. All the various colours and the various modes of preparing them are concisely described in the last section. The manual is furnished with 162 woodcuts, and an excellent index, which meets all reasonable requirements. To those persons, male and female, especially the latter, who are desirous of engaging in business of a remunerative character, not involving hard manual labour, this modest manual supplies much valuable information, which they can put to practical purposes at a small cost. Hitherto most of the dried bouquet material sold in this country has come from abroad, but as nearly the whole of the plants mentioned are capable of being cultivated in this country, and some are indigenous, that should not be tolerated much longer. An English translation of Herr Hein's book should meet with a ready sale in this country.

SUCCULENT SEEDS.

EVERY now and then we receive specimens of ripe Grapes the skin of which bursts open to liberate a second supplementary Grape formed in the interior. Having previously only seen such Grapes in the ripe condition, we had considered them to be the result of the formation of flowers within the original ovary, such as occasionally happens in Crucifers. This season, however, we were privileged to receive specimens in the unripe stage, and the inspection of the berries in course of formation soon showed us that our previous conjecture was quite erroneous, and that the supplementary berries are in reality seeds whose coats had become fleshy (see figs. 76, 77).

This succulent condition of the seed-coat occurs in the nearly-allied Leontice, in Crinum, and some other plants, as long since recorded by Robert Brown. An analogous change takes place in the carpels of Rosa gymnocarpa, but here it is the coat of the ovary that becomes succulent. The point now to be ascertained is the cause of this production. Does some injury occur to the berry, causing it to crack? and does the seed become fleshy in consequence of exposure? or does the seed-coat swell up first, and by its force of growth cause the resisting coat of the berry to crack open?

As the subject is of much botanical interest, we append the account of Robert Brown:—"In Leontice the 'drupa stipitata' of Michaux is in reality a

naked seed that in a very early stage had burst its pericarpium." "In Pelioeanthea Teta, soon after impregnation has taken place, from one to three of these ovula rapidly increase in size, by their pressure prevent the development of the others, and rupture the ovarium, which remains but little enlarged at the base of the fruit, consisting of from one to three naked berry-like seeds." Robert Brown, "On some remarkable Deviations from the usual Structure of Seeds and Fruits," *Trans. Linn. Soc. London*, vol. xii., pp. 143, 151 (read March 5, 1816); *The Miscellaneous Botanical Works of Robert Brown*, vol. i. (1866), p. 361. M. T. M.

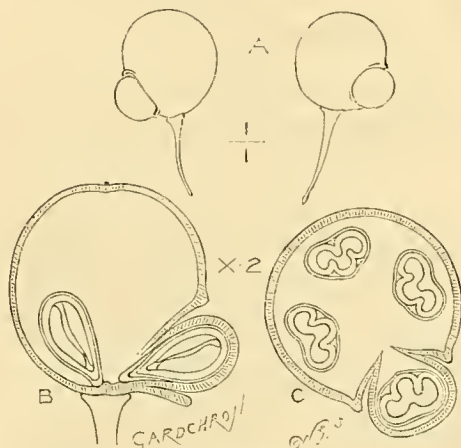


FIG. 76.—
A, unripe berries with succulent seeds protruding—real size.
B, C, vertical and horizontal sections, showing the origin of the supernumerary berries—magnified twice.

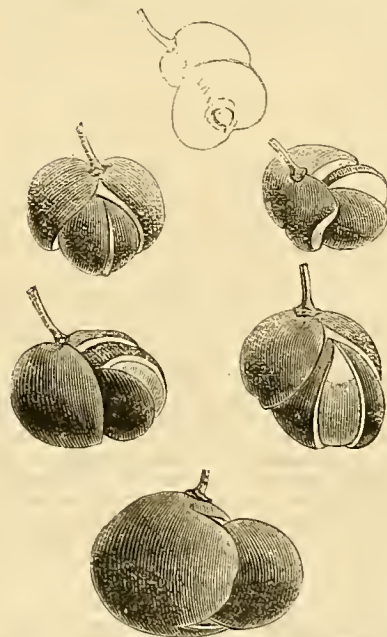


FIG. 77.—SUCCULENT BERRY-LIKE SEEDS PROTRUDING FROM RIPE GRAPES.

HOME CORRESPONDENCE.

A ROADSIDE HOUSE GARDEN.—A charming floral effect might lately be seen at the "John Bull" inn, opposite Gunnersbury Station. A balcony runs along the length of the house, and this has been utilised to produce a very pleasing effect indeed. A dark-leaved crimson-flowered form of Tropæolum Lobbianum, growing in pots or boxes, falls down over the front of the balcony in numerous graceful festoons, and has also grown upwards, and reached some distance above the balcony railing, finding adequate support there; while various plants in pots, such as Pelargoniums of different types, Petu-

nia, Fuchsias, &c., varied the arrangement, and furnish attractive patches of colour. It is pleasant to notice, as can frequently be done, that wayside public-houses are met with in the suburbs of London decorated in this way, and there is no reason whatever why Boniface should not be a gardener as well as a licensed victualler. It may be safely assumed that passers-by would stop to admire, and probably drink a glass of something in compliment to the flower-loving publican. R. D.

THE NAMING OF SWEET PEAS AND ROSES BY THEIR PERFUMES.—I was much interested by Mr. Hartland's note on this subject in a recent issue of *Gardeners' Chronicle*, and glad to hear that Emily Henderson, one of the best white Peas, had the least scent. The majority of our Sweet Peas, unlike our Roses, are overladen with odour, the latter can be tasted as well as smelt, and much good honey is ruined annually through the fulsome-ness of Sweet Peas. For this and other reasons, such as the avoidance of headaches, it may be hoped that Mr. Hartland and others will turn their attention not only to the naming of Sweet Peas by their scent, but to the reduction of the amount of the odour, or a change of their perfumes. As to Roses, it is many years ago when I first undertook to name some of these from their odours—notably, if I remember rightly, Devoniansia, the old Cabbage, Maiden's Blush, Boule de Neige, Maréchal Niel, La France, Chas. Lefebvre, &c. In my address to the Horticultural Club at the Hotel Windsor last year on the odours of Roses, reference was made to those early attempts at classification and recognition of the perfumes of Roses. The time is never likely to come when we shall say of these, as many have long been saying of the scent of Sweet Peas, "Hold, we have already more than enough." D. T. Fish.

OUT-OF-DOOR GRAPE VINES IN TOWNS.—

Passing along one of the main streets in a provincial town the other day, I found a jobbing gardener trimming a Grape-vine. The Vine was specially healthy and fruitful, and was furnished with a full crop of good-sized, well-furnished bunches. As a mere wall-clothes and a welcome relief to a long run of bricks and mortar, it was equally or more ornamental than the Ivies, Ampelopsis Veitchii, or Virginian Creeper that were almost the only climbers brought into competition with the Vine. The leading shoot of the Vine had been carefully tied-in, the laterals stopped several weeks since had broken again into sub-laterals, and not a few of the latter had broken into sub-laterals and tendrils, the whole having a rich and graceful effect. The gardener was thinning the latter without wholly removing them, and the effect of the bunches, foliage, and tendrils was most promising and refreshing. The autumnal tints of Vines, to say little of the beauty of the fruit in bunch and berry, are also very charming, and many varieties of Grape-vines are worth growing as among the very richest and choicest of fine-foliage plants. Even Lady Downes, West's St. Peter's, Alicante, and many others, that could hardly be expected to ripen their fruits in the open air, can ripen and colour their leaves to the greatest perfection on southern and western and other aspects; while among our very old-fashioned and hardiest Grapes, that ripen their fruit in the open, as well as form one of the richest contrast with their leaves, we have the Dusty Miller and the Claret, the latter finishing in a glow of crimson hardly matched by Virginian Creeper, however brilliant. But I have often advocated the use of fruiting and American species of Vines for the colouring of gardens, buildings, landscapes. The object of this note is chiefly to recommend the thinning of such fine bunches as I saw in the street the other day. Many of these averaged the length and size of average Hamburgs; and were they but moderately thinned, they would doubtless reach to average size in the two possible growing months set before them. Already the bunches are so crushed as to move in masses. Other berries are intruding each other in the fierce struggle for room. People tell us that for wine-making—the final goal of most out-of-door Grapes—it matters little; but it does, and thinning would pay even for this, as, weight for weight, far more wine is pressed from good-sized berries than a huge crush largely composed of dry skins and hard stones, with a minimum of flesh and juice. Besides, in favourable seasons, under favourable culture, and especially through liberal and timely thinning, many Grapes may be ripened efficiently in our climate to prove refreshing and enjoyable. Thousands of pounds are eaten, though jammed and crowded into solid masses through the energy of

growth, with only the mere exterior of the berries ripe. With the entire bunch ripened to a similar extent through the thinning of out-of-door Grapes, the value of the crop would be doubled for wine-making or conversion into temperance drinks, and multiplied many times for eating. *D. T. F.*

DEFECTIVE ARRANGEMENT IN THE GRAPE CLASSES at the Royal Horticultural Society's Fruit Show at the Crystal Palace. I should like to know why tables were not provided sufficient in size to hold the three exhibits in class 3 without making use of a side-table for one of them; and why the judges' attention was not called to this exhibit by the officials before the judges made their awards, and why it was left to the exhibitor himself to call the officers' attention to the oversight? Again, why did one of the officials make a suggestion that the exhibit should have a 3rd prize without the judges being called back? I may say that the judges did judge this exhibit, and after a cursory glance at it, awarded a 3rd prize. The same kind of mistake occurred in class 4, but on the exhibitor calling the official's attention to it, the judges were brought back, and they reconsidered their original awards, and gave it a 2nd prize in this class. Is it usual for judges to look at the address cards when making their awards? *John Carrill, 83, St. John's Road, S.E.*

CRABS.—Crabs are generally considered to be either a wild or a cultivated kind of sour Apple, and in Kent, not so long ago, after making the cider, the dross, or crushed Apples, was thrown away some distance from the house, as it was considered unlucky to have it anywhere near. From this not unfrequently hundreds of seedlings arose, and these were always called "Crabs," and used for stocks, when possibly there was not a true wild kind, or sharp acid Apple among them, and so it was that occasionally, if the stock and core grew as well as the scion, two kinds of fruit were on the same tree. I have seen, years ago, a "Russet" on the part growing from the stock, while the scion was the old Nonpareil. But it is not of this mode of raising stocks I purpose writing, but of the value of the "Crab" as an ornamental tree, both in flower or fruiting. Generally small, light, and not ungraceful in growth, Crabs present at all times a pleasing aspect, but in spring or September, some are beautiful in the extreme, and are well worthy of a place in every garden of any size or pretensions for decorative purposes, and as such I have used several of the varieties with much satisfaction to myself and to the delight of my friends. Few people are aware for this purpose how very useful it is. Of the kinds to use. For flowers only, *Malus floribunda* is charming in March or April, then there is a larger-fruited variety of this worth growing. On this follows closely, Chicago, deep yellow with red cheeks; Marengo, large fruit, red or yellow; Zeller, a fine colour and good bearer; as is the Yellow Siberian. The Scarlet or Cherry I do not like so well as some. Oblong is one of Mr. Rivers' bright and showy. Then of the smaller kind, is *edulis*, an abundant bearer, but uneatable. From Messrs. Cheal I get Ringo, a fine yellow, but small; and a lovely bright transparent scarlet of the Cherry size, with a sharp acid flavour, and fine for jelly, this is Cheal's New Scarlet, and is an acquisition. A trifle larger is the old red Siberian; then the larger and oblong bright coloured John Downie; larger and brighter still is the beautiful Transcendent Crab, a tree of this, carrying a large crop, is a marvel of beauty, the fruit has much the flavour of the small wild Apples one sometimes finds in the out-of-the-way hedgerows, and wants more sharpness for good jelly-making. Then the deep rich blackish-purple, the Black Crab, very handsome both in shape and colour; and last, not least, the glorious Dartmouth Crab, and when the crop is good and the season suitable, this possibly is unsurpassed, presenting as it does a gorgeous appearance, and that of a somewhat deceptive character, being often taken at first glance for a Plum tree hung about with rich coloured Plums. But all having some peculiar merits of their own, it is difficult to decide which to choose, but take any, or take all, and scatter them about the shrubbery, and the result, if judiciously done, will add both beauty, and be also of use for table and other decoration, and for culinary purposes. There may be more than those named above, but I think I have given a sufficient choice, some of which I grow, others by Mr. Rivers, and for several I am indebted to Messrs. Cheal of Crawley, who have kindly sent me to describe some of the fruit from trees not in my possession. *Harrison Weir, Sevenoaks.*

WORM-EATING SLUGS.—The present month is one of those during which the curious worm-eating slug—*Testacella*—leaves the subterranean tunnels of its victims and coming above ground may often be found under logs and stones, in the neighbourhood of rich soil. The animal is easily recognised by its exceptionally leathery skin, and by the presence of a tiny external shell on the hinder end of the body, recalling somewhat the nail on the end of a human finger. The writer would be greatly indebted to any reader of the *Gardeners' Chronicle* who could send him specimens of these slugs (from any locality, and preferably alive, or preserved in alcohol), as the information as to the distribution of the animals is still scanty. *Wilfred Mark Webb, Editor of the 'Journal of Malacology,' 'Holmesdale,' Brentwood, Essex.*

SOCIETIES.

ROYAL HORTICULTURAL.

GREAT EXHIBITION OF BRITISH GROWN FRUIT AT THE CRYSTAL PALACE.

September 26, 27, 28.

(Continued from p. 404.)

THIRD DAY'S CONFERENCE.

MR. PHILIP CROWLEY, the Treasurer of the Royal Horticultural Society, presided at the third day's Conference, when Mr. Weathers, the Assistant Secretary of the Royal Horticultural Society, read one of the two equal prize essays on the subject of

"THE COMMERCIAL ASPECT OF HARDY FRUIT GROWING IN THE UNITED KINGDOM."

The writer said, that in consequence of the agricultural depression and the difficulty of making the cultivation of land profitable, landowners and others had been at a loss to know what things they should grow in the future with a reasonable prospect of a fairly remunerative return on their investments. Foreign competition was undoubtedly a serious matter, and must be deliberately looked in the face by present and future fruit growers. We must all make up our minds that unless we improved on our present system of culture generally, also in our methods (or want of method) in packing and marketing fruit, foreign competition would become even more keen. It seemed strange that a practical and energetic nation like the British should have permitted foreigners to step in, and in a measure monopolise their own markets with produce that could be grown better in every respect—except perhaps as regards colour—at home. At the same time it should be fully understood that cultivation must be thorough, not simply sticking a tree in the soil and expecting it to grow and produce full crops every year without any further attention.

The fruit grower of the future must be a man who has had a proper education in the work; a man of untiring energy, with good business habits, and sufficient capital both to purchase his stock, and also to wait until they arrived at a bearing state. Or failing such men, capitalists could step in, buying the land and the stock, and employing a competent man to manage the business at a fixed annual salary, plus such a commission on sales or profits as might be mutually arranged. It was of the utmost importance that only a manager should be employed who could bring positive proof of his training and abilities as a fruit grower, otherwise what might be a most remunerative investment would in all probability prove the reverse.

The question was frequently asked why skilled professional gardeners did not take up fruit growing as it paid so well, instead of being content to remain as gardeners. The answer was, that comparatively few gardeners had the needful capital to enable them to do so. Some more fortunate ones did do so, and usually made a very good living.

After dealing exhaustively with the question of land suitable for fruit growing, the writer went on to speak of the fruits. The APPLE, he said, might be termed the King of British fruits, and looking at the enormous importations, there was no fruit holding a better prospect of profitable return. The soil of the United Kingdom was so admirably suited for Apple growing that if the cultural requirements were but given proper attention, we could more than hold our own against the world. But to make the cultivation of Apples the commercial success it deserved to be, we must radically alter our present system, or rather want of system, by growing the trees better, and exercising more

honesty and care in sorting and packing the fruit. The most profitable system was to grow a limited number of varieties as dwarf trees on a soil which had been proved capable of growing full crops of large Apples. The first and most important advantage of dwarf trees was the quick return given by such trees as compared with standards. Some years ago the writer planted a number of Lane's Prince Albert costing 3s. a tree or 10% per 100. They were planted at the end of October or early in November in well prepared situations. The following season a few Apples were produced, but the year after, *i.e.*, the second year from the time of planting—a crop was borne and sold at 22s. per cwt. and averaged 3s. 6d. per tree. Of course, that was an exceptional case, but it proved what could be done by planting dwarf trees carefully in suitable soil, with proper management afterwards. The trees had continued to bear heavy crops of fruit in almost every subsequent year. Another advantage possessed by dwarf trees was the ease with which all operations connected therewith could be performed from the ground level as compared with standards which required ladders, etc. They were much less injured by gales than were high trees from which Apples were blown down and spoilt for market purposes. Another advantage was that all malformed fruit could be plucked from the trees while small, so that when the fruit was gathered it could be put straight from the trees into the hampers with very little sorting, and fastened down to be sent to market at once. The less fruit was handled before reaching the purchaser the better its appearance and the higher its value. By thus gathering the fruit and putting it into the hampers as picked there was no attempt at deception, as the Apples were of a uniform size and quality throughout the package. Buyers quickly noticed this honesty, and the sender acquired a reputation that made his consignments eagerly sought after. The practice of topping the package with the finest fruit, with a mass of inferior stuff beneath, could not be too strongly condemned.

Having decided on the form of tree to be grown, it was important that early orders should be given to a nurseryman of the highest repute, who would not permit a bad tree or one not true to name to leave his nursery. Another important matter was the stock upon which the trees were worked. For standards the crabs and stocks raised from Apple pips were the best, while nothing would equal the English or broad-leaved Paradise for dwarf trees.

Among the most profitable varieties to be grown were the Ecklinville, which headed the list, fetching from £12 to £22 per ton; Lane's Prince Albert, ditto: Golden Spire, realising about £15 a ton; Worcester Pearmain, from £14 to £26 per ton; Warner's King, £16 per ton; Cox's Pomona, Cox's Orange Pippin, King of the Pippins, Lord Suffield, Pott's Seedling, Yorkshire Beauty, Stirling Castle, Tower of Glamis, and Dumelow's Seedling.

PLUMS come next to Apples in giving profitable returns when they are grown upon bush trees. Of late years one heard much of growers who had found the price of Plums so low that they did not pay for the picking, the fruit being in consequence left to rot on the ground. This clearly showed to him that something was wrong; either the size of the fruit must have been small, the varieties inferior, the soil and situation unfavourable, or the system of marketing stood in great need of improvement. As a proof of this, one season, when the wail was particularly loud as to the low prices prevailing for Plums, he had a gross return of £176 from one acre of Victoria Plums grown on bush trees, planted at 8 feet apart each way. The lowest price he had made in the past ten years had been 7s. per cwt. and the highest 24s. per cwt. for Victorias. Frost might occasionally cause the trees to be a complete failure for a season, but take one year with another, Plums were well entitled to rank next to Apples for profit. Among the profitable varieties were Victoria, Rivers' Early, sometimes fetching 25s. per cwt., and Czar, as high as 27s. Earnest attention should be paid to the manuring of Plums; and in preparing them for the market they should be properly graded—sorted out and packed in separate lots.

The PEAR—a delicate fruit—was always in at least fair demand, and many imagined, from the high prices ticketed upon them in the leading fruiterers' windows, that a magnificent profit must be made by the growers. His experience was that no hardy fruit was more uncertain. Only in particularly favoured districts could Pear culture be considered a commercial success at all. In such

localities there was no question that Pear-growing would be a source of profit. Among the profitable varieties were Louise Bonne, which had fetched 14s. per cwt.; Beurré Clairgeau, 15s. per cwt.; Clapp's Favonrite, Pitmaston Duchess; Beurré Hardy, Doyenné du Comice; Marie Louise d'Ucele, Josephine de Malines; Catillac, Uvedale's St. Germain, Verulam, and Vicar of Winkfield.

The foreign CHERRIES were so poor in quality compared with home-grown ones, that there was every prospect of this popular fruit maintaining its value and paying well in the future. The importance of growing only a few varieties of any kind of fruit held good with Cherries more than with any other kind because of the trouble with birds. For this reason, only one variety, or varieties which all ripened at the same time, should be planted in an orchard, thus enabling a man with a gun to guard the fruit for the comparatively short time it was necessary to protect it. Fixed objects to scare the birds were of little use. Early Rivers held a high position among the early varieties; then came Elton, Governor Wood, Florence, and Emperor Francis. There was a possibility of making a fair profit by planting Morello Cherries.

For a man with but limited capital, bush fruit and STRAWBERRIES offered the greatest prospect of commercial success, as the first cost in purchasing them was comparatively small, and under fairly good treatment quick returns were secured. No fruit would pay so quickly as BLACK CURRANTS, where they would grow, prices never being lower than £22 a ton.

RED CURRANTS were not in great demand.

WHITE CURRANTS must be very fine indeed to fetch good prices, and it would be rather a risk to plant any quantity.

RASPBERRIES were a profitable crop, but if pickers could not be engaged in the district, considerable loss might occur, as the fruit rapidly spoiled if not picked when ripe.

GOOSEBERRIES were a reliable and profitable fruit, and ought to be planted on every fruit plantation of any size, as they come into bearing early from the time of planting, and proved of great assistance in meeting expenses.

STRAWBERRIES. The price went up, and there was no reason why Strawberry culture should not give as good a profit in the future as in the past.

The writer dealt with the question of the care and discrimination requisite in packing, and said that the fraudulent practice of topping with the finest fruit should never, under any circumstances, be permitted. Perfect honesty in marketing was the best policy.

As to insect foes, more attention to this matter was imperative to make fruit culture profitable. These pests should be dealt with early, as it was much easier to destroy them in their infancy.

Mr. JOHN WRIGHT, who was one of the adjudicators on the prize essays, said that the paper they had listened to was a highly valuable one. He and Mr. Barron (the Superintendent of the Royal Horticultural Society at Chiswick), and the Rev. Mr. Wilks (the Secretary of the Society), had a heavy responsibility placed on them. As they had heard, the writer indicated that the subject of fruit culture was a far too serious matter for anyone who had but a little money to take up, without technical knowledge to carry it through; but, when everything was well considered, and a thoroughly practical man could be put in charge, the work would give a good return for the labour and capital invested. If they read this paper and the other prize essay which would be published in the Society's *Journal*, they would have in a small compass the most valuable production, the most sound instruction, and the safest guide on the subject which had ever appeared in the English language. He himself knew something about essay writing and the worries it entailed, and he had the pride and privilege of wearing the gold medal given by Dr. Hogg sometime since. Although Dr. Hogg had been precluded from attending that meeting, that gentleman had authorized him to say that he would give the large silver medal of the *Journal of Horticulture* to Mr. S. T. Wright and to Mr. Lewis Castle, the writers of the Essays.

Mr. LEE CAMPBELL said he was very proud to tell them that by careful work on the part of his gardener and himself, he had risen to the top of his profession. He started fruit growing as an experiment, but after a very long residence on the Continent, he was sure that we were far ahead of the foreigner. He was, however, sorry to say that the foreigner had got more than the third end of the wedge in, and he was afraid it would take a great deal to drive it out. Whether we could ever succeed thoroughly in that direction was doubtful. He had proof that our English fruit was not inferior in any respect to fruit produced abroad. A short time since he wrote to his salesman, Mr. John Mills, of Manchester, asking him to give him a faithful and candid opinion of how his fruit compared with that of the foreigner. Mr. Mills wrote that his varieties of Apples realised 30 per cent. more on the average than any other English varieties. Now 30

per cent. was a profit in itself, at least growers thought so, although, perhaps, shopkeepers were not content with it. Recently they had gone almost entirely in for barrels for conveying fruit. They thought this was much preferable to the old style, as there was a certain movement in the flats, and the ends of the withies caught against the fruit and damaged it. They put between 50 and 60 lb. in a barrel. Mr. Mills also told him that his Peasgood's Nonsuch Apples averaged 50 per cent. better price than the Canadians.

The question of foreign competition, he held, was a national matter, and the subject of railway rates and the preferential rates given to the foreigner by our English companies, would have to be seriously gone into. As an instance, he mentioned that in America five guineas a ton was charged for transit for a distance of 3,500 miles; he paid the Great Western Railway Co. 27s. a ton for 140 miles. If his goods were carried on the same basis as Oranges were carried in America, the freight ought to be about 4s. Owing to the railway companies' high charges thousands of tons of fruit had to rot, as it would not pay to place it upon the train. The French Apples had an advantage over the English Apples between Southampton and London of something like 7s. 6d. a ton. Batter again, from and to the same places, showed a preference in favour of the foreigner of 21s. per cent. Englishmen could not stand against that. With regard to fruit growing, he would warn people against indiscriminate planting, which would only be making a rod for their own backs, and, like indiscriminate dabbling in African mines, would make the victims wish they had never taken the matter in hand.

Mr. GEORGE GORDON said we should be a great deal more careful about our packing. In the case of Plums, although it might not be pleasant to Englishmen to confess it, the French cultivators were far and away in advance of us. The English method really spoils the fruit, which presented anything but an attractive appearance when it was finally shovelled into the customer's basket. Then again, if we were to take full advantage of our opportunities, we should be able to utilise our fruit in seasons of plenty by drying and preserving. There was no necessity to rely on the sun for drying—that could be done in an ordinary oven.

The CHAIRMAN mentioned that he had dried his own fruit in the oven, which answered satisfactorily. There were, however, two good drying-machines—the Mayfarth and the Wass—one of which was at Chiswick Gardens, where it might be inspected.

NATIONAL CHRYSANTHEMUM.

OCTOBER 8, 9, 10—More than usual success attended the early autumn show of the National Chrysanthemum Society, held on the above dates in the Royal Aquarium, Westminster. The quality of many of the blooms exhibited was very high, and almost equal to those generally staged at the November meeting. There were some new varieties presented before the Floral Committee, and several Certificates were awarded. Competition in the open classes was generally good, but in the limited classes rather weaker. The show gained much of its effectiveness as a display from the very numerous honorary collections of flowers and fruits from the trade.

There were two exhibitors only of a group of Chrysanthemum plants in flower, arranged with foliage plants for effect. Mr. H. J. JONES, Ryecroft Nurseries, Lewisham, was 1st. He staged a good lot of plants and placed them thinly, with a few Ferns in front and intermixed, and a background of Bambusa. Varieties most interesting were the new Mrs. Chas. E. Shea, one of the first rate Japanese blooms of last year; Mrs. R. Jones, L'ère, A. H. Fewkes, &c. The colour of several of these was rather deficient. The 2nd prize was taken by Mr. Howe, gr. to HENRY TATE, Esq., Park Hill, Streatham Common, who had a group consisting of Chrysanthemums, with Dracenas, Crotons, and other things.

For twenty-four Japanese blooms in eighteen varieties, Mr. W. WELLS, nurseryman, Redhill, Surrey, won 1st honours, and his collection was capital, indeed, for this early show. Among the varieties, the most noteworthy was Boule d'Or, an incurved variety of the present year, sent out by Calvat. As shown, the bloom is large and fairly full, petals broad, and the colour a pleasing shade of buff. A First-class Certificate was awarded. Wm. Tricker, Frank Wells, Eda Prass, Louise (very good), Madame Ed. Rey, were all of good quality. 2nd, Mr. Chas. Cox, gr. to JNO. TROTTER, Esq., Brickendon Grange, Hertford, whose collection had also very exceptional blooms. We might mention Avalanche, Mrs. Anna Hartsborn, President Borel, &c. There were several other exhibits in this class.

The best twelve blooms (Japanese), distinct, was a dozen from Mr. R. Jones, gr. to C. A. SMITH-RYLAND, Esq., Barford Hill, Warwick, who had blooms of excellent quality. Mons. Chas. Molin, which was awarded a First-class Certificate as shown by Mr. W. J. Godfrey, was represented in this stand by a first-class bloom; Madame Ed. Rey, Mrs. E. G. Hill, Wm. Seward, Rose Wynne, M. Panckoucke, were others that commanded notice.

In the 2nd prize collection, from Mr. Jas. Brookes, gr. to W. J. NEWMAN, Esq., Whetstone House, Totteridge Laue, N., were nice blooms of good colour, representing the newer varieties; Mr. W. COLLINS, gr. to J. W. CARLILE, Esq., Ponsbourne Park, Hertford, was 3rd; and there were seven or eight other exhibitors.

Six blooms of incurved distinct only found two exhibitors. Mr. W. COLLINS was 1st, and his best blooms were Refulgens

and Mons. Bahuant; Mr. R. Filkins, gr. to Miss ALEXANDER, Oakbank, Chislehurst, was 2nd.

Only two exhibits were made of twelve bunches of Pompos, and the best were from Mr. Chas. Brown, gr. to R. HENTY, Esq., Langley House, Abbots Langley, Herts, who had a stand composed of very neat blooms of nice quality. Miss DEBENHAM, St. Peter's, St. Albans, was 2nd.

Six bunches, however, were best from Miss DEBENHAM, who showed very well in this class, and was followed by Mr. T. L. Turk, gr. to T. BONEY, Esq., Southwood House, Highgate, N., and Mr. CHAS. BROWN.

Mr. T. Tullett, gr. to G. ALEXANDER, Esq., Warley Lodge, Brentwood, Essex, had 1st prize for two vases of Chrysanthemum blooms, twelve large-flowered blooms in each, with the addition of any suitable foliage. The blooms used were good, and only a little Asparagus was used in addition to the natural foliage. There were several other competitors in this class.

Amateur Classes.—Mr. H. LOVE, 1, Melville Terrace, Sandown, Isle of Wight, was 1st for twelve blooms of Japanese, in not fewer than six varieties, and showed a capital collection, blooms very fine, but lacking colour a little; G. C. Schwabe was noticeable. 2nd, Mr. W. Amies, South Ashford, Kent.

The class for six blooms was won by Mr. F. DURRANT, 4, New Road, Ware; his collection lacked colour, as the only flower with any colour was one of W. Tricker. 2nd, Mr. Ed. JONES, 25, Malvern Road, Horsey, with bright but smaller blooms; 3rd, Mr. AMIES.

Single-handed Gardeners.—The best twelve blooms of Japanese, distinct, came from Mr. J. Knapp, gr. to F. W. ANSDEN, Esq., 22, Chichester Road, Croydon; his best blooms were W. G. Newett, Eda Prass, and Mrs. F. Jameson. 2nd, Mr. T. L. TURK.

Mr. J. KNAPP was again successful for six blooms, including a good one of Annie Clibran; 2nd, Mr. A. W. Southard, gr. to H. B. KENTON, Esq., Winningwood, Sutton.

Floral arrangements.—The first class in this section was for a table of miscellaneous arrangements, illustrating the decorative value of Chrysanthemums. Mr. J. R. CHARD, Stoke Newington, won 1st for this, and showed an effective collection of bouquets, wreaths, button-holes, sprays, &c., but the whole was rather overdone with berries, and appeared to be designed to illustrate the value of berries in decorative exhibits. The best three epergues of Chrysanthemums were also shown by Mr. J. R. CHARD, and they exhibited considerable taste. Mr. D. F. CRANE was 2nd; and Mr. W. GREEN, Jr., florist, Harold Wood, Essex, 3rd. There were several other entries in this class. The class for one vase (the trade excluded), was won by Mr. D. M. HAYLER, gr. to W. HANNAFORD, Esq., Tenterden Hall, Hendon, N.W.; and Mr. D. B. CRANE was a very close 2nd.

MISCELLANEOUS EXHIBITS.

We have already described these as very numerous. Messrs. JAS. VEITCH & SONS, Royal Exotic Nursery, Chelsea, had a group of Chrysanthemums, very noteworthy, the blooms being good, and the group contained plenty of colour. The plants, in our opinion, would have looked better had they been less thickly placed together. Louise, as usual in early shows, figured largely in the group. Madame Lecocq, Lady Randolph, President Armand, Commandant Blussett, and M. Auguste de Lacrivier, were noticeable.

Another group of Chrysanthemums was staged by Mr. THOS. S. WARE, Hale Farm Nurseries, near Tottenham.

From Mr. W. J. GODFREY, Exmouth Nurseries, Devon, came a large display of Chrysanthemum blooms, most of which are Mr. Godfrey's own seedlings. Mons. C. Molin was recommended a First-class Certificate. Blooms of the excellent Carnations, Miss Mary Godfrey (white), Reginald Godfrey (pink), and others, were also shown.

Mr. RONT. OWEN, Maidenhead, had blooms of Yellow Gem, a frimbriated Pompon, flowers very small, with high centre (First-class Certificate); Lady Esther Smith, a white Japanese incurved, with excellent broad petals (Certificate); and Col. Bernard, a red flower, with very pale buff reverse (Certificate).

Mr. W. WELLS, who won in the class for twenty-four blooms of Japanese, exhibited another stand containing about four dozen fine blooms in considerable variety; and Mr. SHOESMITH, Clarendon Nursery, Woking, had a stand of twelve blooms, including Louise, M. Chas. Molin, Rose Wynne, and Phœbus, a good yellow reflexed variety (First-Class Certificate).

From Mr. H. J. JONES, Ryecroft Nursery, Hither Green, Lewisham, was a very pretty collection of Chrysanthemum blooms. At the back was a good lot of Ferns and some conspicuous blooms in stands among these. In front there were seven or eight dozen Chrysanthemum blooms in boxes. Some excellent sprays of Pelargoniums were also from Hither Green. Messrs. H. CANNELL & SONS, Swanley, had a large stand of Dahlia blooms, also of Cannas, and a few Chrysanthemums.

The large permanent fountains, one of which stands at either end of the Aquarium, were on the present occasion used for the first time as a means for making an effect in floral arrangement. Mr. THOS. S. WARE, Tottenham, decorated one of these, and made a very commendable display of all sections of Dahlia blooms, well furnishing the entire structure. The other one was capitally done by Messrs. CHEAL & SON, Crawley, who, in addition to Dahlia blooms, displayed a quantity of fruit at the base.

Mr. E. F. SUCH, nurseryman, Maidenhead, exhibited various floral arrangements of Chrysanthemums; and Messrs. W. CUTBUS & SON, Highgate, had a collection of Asters and other hardy flowers. Mr. G. GOODSON, Belle Vue Nursery, Acton, exhibited a few plants of a new yellow Chrysanthemum, with moderate-sized, very full flowers, apparently useful for decorative work. Mr. W. HIGGS, Fetcham Park Gardens, Leatherhead, showed a number of excellent plants

in bloom of *Saintpaulia ionantha*, raised from seed sown in January. Mr. E. G. REID, nurseryman, Beckenham Hill, Kent, had a few *Dahlia* blooms, Cannas, &c.

Fruit was exhibited well by several firms. Messrs. JNO. LAING & SONS, Forest Hill, London, S.E., had a first-rate collection of Apples and Pears; and Messrs. S. SPOONER & SONS, Hounslow, Middlesex, and Mr. H. BERWICK, Sidmouth, Devon, also exhibited worthy collections.

Onions and Leeks were shown by Messrs. DOBBIE & Co., Rothsay, N.B., and Onions by Mr. H. DEVERILL, Banbury.

MAIDSTONE HARDY FRUIT EXHIBITION.

OCTOBER 8, 9.—This was far the best exhibition of its kind this Society has ever held. The classes were better filled, and the fruit generally was of the highest order. The entries last year were 98, as compared with 255 on the present occasion.

For the best collection, not to exceed twenty-four dishes, grown in the county, open to landowners, tenant-farmers, or market-gardeners, there were ten exhibitors. ROGER LEIGH, Esq. (gr., Mr. Woodward), took the lead, showing superb Peasgood's, Washington, Mère de Méange, Bismarck, Alexander, Cox's Pomona, and Mother Apples; four fine dishes of Peaches, and good Pears. The 2nd prize fell to M. H. DALLISON, Esq. (gr., Mr. Legg); 3rd and 4th, to A. J. THOMAS, Rodmersham, and Mrs. FREMLIN, Teston, respectively.

The best eighteen dishes of Apples and six dishes of Pears, open to all, were from Mr. WOODWARD; 2nd, Mr. S. H. GOODWIN, Mereworth; closely followed by Mr. CHAMBERS, Mereworth. In this class nine competed, all showing exceptionally good Apples.

For nine dishes of Apples and three of Pears, each dish to consist of twelve fruits, and farm grown, six competed. The 1st prize went to Mr. THOMAS, who staged handsome fruit of The Queen, Beauty of Kent, Gloria Mundi, Bramley's Seedling Apples, and very fine Pitmaston Duchess Pears. Mr. SMITH, Loddington, closely followed with a remarkably clean lot. His best dishes were Cox's Orange Pippin, Ribston Pippin, Queen Carolae, Adam's Pearmain, Tower of Glamis, Bismarck, and Gascoigne Seedling Apples; 3-d, Mrs. FREMLIN.

The class for six dishes, four of Apples and two of Pears, twelve fruits to a dish, was won by Mr. A. T. KILLICK; 2nd, Mr. BLEST, Broomcroft, Wateringbury; 3rd, Mr. GOODWIN.

For one sieve of Apples, Cox's Orange Pippin, there were fourteen lots. Mr. T. W. STARTUP, West Ferleigh, was deservedly 1st, with large, handsome, and beautifully-coloured fruits; Mr. THOMAS and Mr. GOODWIN followed.

For any other dessert kind, Mr. GOODWIN took the lead, showing grand King of the Pippins; 2nd, Mr. MAINWARING, with the same kind.

For one sieve of Cooking Apples eighteen competed, all of which were exceptionally good. Mr. KILLICK took the lead, showing good Peasgood Nonsuch; 2nd, Mr. F. LOCKYER, with very large and well-coloured Blenheim Orange.

Mr. SMITH took 1st for four quarter-sieves of Dessert Apples, showing very good Malbot's Pearmain, Cox's Orange Pippin, Ross' Nonpareil and Ribstons; this class was strong, and several other classes were well filled, the competition being keen throughout.

MISCELLANEOUS.

F. S. W. CORNWALLIS, Esq. (gr., Mr. McKenzie), staged some fifty dishes of Apples and Pears, all of superb quality.

H. L. C. BRASSEY, Esq., Preston Hall (gr., Mr. Jarman), contributed some forty dishes of excellent fruit; and Mr. STARTUP showed a similar quantity.

Mr. S. FRONT, of the Borough and Liog Nurseries, sent a large and varied collection of Dahlias.

SCOTLAND.

LEEK AND ONION SHOW AT ROTHESAY.

WHILE most persons are ready to admit that the floral productions from Rothsay take the lead at northern shows, we are not prepared to say that Rothsay is able to cope with the growers of the more sunny South in the matter of Onions. In the seed stores of Messrs. Dobbie & Co., an exhibition of Leeks and Onions was held, which in its way is as much an international one as some of the great "international" shows. Some of the grand Onions shown from districts wide apart in England and Scotland would grace any show in the country, where size and quality combined are recognised merits. Leeks generally were such as one is accustomed to see in the North, mostly of fine form, well blanched, firm, and of large girth. It is to be hoped this interesting exhibition, promoted by Messrs. Dobbie & Co. will be the forerunner of Leek and Onion shows of greater magnitude. If vegetable roots were added to such a show, they would increase the interest very materially—we think the promoters have this idea in view, and their liberality on this occasion has done wonders by bringing together,

without any fuss, nearly eighty exhibitors for four specimen Onions, and over sixty for Leeks; and, remarking the excellence of the exhibits all round, they increased the number of prizes, which were as follows:—Leeks—1st, Mr. L. COLLINS, 108, West Wylam, near Prudhos; 2nd, Mr. D. LOGAN, Castlelaw, near Coldstream, Kelso; 3rd, Mr. J. EDWARDS, stationmaster, Stanley, Perth; 4th, Mr. James Hall, Kelso; 5th, Mr. William Laverock, 113, Grinlawa, Leslie. Other fine acknowledgments were made. Onions—1st, J. BOWERMAN, The Gardens, Hackwood Park, Basingstoke; 2nd, T. WILKINS, Inwood Gardens, Henstridge, Blandford; 3rd, Noah Knellar, Malahanger Gardens, Basingstoke; 4th, Adam Dunlope, Flowerbank Cottage, Galton; 5th, R. Fishwick, Singleton, Poulton-le-Fylde; 6th, G. H. COP, Gardens, Honest Park, Sherbourne; 7th, R. Paton, 40, Orchard Street, Galton; 8th, J. Hall, Singleton, Poulton-le-Fylde; 9th, H. Taylor, Gardener, Gredington, Whitechurch; 10th, W. Rankine, Loch Ryan, Straunraer. While there was nothing inferior in any of the exhibits, most of them were first-rate, and admitted on all hands to be the finest bulbs ever seen in Scotland at any exhibition. *M. Temple.*

NOTES FROM CULTOQUEY, PERTSHIRE.

For some years past I have been desirous to see the gardens at Cultoquhey, near Crieff, the seat of J. M. Graham, Esq., where that popular proprietor's gardener, Mr. Fender, has raised the excellent vegetables he has exhibited for some years at the great shows held at Edinburgh and Glasgow. The strong points in the Cultoquhey collections generally are cleanliness and first-rate quality, rather than grossness and large size.

At this lovely seat there are other attractions than vegetables, such as the fine specimens of Coniferæ which adorn the extensive grounds. Though in common with Ochertyre, and other places in the locality, some losses were sustained by the severe gales in November of 1893, there are still sufficient fine specimens to render Cultoquhey attractive to lovers of Coniferæ. Among Oaks, Ashes, and other large trees of the deciduous class, are to be found the following, which have recently been measured, in order to find the actual progress they are making in height and girth of trunks 5 feet from the ground. The trees are in good health, and handsome in form. *Taxus Mertensiana*, 68 feet high, and 4 feet 9 inches in girth; *Abies grandis*, 68 feet high, and 5 feet 9 inches in girth; *A. Nordmanniana*, 77 feet 6 inches high, and 7 feet 6 inches in girth; *Taxodium sempervirens*, 49 feet 6 inches high, and 7 feet 3 inches in girth; *Thuopsis borealis*, 34 feet high, in bush form; *Sequoia gigantea*, 51 feet 6 inches high, and 10 feet in girth; *Arancaria imbricata*, 50 feet high, and 5 feet 8 inches in girth (this plant measures 16 feet at ground). Many others are doing remarkably well, including *Picea Mezerisii*, *P. orientalis*, *Taxus Pattonii*, *Abies cephalonica*, *A. Lwii*, and *A. Pinsapo*.

In the vegetable garden we found abundance of excellent produce. Good soil, deep tilt, and the judicious application of manure by Mr. Fender, result in excellent crops.

A cursory inspection of the fruit crops showed the careful attention the trees receive. Pears, mostly grown on walls, are represented by William's Bon Chrétien, Marie Louise, Comte de Lamy, Louise Bonne, Sun Egg, Moorfowl Egg (still a great favourite in the North), and some others of the hardier sorts, it being useless to attempt to cultivate the fine French Pears, which require more aid from sun than they would get in mid-Perthshire. Hardy and useful kinds of Apples, Plums, and other fruits are cultivated. Hale's Early Peach was in capital condition on the walls.

I did not leave before seeing the *Maréchal Niel* Rose which has produced for years past fine prize-taking flowers. It is grafted on the *White Bankian*, is cut hard back, and trained over the roof of a greenhouse. *M. Temple, Carron, N.B.*

STREPTOCARPUS.—We have received through the courtesy of Messrs. Jas. Veitch & Sons, Chelsea, a few late flowers, in various colours, of their new hybrid *Streptocarpus*, which were noticed more fully on p. 124.

NURSERY NOTES.

ROYAL EXOTIC NURSERIES, CHELTENHAM.

THESE nurseries have been carried on by Messrs. Heath & Son for many years with considerable success and profit, and the various departments of the business are unusually extensive and comprehensive. Throughout the midland, western, and northern counties the firm has long been famous, and it is gratifying to know that their fame is well sustained at the present time. The nursery stock generally is excellent; stove and greenhouse plants are varied and well grown, as also Orchids, and the breadths of Roses, Dahlias, fruit trees and shrubs, in every instance bespeak the master hand. A good assortment of the more valued herbaceous perennials is grown in considerable numbers, and in proportion to their various merits. The cut flower trade of the nurseries is very large; the number of wreaths, crosses, and other floral designs despatched in the busy season is very considerable. To meet such a large demand, large numbers of suitable plants for flowering in the winter are grown, and among these Tea Roses in pots form a considerable proportion; and for these alone several houses are utilised, and two or three methods adopted in their cultivation, so as to meet the requirements of certain varieties grown. On the other hand, to retard or prolong the season of flowering to the very utmost, besides these pot Roses, others are planted in borders made in the houses—some of the Rose-houses having portable roofs, which admit of a thorough and complete ripening of the wood by removing the lights. Large numbers of tree Carnations are also cultivated, particularly of those shades of pink represented by Miss Joliffe. One large house contained a batch of an unnamed pink variety, evidently of a perpetual character, which at the time of my visit was pushing forward its spikes in several stages that promised a long succession of bloom during the autumn and early winter. Judging by the flowers that were expanded, it is of a somewhat deeper shade of pink than Miss Joliffe, and it is a fuller flower.

Bonvardias are cultivated on an extensive scale in all the leading varieties, planting out as well as pot-culture being adopted—those planted out being a very promising batch, notwithstanding the great heat of the past summer, the sturdy vigorous bushes showing that they had been well tended. The planting-out method for these plants was adopted some years ago, and it has been very successful. Near one of the beds of *Bonvardias* was a low span-roofed pit, filled with *Bonvardia* plants in pots, some of which were on the point of opening their flowers. These were a capital lot of plants, numbering several hundreds, vigorous, fresh-looking, and full of flower-buds.

Poinsettias form another extensive item, and were noteworthy for the dwarf sturdy character of the plants, which is in a measure accounted for by the fact that they were grown fully exposed in open frames. In the culture of these decorative plants Messrs. Heath avoid tall, leggy, leafless plants, preferring to produce quantities of plants of a uniform size, which in the long run are the more useful. From the first the plants are accustomed to a cooler treatment than is usually thought good for them, and the large batch of plants bear proof of the correctness of the treatment afforded. The plants carry their foliage down to the pots, not drawn and weak as one often sees *Poinsettias*, or rendered too delicate for ordinary decorative purposes.

Among the stove-plants, many of the leading *Codicums* (*Crotons*), in well-coloured examples, were noticed, many of them very brilliant and effective. These plants are the products of high temperatures, abundant moisture, nearness to the glass, where they receive the fullest possible sunlight for the greater part of the day. In another house, containing the *Ixoras*, I noted a fine pair of *I. Daffi*, between 5 feet and 6 feet through. These plants carried some forty or more fine growths, all showing grand traces of bloom.

Orchids are also grown largely here, particularly those best suited to cut flowers, together with many good and rare kinds too numerous for this brief note. Of those that were grown abundantly and deserved special note was a very large batch of Cypripedium insignis, which includes many forms of the fine old Orchid—there were quantities of large specimens in excellent condition. Cologyna cristata was also largely represented. Another large house was almost wholly devoted to Dendrobium Phalaenopsis Schroderianum. Of this alone there were a large number of plants in many sizes, and remarkable variety. The collection was just coming into flower at the time of my visit, and already many pleasing flowers were expanded. The great value of this Orchid is now well known, and in a large assortment of plants such as may be here seen there is almost endless variety, as well as a long-continued season of bloom.

In the hardy plant department many of the more showy and useful species were to be seen, such as shrubby Phloxes in much variety, Michaelmas Daisies, Rudbeckias, hosts of Gaillardias, perennial Sunflowers, notably H. multiflorus and varieties; Tritomas, Pyrethrams, Campanulas in variety, Enothera macrocarpa, with its large yellow blossoms fully expanded. And apart from these, Carnations, Pinks, Asters, and a host of other similarly useful material. There were also Dahlias and Gladiolus planted out in beds galore; while a plantation of the yellow Marguerite, Chrysanthemum frutescens var. Etoile d'Or, was daily expanding many hundreds of its useful flowers. J.

and west, and these conditions gradually extended to all parts of the Kingdom. Heavy falls of rain were experienced over the country generally, especially in England, S.W. and the Channel Islands. Thunder and lightning occurred in many localities about the middle of the period.

"The temperature at first continued extremely high for the time of year, but subsequently fell rapidly and became rather low, frost occurring on the ground early on the 3rd. The average values for the week, however, were again above the mean in all districts excepting Scotland, E., the excess ranging from 1° in 'Scotland, W. and Ireland, S.,' to 4° in 'England, S. and S.W.,' and 5° in the 'Channel Islands.' The highest of the maxima (registered on September 29 or 30) ranged from 83° in 'England, N.E.,' 81° in 'England, N.W.,' and from 78° or 79° in most other districts, to 74° in 'Scotland, E. and W.' The lowest of the minima were recorded towards the end of the week, when the thermometer fell to 31° in 'Scotland, N. and E. and in England, S.W.,' to 33° over central and eastern England, and to between 35° and 37° in all other districts, excepting the 'Channel Islands,' where the lowest reading was 45°.

"The rainfall was rather less than the mean in 'England, N.E.,' and just equalled it in 'England, E.,' but was in excess in all other districts, especially in the west and north, the fall in 'England, S.W. and the Channel Islands' being nearly three times the mean. The greatest fall at any individual station was 5.35 ins. at Arlington, of which 2.71 ins. fell on October 5.

"The bright sunshine shows a great decrease over the Kingdom generally, but a decided increase in 'Scotland, N.' It was, however, again in excess of the mean, the percentage of the possible duration ranging from 52 in 'England, S.W.,' 48 in 'England, E. and S.,' 47 in 'Ireland, S.,' to 33 in 'Scotland, W.,' and 30 in 'England, N.W.'"

TRADE NOTICE.

MR. JOHN CLAYTON, son of the Gardener at Grimston Park, and who for nearly eleven years has been with Messrs. Backhouse & Sons, nurserymen, at York and Harrogate, has been appointed representative of Messrs. Fisher, Son & Sibrey, Limited, of Handsworth Nursery, Sheffield, in succession to Mr. W. Atkinson, who, some time ago, was appointed Managing Director of the firm in question.

MARKETS.

COVENT GARDEN, October 10.

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

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

Table with columns for flower types (Arums, Azaleas, Bouvardias, etc.) and prices in s. d. s. d. format.

ORCHID-BLOOM in variety.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

Table with columns for plant types (Adiantum, Aspidistra, Ferns, etc.) and prices in s. d. s. d. format.

FRUIT.—AVERAGE WHOLESALE PRICES.

Table with columns for fruit types (Apples, Dessert, etc.) and prices in s. d. s. d. format.

VEGETABLES.—AVERAGE WHOLESALE PRICES.

Table with columns for vegetable types (Beans, Cauliflowers, etc.) and prices in s. d. s. d. format.

POTATOS.

Markets continued dull, and prices generally low, inferior samples, 30s. to 40s.; medium, 45s. to 50s.; best Brightlands 70s. to 90s. J. B. Thomas.

SEEDS.

LONDON: October 9.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that French Red Clover-seeds come cheaper. There is nothing yet doing in Alsike, White, and Trefoil. Rye-grasses are also neglected. Winter Tares show some improvement, both in value and demand. There is no change in Rye. Canary-seed is decidedly stronger. Hemp-seed unaltered. Blue Peas meet an increased demand. Haricot Beans are held for higher rates. Linseed and Buckwheat also tend upwards.

FRUITS AND VEGETABLES.

BOROUGH: Oct. 8.—Quotations:—Cabbages, 2s. to 4s. per tally; Onions, 3s. to 4s. 6d. per bag; Carrots, 1s. 3d. to 2s. per dozen bunches; Horseradish, 1s. to 1s. 3d. per bundle; Apples, 2s. to 4s. 6d.; Pears, 3s. to 7s. per bushel.

SPITALFIELDS: Oct. 8.—Quotations:—Pears, 1s. to 1s. 6d. per bushel; Cabbages, 5s. to 6s. per tally; Collards, 2s. to 3s. do.; Greens, bunch, 1s. 6d. to 2s. per dozen bunches; Celery, 8s. to 10s. per dozen; Beet, 1s. 6d. per bushel; Carrots, 1s. 6d. to 2s. per bag; 2s. per dozen bunches; Sage, 2s. to 2s. 6d. do.; Marjoram, 2s. to 3s. do.; Winter Savory, 1s. 6d. to 2s. do.; Mint, 1s. 6d. to 2s. do.; Sweet Basil, 3s. to 4s. per dozen; Apples, Warner's King, 2s. 6d. to 3s. per bushel.

STRATFORD, Oct. 8.—Quotations:—Cabbages, 2s. to 3s. per tally; Savoys, 2s. 6d. to 5s. do.; Cauliflowers, 9d. to 1s. 3d. per dozen; Turnips, 1s. 6d. to 2s. 3d. per dozen bunches; do., 25s. to 40s. per ton; Carrots, household, 3s. to 35s. do.; do., cattle-feeding, 15s. to 27s. 6d. do.; Mangels, 11s. to 16s. do.; Swedes, 20s. to 28s. do.; Onions, Ghent, 2s. 3d. to 2s. 6d. per bag; Dutch do., 2s. 6d. to 3s. do.; Apples, English cookers, 2s. to 4s. per bushel; do., dessert, 2s. 6d. to 4s. 6d. per bushel; Scotch Kale, 1s. to 1s. 6d.; Marrows, 2s. to 3s. per tally; Pears, English, 2s. 6d. to 6s. per flat; Damsons, 1s. 6d. to 2s. per half-sieve; Tomatos, English, 2s. to 3s. per peck; Cucumbers, frame, 1s. to 3s. per dozen; Scarlet Beans, 1s. to 1s. 3d. per bushel, and 1s. 9d. to 2s. 6d. per bag; Beets, 2s. to 2s. 6d. per dozen bunches; Celery, 8d. to 1s. per dozen heads; Horseradish, 1s. to 1s. 2d. per bundle; Parsley, 1s. to 1s. 6d. per dozen bunches.

FARRINGTON: Oct. 10.—Quotations:—Cauliflowers, 2s. per dozen; Cabbage, 6s. 6d. per tally; Collards, 1s. per doz.; Celery, 1s. per roll; Marrows, 1s. per dozen; Parsnips, 3s. 6d. per tally; Lettuce, 1s. per score; Carrots, 1s. 9d. to 2s. per bag; Turnips, 2s. do.; Herbs, 2s. per dozen bunches; Onions, 3s. 6d. per bag; do., Oporto, 5s. 6d. per case; do., Valentias, 5s. per case; Grapes, Almeida, 13s. per barrel; English hot-house do., 1s. 3d. per lb.; Walnuts, 13s. per bag; Melons, 14s. to 21s. doz.; Apples, Blenheim, 5s. bushel; King Pippins, 4s. do.; Pears, stewing, 3s. per half-bushel; Marie Louise, 6s. per bushel; Canadian Apples, Gravenstei, 12s. 6d. per barrel.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending October 3, and for the corresponding week in last year:—1895: Wheat, 23s. 6d.; Barley, 25s.; Oats, 13s. 6d. 1894: Wheat, 18s. 2d.; Barley, 23s. 7d.; Oats, 14s.

ENQUIRY.

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

A THIRTY-TWO YEARS' SUBSCRIBER asks if any of the numerous readers of the Gardeners' Chronicle, will kindly inform him where he can procure, by purchase or otherwise, the following old garden plants:—Cuttings or plants of bedding Calceolaria Sparkler, Fuchsia Duchess of Lancaster (light), and Tropaeolum elegans or Crystal Palace Nasturtium, the last of which was used with such telling effect on the terraces at the Palace some thirty-six years ago!



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Table with columns for DISTRICTS, TEMPERATURE, RAINFALL, and BRIGHT SUN. It contains detailed weather data for various districts.

The districts indicated by number in the first column are the following:—0, Scotland, N. Principal Wheat-producing Districts—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending October 5, is furnished from the Meteorological Office:—"The weather continued very fine and summerlike during the two first days of the period. On October 1, however, it became very unsettled and rainy in the extreme south-west

NOTICES TO CORRESPONDENTS.

* * Owing to the large increase in our circulation, we are under the necessity of going to press some hours earlier. Our contributors will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.

AMARYLLIS: *G. H. W.* If you turn to p. 342 in our issue for September 21, 1895, you will find an answer to all of your questions regarding the treatment of Amaryllis.

AMPELOPSIS VEITCHII: *L. C., Rugby.* The lobed leaves and the trifoliate leaves are simply the result of unusual vigour. *A. Veitchii* under glass produces very large-lobed and compound leaves. The plant, as grown out of doors, has not a chance of developing to the full extent.

BOOKS—FLORAL DECORATION: *G. W. A. and I. M. C.* We believe Mr. Upcott Gill, Bazaar Office, 170, Strand, W.C., publishes a modern manual on this subject. A small one by C. C. Saward was published by the same Office late in the 60's, but this is too antiquated to be of much use. A larger work by Annie Hassard, entitled *Floral Decoration for the Dwelling House*, was published by Macmillan & Co. in 1875, and may be met with at the secondhand bookshops.—*Arboretum.* *Kemp's How to Lay Out a Garden*, published by Messrs. Bradbury, Agnew & Co., Limited, Bouverie Street, E.C.; and *Henry E. Milner's The Art and Practice of Landscape Gardening*, published by Messrs. Simpkin, Marshall, Hamilton, Kent & Co., Limited, Stationers' Hall Court, London.—*M. Gillett, Villa Gardening*, by Hobday, published by Messrs. Macmillan & Co., Bedford Street, Covent Garden, W.C., contains very good directions for cultivating vegetables in private places.—*H. W. My Gardener*, by H. W. Ward, published by Eyre & Spottiswoode, East Harding Street, London, E.C., will afford just the sort of information on Kitchen Gardening that you require.

CLUBBING IN CHRYSANTHEMUM ROOTS: *K. J. G.* The clubbing of Chrysanthemum roots has in some instances been proved to be caused by the use of unsuitable manure, and the example examined is probably so caused. Belwooms and fungi are absent. *G. M.*

DENDROBIUM, WARDIANUM AND NOBILE: *W. S.* The plants are suffering from excess of water at the root, and they have probably lost many of their roots entirely, or these have rotted from the points a short distance. An examination of the roots is very necessary. If these are found to be decayed, wash what remains after decayed portions are cut away, and insert them temporarily in pots, chiefly filled with clean crocks, and just a small amount of sphagnum-moss, keeping them in a moderately warm moist house, and lightly syringing them once or twice a week. In the spring proper potting or basketing may be done.

FASCINATION IN ANTIRRHINUM: The Surrey Seed Co. send a photograph of a plant in this condition, which is very common, as a result probably of overgrowth.

FOUR GLASS HOUSES, EACH OF 150 FEET LONG: *Cyclamen.* It is of no use attempting to cultivate French Beans by cool treatment. Nothing less than a day temperature of 70° to 75°, and night ditto of 60° will suffice. You might grow Tomatoes, but it will be necessary to obtain by purchase robust plants, and plant at once; also Cucumbers, choosing a medium-sized early prolific variety. These should now be in the beds if for very early fruiting, though for succession later plantings would do. In these forcing houses you might grow Rhubarb, Roses, Lily of the Valley, winter-blooming Begonias, early Narcissus, and other Dutch Bulbs; Gardenias, if clean plants can be obtained; Rhododendron hybridum, Eucharis, Myrsiphyllum, Lygodium, Maidenhair Fern, Mustard and Cress, &c.

GRAPES AND APPLES: *C. W. H.* The Grapes are shanked, the causes of which malady are various; such as loss of roots through a soddened, badly drained, or pasty soil; roots growing low down in a deep border away from the active agency of sunheat; overcropping; and sudden loss of much of the foliage by improper thinning of the shoots. We would advise an early examination of the roots. The Apples have probably been injured in the young state by hail.

GRAPES NOT COLOURING: *W. M. J.* Your Black Muscates are evidently doing well except but they

fail to finish. Bunch and berries are of good size. They require to be started fairly early in the season, and must be given plenty of heat. In this respect they require just the same treatment as Muscat of Alexandria.

INSECTS: *G. A.* The name of the beetle is *Olibrus æneus*. *R. McL.*

MUSHROOMS: *A Subscriber.* We do not suppose that Mushrooms would not grow on manure from horses fed largely on Thorley's Food, but the crops would not equal what would be obtained from corn-fed animals. Perhaps some of our readers will kindly state their experience.

* * PLANTS, FRUITS, ETC., TO BE NAMED.—The applications to name flowers, and especially fruit, are so numerous at this season as severely to tax our resources. They entail an expenditure of time, labour, and money, of which our readers have no idea. We are always willing to oblige our correspondents as far as we can, but the editing of the *Gardeners' Chronicle* is our business, to which everything else must give way. Correspondents are respectfully requested to observe the rule that not more than six specimens can be dealt with at a time. If more are sent, it would be a graceful act on the part of the sender, to send also a small contribution to the *Gardeners' Orphan Fund*. Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered. Leaves only, or Florists' varieties cannot, as a rule, be named.

NAMES OF FRUITS: *W. T. H.* Your second attempt is a greater failure than your first. The card-board box and Apple arrived quite flat, and the wonder is that the letter was not lost. We shall not be surprised if the Apple proves to be merely a local variety.—*J. T. O.* 1, Gloria Mandi; 2, Lord Derby; 3, not recognised, much bruised; 4, Doyenné du Comice; 5, Chaumontelle; 6, Napoléon.—*Alpha.* 2, 5, Beurré de Capiaumont; 3, Beurré Clairgeau; 1, Beurré d'Amanlis; 4, Triomphe de Jodoigne; 7, Beurré Diel (thanks for subscription to the *Gardeners' Orphan Fund*, which has been sent to the Secretary).—*E. G. Allen* Unknown to us, most probably a purely local variety.—*W. H. D.* 1, Hollandbury; 2, Emperor Alexander; 3, Hawthornden; 4, O. d. Nonpareil; 5, Blenheim Orange; 6, Kerry Pippin.—*P. J.* 4, Fearn's Pippin; 5, King of the Pippins. Others unknown, worthless.—*T. S.* 1, Stirling Castle; 2, Edmund Japp; 3, Cellini; 4, Dutch Mignonne; 5, Waltham Abbey Seedling.—*Sherrington.* Pear Chaumontelle.—*W. Fox.* Pear Fondante d'Autonne.—*J. D., Bracknell.* 1, Louise Bonne; 4, Fondante d'Autonne; 5, Jersey Gratioli; 7, Marie Louise (your box was too shallow, and the fruits were injured)—*K. J. G.* 1, Bedfordshire Foundling; 2, Queen Caroline; 3, Kerry Pippin; 4, Beauty of Kent; 5, Damelow's Seedling; 6, Doyenné Boursch.—*A. S. Harvey, Highgate.* Your Pear is a stewing variety, Uxdale's St. Germain, and never becomes melting.—*W. H. Garside.* Apple, Emperor Alexander; Pear No. 2, is Marie Louise; 3, Louise Bonne of Jersey.—*J. S.* 1, Urbaniste; 2, Col. Vaughan; 3, Marie Louise; 4, Gravenstein; 5, Pear, Althorp Crassane. *C. Harlock.* Your Apple is Fearn's Pippin.—*S. N.* 1, Beurré Diel; 2, Marie Louise.—*D. W. R.* 3, Marie Louise; 4, Maréchal de la Cour; 5, Betty Gesson; 6, Gloria Mundi; Peaches should not be packed with Apples or Pears, they were past recognition.—*W. A.* 1, Apple, Allen's Everlasting; 2, Kerry Pippin; 3, Pear, Williams' Bon Chrétien; 4, Darondeau; 5 and 6, Beurré de Capiaumont.—*Joc.* 1, Hollandbury; 2 and 12, not known; 3, Fearn's Pippin; 10, Emperor Alexander; 8, Lord Suffield; 9, Pineapple Russet; 11, Fearn's Pippin.—*G. F. F.* 1, not recognised; 2, Duke of Devonshire; 3, Hambleton Deux Ans; 4, Smart's Prince Arthur. [We wish all our correspondents would pack the fruits they send us as carefully as you have done, and enclose particulars of each variety, together with shoots and foliage.]—*G. H.* Your Plums were packed badly, and in too small a box. If you send again, you should enclose a shoot of the variety.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to consult the next number.*—*W. Maxwell.* Send another specimen; box quite smashed in transit.—*S. W.* Apparently the Champignon, but it was shrivelled. The other is the spawn of some fungus, which we cannot name in its present state.—*P. H.* *Fraxinus excelsa* mono-phylla.—*A. S.* *Cratægus coccinea*.—*N. C.* 1, Solidago virga aurea; 2, not recognised; 3, Polygonum aviculare; 4, Epilobium parviflorum.—*R. N.* 1, Farfugium grande; 2, Francoa ramosa; 3, Dieffenbachia nobilis; 4, Acalypha Macafeana

5, Anthericum lineare variegatum; 6, Fittonia Pearcei.—*E. J., Aberdeen.* 1, Pellionia Careanana; 2, Caladium Schmitzi; 3 probably Carex japonica of gardens; 4 Selaginella circinalis; 5, Selaginella denticulata; 6, Selaginella Kraussiana aurea; 7, Anthericum lineare variegatum; 8, Dieffenbachia nobilis; 9, Selaginella plumosa. The above names are correct, we believe; but the specimens sent are very imperfect.—*E. H.* The common Tree Onion. Plant in March.—*W.* *Salvia elegans.*

PAYING CROPS UNDER GLASS: *A. B.* See our answer to *Cyclamen.* In regard to your other question, everything would depend upon your having good marketable produce which you could put on the market at little cost in carriage, and in first-class condition. Some men would make a good living out of a glass-house, 100 by 9 feet, whilst others would starve. We cannot say what the returns would be from 900 square feet of Stephanotis, well-managed, and coming in early, but they would represent a large sum of money.

PERSISTENT ATTACKS OF MILDEW ON ROSES: *P. R.* There must be something amiss with the soil on which the house stands; perhaps it is not drained, and the soil being retentive holds much water, and in that way favours the spread of mildew. Mildew often attacks Roses in houses when the air is cool and moist, and again when air is admitted at or near the level of the ground. It is always prudent to ventilate as much as possible at the top of the house. On warm dry soils and situations it is of little consequence how air is admitted. The common Strawberry is a dangerous shrub to have near Roses. We would advise the constant use of sulphur as a powder wherewith to dust over affected plants, and as a watery solution to keep in broad shallow saucers placed about the house.

RATING OF TRADE GLASSHOUSES: *D. K.* The assessment on houses actually employed in the cultivation of plants, fruits, &c., for sale purposes, is one-fourth of the usual amount levied. See case of *Parser v. Worthing Local Board*, in our issues for March 26, p. 422, vol. i, 1887, and May 21, p. 650, same vol.

ROSES IN AN EXPOSED GARDEN: *H. W.* Unless you can afford the plants the best of shelter from the prevailing sea-winds, the Roses will not give satisfaction. Thick, high hedges, and narrow plantations of Maple, with Holly, Rhododendron, Laurel, Daphne Mezereum, &c., kept as low bushes, are better than walls. Given shelter, at a distance of 10 to 15 yards from the Rose-beds, any section of the Rose should do well.

SAXIFRAGA GRANULATA: *W. C.* Pot the plants firmly in a mixture of loam, broken sandstone, and a small quantity of old mortar, using small-sized pots, say, 60's, and winter them in a cold pit, in coal-ashes up to the rim of the pots. They should be planted out-of-doors in March.

VINE ROOT: *A. Roberts.* Not Phylloxera devastans, but an excrescence due to some injury that took place many years ago—probably from frost. The Vine must be very old.

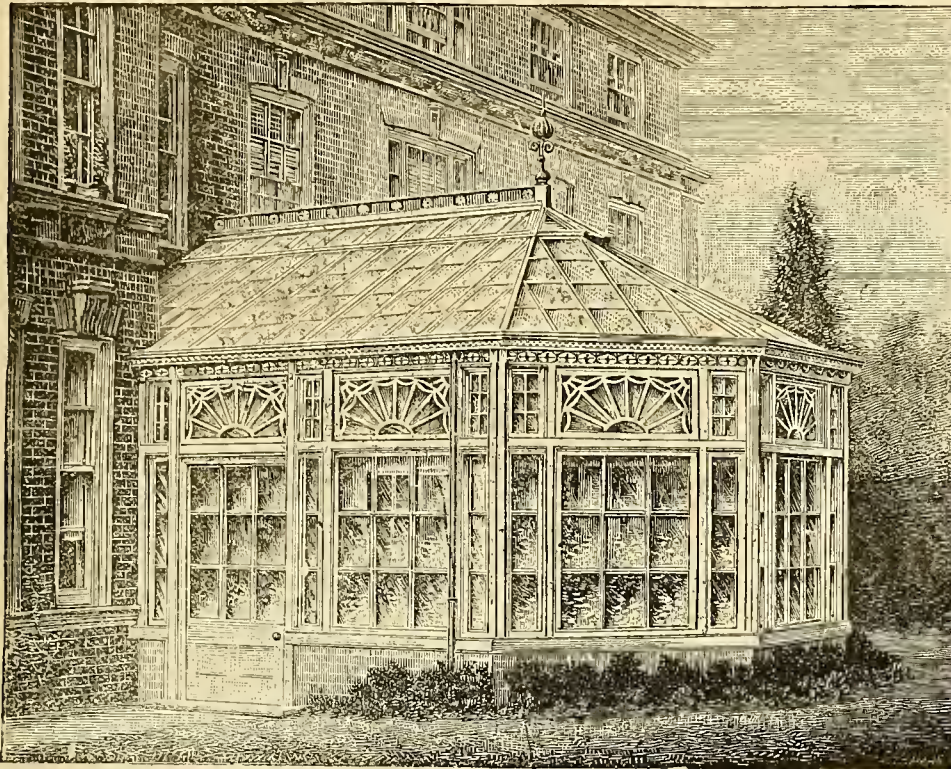
VINES AND THE USE OF RICHARDS' XL ALL VAPORISER: *J. W. M.* The use of this insecticide is non-injurious to plants of every kind, if used according to the directions given, and we are not aware of any case in which Grapes have been injured by it. As a matter of prudence, however, it should not be used on Grapes approaching ripeness. When the Grapes are cleared off the Vines, there is no risk of any kind.

COMMUNICATIONS RECEIVED.—*J. W. Wilkinson.*—*R. G. B.*, letter card forwarded on day of its receipt.—*J. H. B.*—*G. M.*—*R. G.*—*J. W. W.*—*E. G.*—*R. T.*—*M. D.*, Melbourne.—*D. T.* (next week).—*Dulan & Co.*—*W. C.*—*W. & D. B.*—*W. H. S. & Co.*—*B. & M.*—*M. W.*—*R.*—*N. E. B.*—*H. H.*—*Kiesow & Co.*—*J. H. C.*—*D. L. M.*—*H. J. H.*—*W. G. H.*—*D. T. F.*—*G. P.*—*E. C.*—*W. Jones.*—*Seedsman.*—*W. J. B.*—*R. M.*—*E. J.*—*R. A. R.*—*J. J. W.*—*R. Y.*, next week.—*L. P.*—*T. W. S.*—*J. W.*

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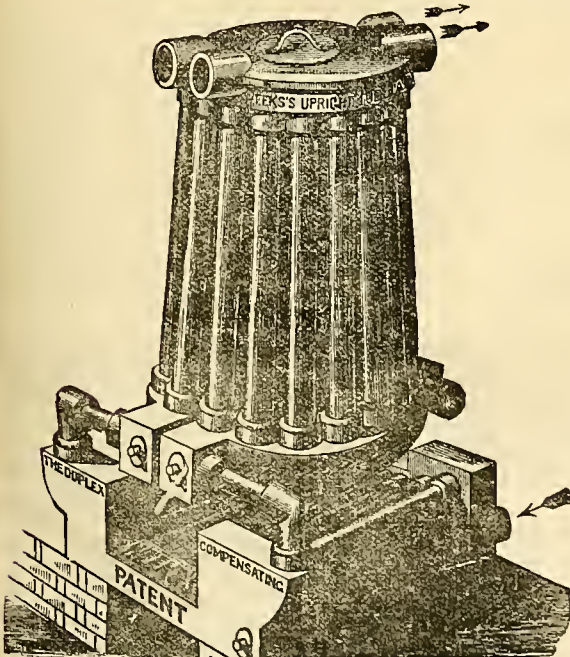
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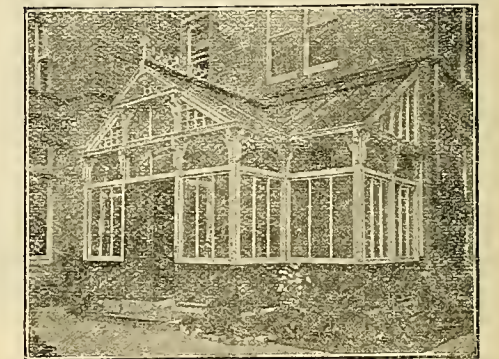
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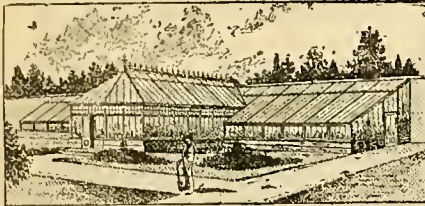
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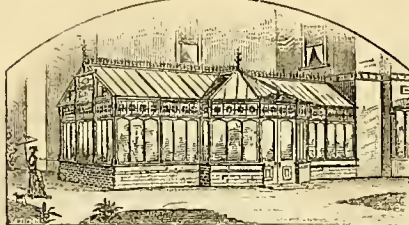
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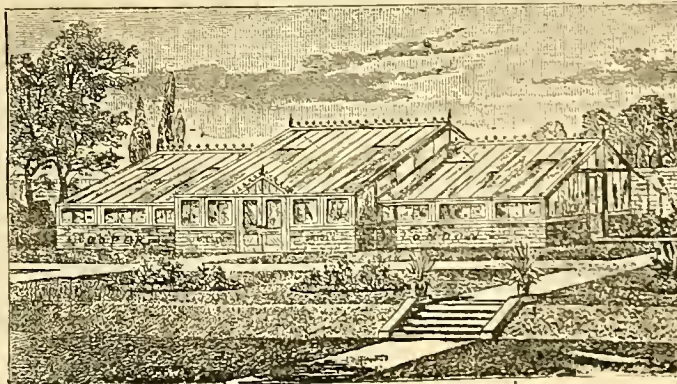
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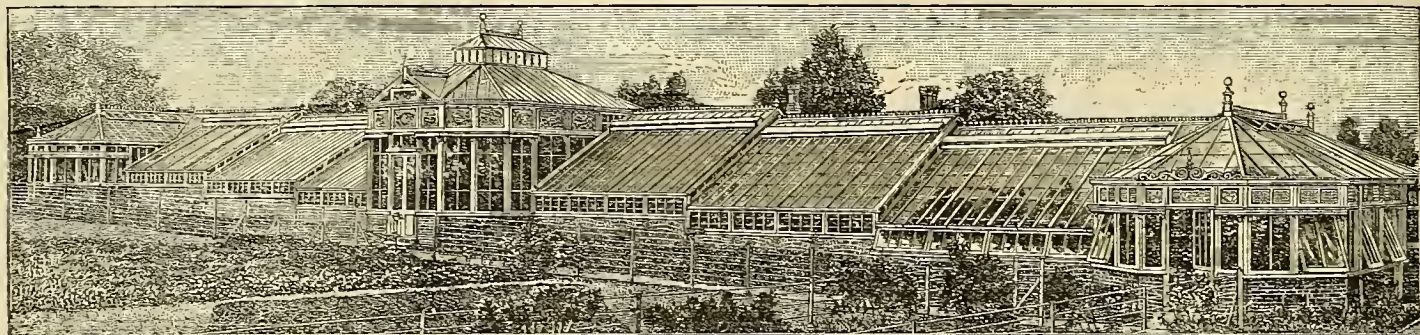
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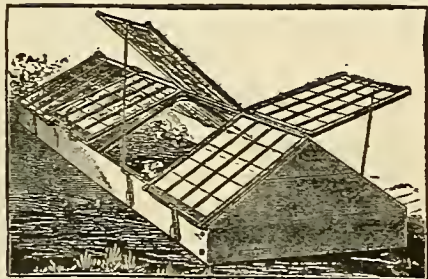
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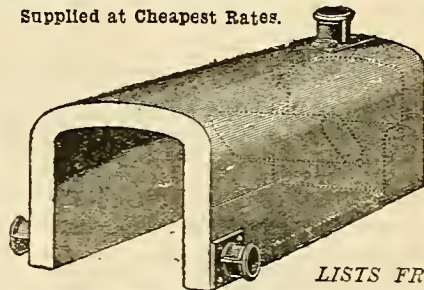


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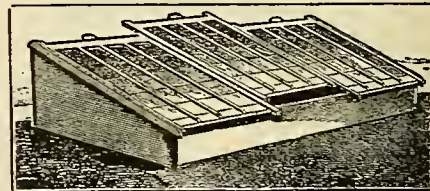
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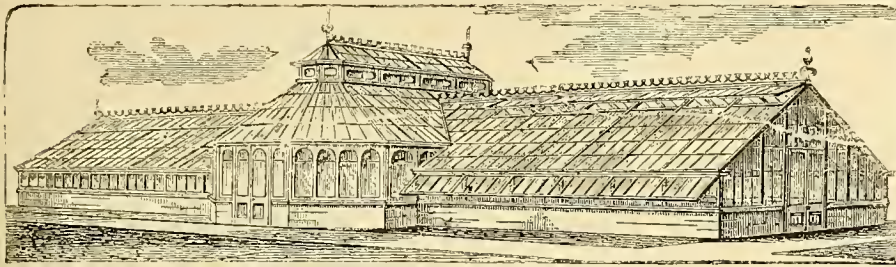
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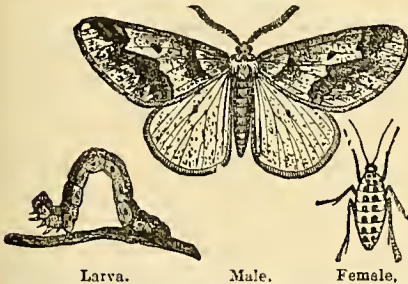
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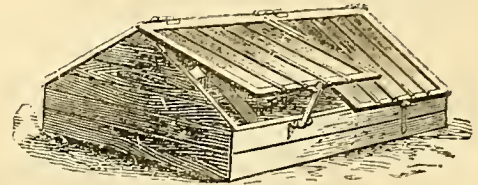
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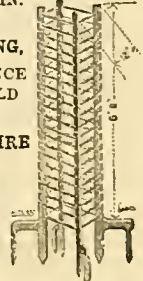
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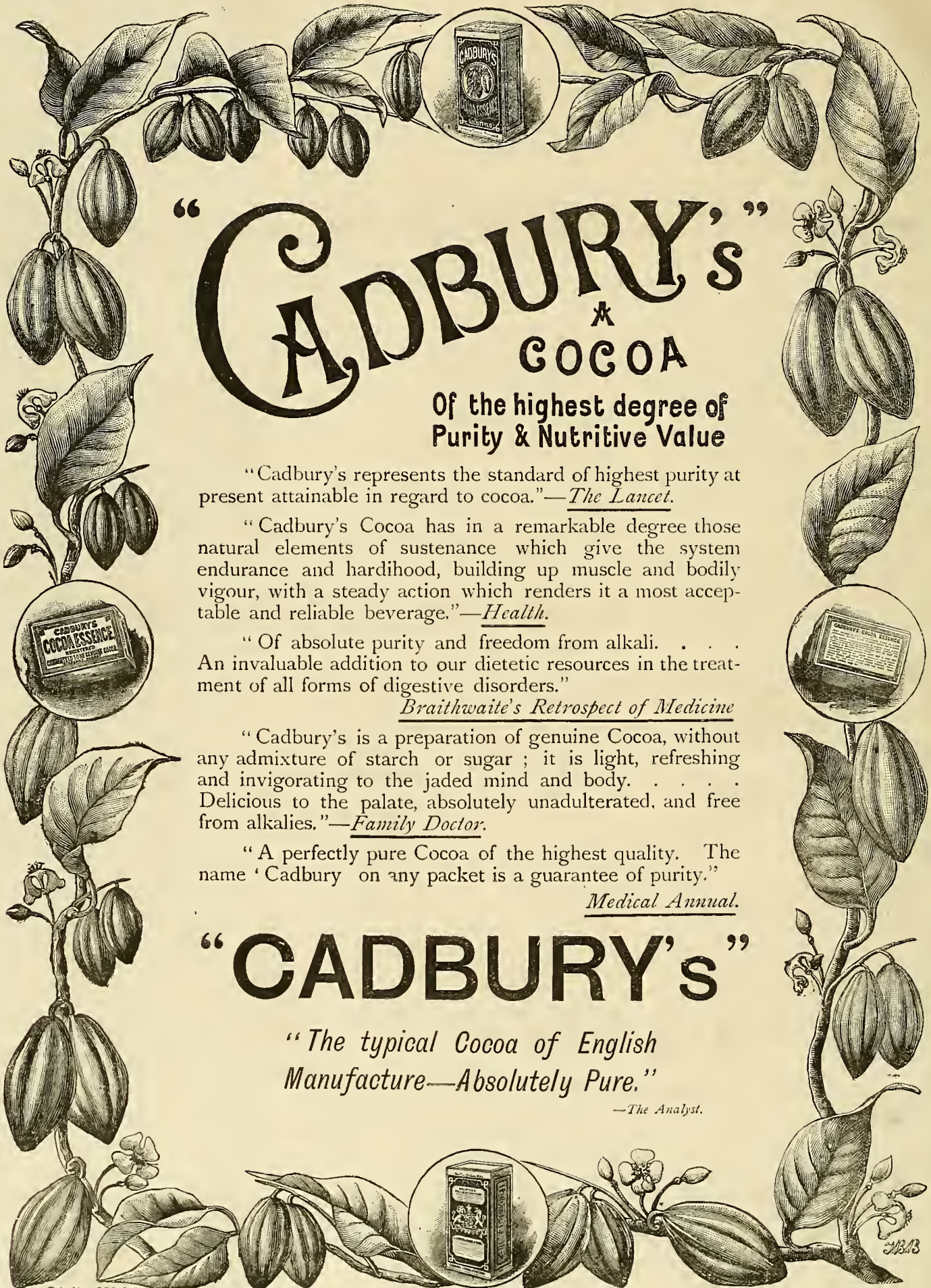
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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

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MESSRS. NORMAN AND SON are instructed by Messrs. Smith & Son, to hold the ELEVENTH ANNUAL SALE OF NURSERY FRUIT STOCK on the Ground, on TUESDAY and WEDNESDAY, October 29 and 30, 1895, each day at 11 o'clock punctually, in consequence of the number of Lots, comprising about
30,000 2, 3, and 4-year-old Standard and Half-standard APPLE TREES, including several new kinds, which have not been brought before public notice, except at these Sales; about
30,000 Standard and Half-standard PLUM TREES,
30,000 Cluster DAMSONS,
5000 Standard CHERRY TREES, 3000 PEARS,
100,000 CURRANTS and GOOSEBERRIES, and about
3 Acres of RHUBARB STOOLS.
Full grown, and suitable for Forcing and other purposes, including Linnaeus, Champagne, Albert, &c., of which particulars will be given in the Catalogues.
On view the day prior to the Sale, and Catalogues had of Messrs. J. SMITH AND SON, Growers, Sipson, and 445 and 449, Covent Garden Market, London, W.C.; and of the Auctioneers, Uxbridge, Middlesex, and Beaconsfield, Bucks.

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EXHIBITIONS.

KENT COUNTY CHRYSANTHEMUM and HORTICULTURAL SOCIETY.
The EIGHTH ANNUAL EXHIBITION will be held in the RINK HALL, BLACKHEATH (opposite S.E.R. Station), on WEDNESDAY, October 30, and THURSDAY, October 31, 1895; when Prizes amounting to upwards of £100 will be offered for Competition.
Schedule of Prizes, and all particulars, may be obtained on application to Mr. FRED J. GARWOOD, Hon. Sec., 37, Turner Road, Lee, S.E.

BRIGHTON CHRYSANTHEMUM SHOW,
NOVEMBER 5 and 6.
£150 in Prizes. All Classes open. Entries close October 31. Schedules, &c., of the SECRETARY, 5d, Queen's Rd., Brighton.

THE EASTBOURNE HORTICULTURAL SOCIETY.
CHRYSANTHEMUM SHOW, November 12 and 13, 1895.
OPEN CLASSES.
36 Incurved, distinct, prizes ... £3 £2 1s.
36 Japanese, distinct, prizes ... £3 £2 1s.
Entrance fee to one or both classes, 5s. Close, November 6.
E. A. NEWMAN, Secretary,
21, Brooklyn Terrace, Eastbourne.

BOURNEMOUTH AND DISTRICT CHRYSANTHEMUM AND HORTICULTURAL SOCIETY.
November 13 and 14 (good open classes). Class 1, THIRTY-SIX CUT BLOOMS, £10, £3, £1. See Schedule.—JAMES SPONG, Secretary, The Garraens, Lindisfarne, Bournemouth.

BATLEY CHRYSANTHEMUM SHOW.
NOVEMBER 16, 1895.
OPEN CLASS.—Cup, value 20 guineas, for 35 cut blooms; and Cup, value 6 guineas, for 24 cut blooms, in addition to Money Prizes. Full particulars on application to the Secretary, Mr. ALLEN HALL, High Street, Batley, West Yorks.

NATIONAL CHRYSANTHEMUM SOCIETY.
Royal Aquarium, Westminster.
GREAT FLORAL FETE,
TUESDAY, WEDNESDAY, and THURSDAY,
NOVEMBER 5, 6, and 7, 1895.

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Ealing, London, W.

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WILL BE
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And Continue Open a period of Six Months.

The Exhibition will comprise the following (amongst other) Sections:—
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98, St. Mary Street, Cardiff.

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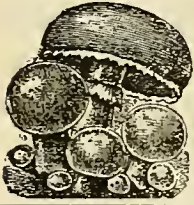
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THE

Gardeners' Chronicle.

SATURDAY, OCTOBER 19, 1895.

CLIMATE, AND THE ORIGIN OF ROOT-CROPS.

IN spite of the labours of the numerous
botanists and agriculturists of the present
day, it is not by any means clear that we know
much more about the effects of climate than
does an ordinary working farmer.

In estimating the special effect of climate on
one particular root-organ, there are two methods
open to us; we may adopt statistics, or we may
try the effect of direct experiment.

Taking statistics first, it is best to compare
the average yield per acre of our common root-
crops—Turnips, Mangels, and also Potatos—for
the years 1885—1894, as given in the *Agricultural Returns for Great Britain*, with the climate
in those years.

I therefore obtained (through the kindness of
Mr. E. Clarke) from the agricultural returns of
the Board of Trade, the following table of the
average yield per acre of Turnips, Mangels, and
Potatos, throughout Great Britain in the years
1885—1894. I have to thank Mr. Marriott of
the Meteorological Society for assisting me to
find the returns given in the right-half of the
table, which represent the total rainy days, inches
of rainfall and hours of sunshine in the months
of May, June, July, and August during the same
years:—

Table I.

Year.	Turnips, Average Tons per Acre.	Mangels, Average Tons per Acre.	Potatos, Average Tons per Acre.	Rainy Days, Four Months.	Rainfall, Four Months.	Sunshine, Four Months.
1885 ...	10.41	15.24	4.74	54	7.60	721
1886 ...	14.75	20.13	4.31	60	10.48	657
1887 ...	9.59	14.61	3.25	43	5.95	8.9
1888 ...	12.51	16.78	4.00	65	12.30	624
1889 ...	14.43	18.21	4.71	60	11.15	670
1890 ...	14.27	17.78	3.53	69	11.29	637
1891 ...	13.40	18.60	4.74	65	11.09	639
1892 ...	14.04	17.99	4.45	60	11.27	684
1893 ...	13.66	13.26	5.23	54	9.15	764
1894 ...	13.53	18.02	3.82	74	11.95	617

Now this table is at first sight only remarkable
for one thing, and that is that it is apparently
utterly impossible for human ingenuity to ex-
tract anything of the slightest service to man-
kind from its perusal. In a case of this kind it
is always advisable to draw curves representing
figures, as then the most striking features are
perceptible at a glance, but it is necessary to be
very careful how these curves are drawn, for it
is a popular fallacy that anything can be proved
by statistics.

The manner I have adopted is to take only the
deviations from a normal or average. Thus the

dotted curve in fig. 78 --- represents the variation from a normal number of rainy days. The average number of rainy days in the four months May to August is 60.3. The actual amount recorded in any year is then compared with this average number, and the difference forms the distance above or below the line a — b . The plain line represents the crop returns, or rather the average yield per acre of Turnips and Mangels combined throughout Great Britain in a similar manner. The normal crops of each root, taken from the average of the ten years, that is for Turnips 13.09 tons per acre and for Mangels 17.06, were compared with the amount in each year, and the result is given as the vertical distances. The thin line represents the Potato returns, taken in the same way for the ten years.

All three curves are made to start from the same point by choosing a proper measurement-unit.

This gives a most unexpected result; the Turnip and Mangel crops are seen to follow with extraordinary accuracy the amount of rainy days in those four months, but there is one exception. In the year 1889 there is a less than normal amount of rainy days but a very good crop. Probably this is due to some particular manner in which the days were distributed so as to give a maximum of moisture with as few rainy days as possible.

This proves what Sir John Lawes pointed out in 1855, *Journal of the Agricultural Society*, vol. iii., "the most favourable conditions of growth for our cultivated bulb-forming Turnips are a low degree of temperature, a large number of rainy days, and a large actual amount of rain."

But when we turn to the Potato crop, there is exactly the opposite result. Wherever there is a great rise or fall in the number of rainy days it is followed by the reverse in the Potato curve; this last result is probably due to the action of moisture in favouring Potato disease, for in the South of Europe, and dry countries generally, it is not found that Potatoes do particularly well, but as a rule turn out rather a failure. On the whole, the conclusion seems pretty safe that it is the number of rainy days which exercise the greatest influence on the root-crop.

The following table shows their distribution:—

	1855	1856	1857	1858	1859	1860	1861	1862	1863	1864
May ...	21	16	13	10	14	15	15	14	10	18
June ...	14	15	6	19	10	19	14	19	12	20
July ...	9	14	13	20	16	18	15	11	16	18
August ...	10	15	11	16	20	17	21	16	18	20

Leaving the statistical method, it is best to examine the result of actual experiment to see whether this result is actually borne out by independent observers, who examined the behaviour of plants artificially grown under various circumstances.

A good many are recorded in Professor Henslow's *Origins of Plant Structures*. Even in the time of Pliny the Greeks seem to have discovered that by growing Radishes in a cloggy soil, a more fleshy Turnip-like root might be obtained. This experiment has been repeated with the same result by many others; e.g., Carrière at Paris in 1869 found that from the wild Radish (*Raphanus raphanistrum*) a Turnip-like fleshy root could be obtained by growing it in clay, while only a long and narrow root appeared in a sandy soil. This method was also adopted by Backman at Cirencester, and by Bretfeld in Vienna, with quite similar results. It has also been proved that if a fleshy, Turnip-shaped Radish is grown in light sandy soil, then it will in course of cultivation become again long and narrow. It is obvious that all these experiments can be at once brought into line with the statistical experience by pointing out the simple fact that a clay soil (cloggy is an even better term) will naturally hold water, and so by keeping itself moist, act in the same way as a larger number of rainy days. Hence all these people who worked quite independently agree in this respect with the tables.

But a direct proof has been found in a curious and

quite unpractical experiment which was conducted by Birner, who cultivated a number of Potatoes in pots, which contained different amounts of water. He found that the number of tubers and the weight of each in any pot depended exactly on the amount of water in the particular case. The more water, the more and heavier were the tubers.

In a case of this kind it is always interesting to see how and why this underground store of farinaceous food has been formed. Now, every out-of-door botanist expects to find bulbs, tubers, and so on, in a dry or desert climate, not in a wet one. Thus, in Africa they are far the most abundant (that is to say, in proportion to the rest of the flora) in the Sahara, the Kalahari Desert, and Namaqualand. In such places one finds all sorts and kinds of plants taking to this habit—Pelargoniums, for instance, which usually never attempt anything of the kind, produce large bulbs.

The reason why this arrangement has been adopted is obvious to anyone who has passed through the Karroo in South Africa before and after a shower of rain. Before, everything except a few fleshy-leaved water-storing plants is dry and apparently dead; after it, the ground is covered by the rosettes of Lilies, Amaryllis, and hundreds of other bulbous plants, which only require moisture to develop with magical rapidity. As the water gets dried up, these leaves, having manufactured a certain amount of starch or sugar, die away, and perhaps in

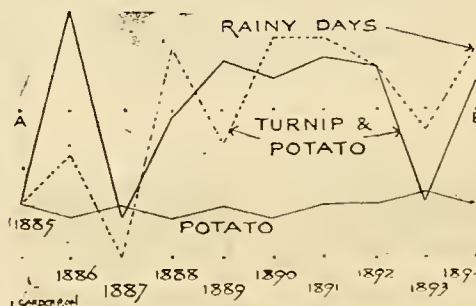


FIG. 78.—RAIN AND ROOT-CROP DIAGRAM.

seven or eight years there will be enough food material accumulated to enable the plant to send out a stalk covered with magnificent flowers.

It seems to be the case that whenever in Africa, Asia, or America one finds these dry conditions, then there is sure to be a large number of bulbous or tuberous plants. In our own country, these forms are most common amongst the plants of early spring. Their store enables them to flower and produce leaves immediately, so that they have the soil all to themselves, and are not exposed to the congested state of things which prevails in summer—that is, they live in moist and fairly cold conditions. To point out in what manner (or how) these structures have been developed, is very much more hazardous.

Still, we may note first, that as a matter of fact, most of our common root or tuber plants have been formed in dry or hot countries. De Candolle gives the birth-place of a certain number. Thus the deserts of the Caucasus and Palestine probably produced the primordial Radish and Onion. Eastern Europe is responsible for the Horseradish, and possibly also the Turnip. The Salsafy seems a native of Greece and Algeria, and Scorzonera seems to be Spanish, while the Potato, so far as one can judge, is a Chilean species. One effect of a dry or desert climate has been proved beyond any room for controversy, and that is the tendency for the branches to become short, or in other words, for the internodes to be shortened or suppressed. This is probably because all the tissues in a desert-plant are exceedingly hard and rigid (i.e., plenty of sclerenchyma and cuticularisation), and hence it is without any wildness of speculation that one can say that the drought, by preventing the rising of the stem, tends to increase the diameter of the underground portion. Being unable to increase in length, the stem expands in thickness. This

explanation is more or less clearly given in Professor Henslow's book, and it enables us to understand the origin of bulbs in a sort of manner.

In our own country we find comparatively few bulbous plants because the climate is too moist for them to be formed naturally; and hence, if we want them, we have to get them from elsewhere. At any rate, the ancient Egyptian who began growing roots in his mud-patch at home, in order to save himself the trouble of going to the desert in time of famine to dig them up, must have been pleased when he found that they were capable of drinking a very great deal more than they ever had the chance of doing at their home in the sands, and now this habit has been improved and rendered to a certain extent hereditary. Still, even now, these plants would in England at once take to forming stems if they had the opportunity. *G. F. Scott Elliot.*

KEW NOTES.

HABENARIA SUSANÆ.—When grown in an intermediate temperature the flowers of this beautiful Orchid are quite as fine as those produced in a hot-house, but the stem is only about half as long. The leaves are less likely to fall a prey to spot in the cooler house than when kept hot and moist. There has been a good display this year of flowers upon plants of this *Habenaria* grown thus at Kew, some of the plants having had six flowers open at once, each 2 inches across, pure white, with a large comb-like lip, and we look upon it as a useful addition to summer-flowering terrestrial Orchids. According to Major-General Berkeley, in the *Orchid Review*, it has long been a favourite garden plant in the East, but always in hot moist situations. At Kew it is planted in light loamy soil, in pots, and grown in an intermediate temperature, the tubers being repotted in February at the same time as *H. carnosæ* and *H. pusilla* (*militaris*) are started.

BAUHINIA GALPINI.

This plant was described by Mr. Brown in the *Gardeners' Chronicle*, 1891, xi., p. 728, and a figure of it was published in Hooker's *Icones Plantarum*. Seeds of it were sent to Kew from the Transvaal by Mr. Galpin, after whom it was named, and who described it as an elegant shrub, with small leaves, and racemes of large bright crimson flowers. A plant of it is now flowering for the first time in the Succulent-house at Kew, where it is planted in the border amongst the Agaves. Here it receives plenty of air and sunshine in summer, and in winter it gets sufficiently dry at the root to cause all the leaves to fall. The flowers are produced on the ends of the branchlets, near the top of the principal branches; they are in short racemes, each consisting of five flowers, the stalks of which are 1 inch long; the calyx-lobes are narrow, reflexed, and the equal petals $1\frac{1}{2}$ inch long, spoon-shaped, forming a cup, which in size and colour suggests the flower of a common *Nasturtium*. The leaves are bilobed, and 2 inches across. Close to the *Bauhinia*, which is about 6 feet high, there are fine examples of *Leucadendron argenteum*, *Poinciana regia*, and *Diospyros kaki*, the latter bearing fruit, and they all receive the same treatment as the *Bauhinia*.

ARISTOLOCHIA ELEGANS.

In his note on this plant (see p. 369), Mr. Hemsley appears to have overlooked a note which was published in the *Gardeners' Chronicle* the week after the description of the species by Dr. Masters appeared (see *Gardeners' Chronicle*, September, 1885, pp. 301, 338). This note contains an extract from a letter written to the Director of Kew by Baron Capanema, of Rio, who sent plants of *A. elegans* to Kew in July, 1885. One of these plants was figured in the *Botanical Magazine*, so that the Baron and Kew may claim as much credit for the introduction of the plant into European gardens as M. Glazion and Mr. Bull. The Baron distinctly states that he raised the plant from seeds which he received a few years previously from Paraguay, and that it soon became a common garden plant in Rio. It produces

seeds freely under cultivation here, and is just the kind of plant that would soon spread wherever it got a foothold. Of course, it may have been introduced into Paraguay, but so far as is known, all the plants in cultivation of *A. elegans* are, according to Baron Capanema, from that source. *W. W., Kew.*

LESPEDEZA SIEBOLDI, MIQUEL.

This is decidedly one of the most ornamental of autumn-flowering Leguminiferous plants, and this year it is especially fine, the sunny weather during the latter half of September having aided the development of an exceptional abundance of flower. A fine autumn is, indeed, needed to show this shrub to best advantage. A large group of it in the collection of shrubby Leguminosæ at Kew has been fully in flower for the last four weeks. It is a plant of graceful habit, sending up each year from the stool strong, arching shoots 5 to 6 feet long, which on the upper part give off at each leaf-axil a slender panicle of rosy-purple flowers. The plant dies to the ground

we have, and if it never fruited at all would be well worth growing. The flowers are about 1 inch across, white, and produced in large flat corymbs, about the end of May. The leaves are amongst the largest in all the *Cratægus*, measuring 4 or 5 inches in diameter. They are broadly ovate, lobed and toothed at the margin, and covered more or less with a soft pubescence. The species is nearly related to *C. coccinea*, but the latter is readily distinguished by its glabrous leaves. The flowers of *C. mollis* are larger, and it is, as an ornamental tree, superior to *C. coccinea*. It is widely spread in the United States, and its distribution extends as far north and south as Canada and Mexico respectively. *W. J. B.*

GODDEN GREEN.

Those who are familiar with the glories of Kent, the picturesque character of the greater part of the county, its fruit orchards, and its Hop-fields, are not likely to be unacquainted with the old town of

accompanying illustration (fig. 79), and though not large, the house is very pretty. From the roof half-way to the base the walls are tiled, and below the walls are of grey stone. A grand billiard-room, and a few minor additions have been made by Mr. Hudson, and if he had been responsible for the building of the whole structure, it would most likely have been more imposing; as much is indicated, at least, by the new and excellent stables and other buildings which he has erected to the right of the photograph, which in some measure tend to belittle the house. In the garden there appear to be no favourites—no hobby-riding, but everything is done to secure general pleasure and usefulness. Almost the whole of the grounds extend from the house in west and north directions, hence there are the usual disadvantages attending a short drive from the lodge. This drive has been planted on either side with *Cedrus Deodara*, now thriving well, and one side of which may be seen in the figure. In the turf in front of the trees there are flower beds of time-honoured character; they are raised very high, and have banked edges of Ivy, *Echeverias*, and other similar plants. *Pelargonium*, tuberous *Begonias*, *Lobelias*, and other bedding plants are used in the beds with taste, and in several combinations. Especially worthy of remark were the two beds of *Heliotrope*, which had thriven so exceptionally well that we have never seen better or neater masses of this sweet and always popular flower. Whether such bedding is the best to use in this position is largely a matter of taste, but the success with which it had been followed, deserved the highest praise possible. The pleasure-grounds are decidedly pretty and attractive, partly owing to the fact that they are kept well, and neatness is observed everywhere, but also to the site itself, which has no slight influence in the same direction. From the tennis-ground and from the house windows, are obtained views of the most pleasing description, and happily, these are not obscured by trees which thwart the purpose for which they were planted, as in the case of many lovely grounds. The trees and shrubs around the house are not yet large, nearly the whole of them having been planted by Mr. Hudson, who may be credited with having done a large amount of such work; but on the other hand, there are many instances where further planting will be beneficial. Some large beds of *Rhododendrons* on the north side of the house have given unqualified satisfaction since they were overhauled by Mr. Woodward, the gardener, and plenty of good peat given them. A bank of *Ponticum* and Ghent hybrid *Azaleas*, also on a bank at the rear of the house, sloping to the south, create a magnificent display each spring. The position is just a suitable one.

Very near here is the old part of the kitchen garden, now used principally for fruit, though the *Asparagus*-beds are also here. The vegetable garden has been made in a corner at the south-west extremity of the grounds, and close to a small model farm. The garden is very small—we should think too small, but the crops showed that considerable use is made of it. Peas, Beans, Celery, Onions, and especially Brussels Sprouts looked well, but the Peas were nearly spent. Our attention was drawn to a good lot of *Asparagus-Kale*, with the remark that it was the most prized of the winter vegetables. The walks are of asphalt, edged with tarred bricks. About 170 standard fruit trees have been planted in various positions. Eighty of these form a belt a few feet from the extremity of the grounds, in a nice meadow, and these will probably thrive and bear well. Unfortunately the soil is generally very poor, and immense quantities of manure have to be applied in order to get good crops of anything.

One of the chief features of the place is about 10 acres of woodland, containing plenty of moderate-sized trees, and also a number of coppice-stools. The whole of this has been opened up with skirting and interesting paths, well made, and consequently clean during any weather. A very great deal of planting, too, has been carried out, in order to give the paths a more furnished appearance, and by the addition of

*



FIG. 79.—MR. FRANK HUDSON'S RESIDENCE AT GODDEN GREEN.

in the winter, and as it is said to do this even in milder latitudes than ours, it would perhaps be more correctly described as herbaceous. It is hardy at Kew. It is increased by dividing the old stools—an operation which should be performed at intervals of a few years, in any case. The species is found in China and Japan, and it was from the latter that it was introduced by Siebold. The plant was figured in the *Gardeners' Chronicle* for 1883 (vol. xx, p. 749), under the name *Desmodium penduliflorum*. It is also grown sometimes as *Lespedeza bicolor*, a name that properly belongs to a nearly allied, but quite distinct species, which is more truly shrubby, and flowers several weeks earlier.

CRATÆGUS MOLLIS (Scarlet Hawthorn).

This is one of the largest and handsomest of the American Thorns, forming a small spreading tree from 20 to 30 feet high. It is abundantly represented in the grounds at Kew, and several trees were heavily fruited. The haws are about five times as large as those of our English Hawthorn, and almost globular. It is unfortunate that the fruits do not remain a longer time on the tree, as they are mostly fallen by the beginning of this month. This species is, however, one of the most beautiful flowering Thorns

Sevenoaks. In the immediate neighbourhood is Wildernesse Park, one of the seats of Lord Hillingdon, and two miles from the town is Knole Park, the seat and residence of Lord Sackville. This grand old mansion, its immense park, and fine timber, its large and well-kept garden, and the ancient and historic character of the place itself, are all interesting. But turning to the particular subject of this note, we must drive from Sevenoaks, a distance of about 2½ miles, passing through the curious little village of Seale, thence through a park adjoining Wildernesse, and on to a place called Godden Green, leaving Knole about a couple of miles to the right.

Godden Green House is situate on one of the eminences common in this part of Kent, and is the residence of Frank Hudson, Esq., one of the justices for the county, and a partner in the remarkable firm of Hudson Brothers, the provision merchants. The house at Godden Green was bought by Mr. Hudson about ten years ago, and the grounds attached thereto are something like 60 acres. From photographs taken of the badly-cared-for place at that time, the amount of work that has been done under the direction of the present proprietor becomes apparent.

The south front of the residence is shown in the

Rhododendrons, Laurels, *Thojopais dolabrata*, *Abies grandis*, and other Conifers in small groups and as specimens in open spots, the wood has been made a charming retreat during hot weather in summer. Still much more of the same kind of work needs to be done, and an excellent effect would follow the further planting of Rhododendrons, Aucubas, Laurels, Kalmias, Irish Heaths, and other such dwarf and useful plants.

The glass-houses again show Mr. Hudson's regard for the usefulness of things. The most important of these is an excellent span-roofed Peach-house 72 feet long, 22 feet wide, and 18 feet high. The site necessitated the aspect running nearly north to south. Evident, here, is the good culture the trees receive, for though the crop was gathered, we could observe the healthy appearance of the wood and leaves, and they were ripening splendidly after bearing so heavily. In order to prolong the season as much as possible, the following varieties are cultivated: Waterloo—which is said to always bear a good crop of fruit here, Dymond, Hales' Early, Amsden's June, Bellegarde, Condor, Early Louise, Crimson Galaude, Stirling Castle, Princess of Wales, Warburton Admirable, Nectarine Peach, Sea Eagle, and Barrington. Among Nectarines are Humboldt, Rivers' Orange, Lord Napier, and Elruge. The trees were planted rather thickly, in order to furnish crops of fruit at once, and will now need thinning out a little. Other houses included a small lean-to rosary, and another small span-roofed house, with two divisions. In one of these are permanent Vines, and in the other pot-Vines, or Melons, according to the time of season. The pot-Vines intended for the house have been raised on the place, and they were excellent canes for the purpose. There is a lean-to vinery, and another span-roof house, used for late Vines, in addition to the above, as well as a moderately-sized greenhouse.

We were not surprised to find that a portion of the land had been retained by Mr. Hudson for meadow-pasture. Two or three, however, suffice—they are small, but in splendid condition and a few excellent Alderney cows were grazing. Mr. Hudson has studied the dairy industry thoroughly, and has done much in many ways with a view to popularising dairy culture in this country, for the free-trade principles of our hospitable host are not inconsistent with a hope that the dairy products now imported into this country in such vast measure, will give place to articles of equal quality which, it is believed, this country is capable of producing in large quantities. But the dairy question, like that of fruit-growing, has long been a much-discussed subject. In conclusion, we are convinced that the satisfactory condition of the place is the result of enthusiasm on the part of proprietor and gardener alike, each of whom seconds the other's efforts.

ORCHID NOTES AND GLEANINGS.

PLEIONE LAGENARIA.

THESE charming little plants are making a grand show here at the present time. There are about three dozen 5 inch pots containing from seven to nine pseudo-bulbs each, and which average about twenty-eight flowers in a potful; one pot with nine good bulbs has thirty-three expanded flowers, some of the bulbs measuring 5 inches in circumference. They have been grown all through the season at the cool end of the Mexican-house, close to the door, where much air enters from the outside. After they had fairly started into growth, they were watered two or three times a week with soot-water and liquid-manure made from horse-dung. To any one having to make buttonholes or sprays they are very useful flowers. The plants being deciduous like *Calanthes*, the plants should be intermixed with Ferns which show them off to advantage. *W. Hurlstone, Parkfield, Hallow.*

CATASETUM TABULARE VAR. BRACHYLOSSUM.

In the issue of the *Gardeners' Chronicle* for July 13, 1895, p. 43, an illustration of *Catasetum tabulare*

var. *rhinophorum* was given, and in the accompanying note allusion was made to other known varieties of this species. One of the most singular *C. t. brachylossum* has just flowered with Joseph Broome, Esq., Saonyhill, Llandudno (gr., Mr. Shill), who has kindly sent the inflorescence. The very singular and large flowers have the sepals and petals, the underside, and the singular upturned margin of the lip and the pouch at the base, of a creamy-white colour, with a dense freckling of rose. The large Ivory-white tongue-shaped callus is $\frac{3}{4}$ of an inch broad, 1 inch long, and nearly $\frac{3}{4}$ of an inch thick. It was the remarkably broad, short, and thick callus which induced the late Prof. Reichenbach to distinguish it by name, and evidently the peculiarity is constant in one section of the species.

HOULETTIA BROCKLEHURSTIANA.

Like many other *Ochids* of early introduction, this beautiful species attracts considerable attention when well cultivated and flowered. One of the finest specimens which we have seen is now in bloom in the collection of Sir Frederick Wigan, Clare Lawn, East Sheen. The plant bears four flower-spikes, one of which bears eight flowers, and the others seven on each. The large wax-like flowers are Indian yellow, closely marked and tinged with purple-brown. Its fragrant flowers are borne on stout erect stems, and they arrange well with the broad arching pale-green leaves. *J. O'B.*

CATTLEYA AUREA.

There is a grand form of *Cattleya aurea* in flower at A. Warburton, Esq.'s, Vine Lodge, Haslingden. The nankin sepals and petals are large, stand more in a plane than the typical form, and the lip is not only large, but is beautifully interlaced with gold lines from almost the extremity to the base; the glowing crimson that forms the ground-colour makes a most captivating setting. There are six flowers fully expanded on a well-cultivated plant, the flowers standing clear above the foliage on a sufficient pedicel. It is one of many grown here, and well grown, too, by Mr. Tom Lottmouche, Mr. Warburton's gardener. The more one sees of this fine species the more is it appreciable, because of the great variety in the distribution of the colours, particularly in the labelum. *J. A.*

THE BULB GARDEN.

BELLADONNA LILIES.

AMONG the great army of hardy bulbous plants, few can vie with these charming plants, either from a decorative point of view, or for general chasteness and beauty. Quite unlike many of the choicer bulbous plants, these always thrive best when left alone. Of course, to ensure success, all such things must have been well and properly planted, and this, too, in suitable positions; indeed, position is one of the most important items to their ultimate success. The base of a south or south-west wall is the most suitable place for them. Here they will receive that amount of sun and warmth which is so conducive to healthful progress, and protection at other times from the extremes of weather; not that they are tender by any means, for while the weather is severe they are beneath the soil. The chief element in their success lies in the original planting, which must be very deep. A trench, quite $2\frac{1}{2}$ feet deep, should be made with several inches of rough material, for drainage, in the bottom. Unless the original soil is fairly good to the required depth, other soil should be substituted. If peat and rough leaf-soil and turfy-loam, with plenty of sharp sand, to the depth of one foot, be placed beneath the bulbs, this will last them for years. The preparation of the soil, however, depends to a large extent on the nature of the original soil. Anyone who may wish to make a specialty of these handsome bulbs, will do well to start properly; this done, they need no further attention in this respect for a dozen years at least. In districts where the soil is not well drained, it will be best to raise the level of the

border rather than excavate to the required depth, as it is not desirable that the roots should be in or near to water in winter-time. Moreover, the soil would soon sour, and be unfit for the roots, and sickly plants would result. These are items, however, which all will be able to decide, according to individual circumstances. In light, warm, and gravelly soils, the use of well-decayed cow-manure will be an advantage, buried in the soil deep below the bulbs. Having the trench and drainage ready, place a sod of turf over the latter, and begin by replacing the best soil to 12 inches deep, working in plenty of decayed manure, but not in contact with the bulbs. These latter may now be placed in position, so that the top of the bulbs shall be about 8 inches below the surface. The bulbs should be well surrounded by sharp sand, and an additional supply of good, prepared soil, without manure, be placed in to the depth of the bulbs. Make all moderately firm, and fill to the surface with ordinary soil. In exceptional instances, where from any cause the depth given cannot be obtained, the bulbs may be planted nearer the surface, provided that 6 inches of short manure or leaves be given as a mulch each winter, from November to February. If good, sound, dry bulbs are obtained, these may be planted at any time, from late autumn to end of April; but the sooner root-action commences, the better the chances of success. It is surprising these fine hardy bulbs are so rarely seen in private gardens, when they give so little trouble to the cultivator. For weeks past, during August and September, some notable examples have been making a grand display at Kew. Such instances fully demonstrate their real value, and is worthy of frequent imitation. *J.*

CATTLEYA CULTURE AT STAND HALL.

THE cultivation of *Cattleyas* and *Lælias* and their various hybrids at Stand Hall, if not phenomenal, is more than ordinarily successful. One could see in periodical visits the rising importance of that genus year by year, until now it is a matter of common comment—the vigour of the plants, the quantity and quality of the flowers, and the maintenance of a sound and enduring constitution of species and varieties. Mr. Statter, the genial owner of this renowned lot, is a gentleman well known for helping forward advancing horticulture, not only in the district in which he lives, but the zeal and ardour and time which he gives in assisting the Orchid Committee of the Royal Horticultural Society in their laborious but highly useful work in rewarding sterling merit, is well known to many outside of his own committee. The collection gathered together at Stand, no matter whether it be *Cattleyas*, *Cypripediums*, or anything else, is notable, not only for its numbers of varieties of species, but for the choice character of each individual. The training experienced at the fortnightly meetings is accountable in a great measure for this, as poor quality plants are intolerable in the eyes of experts, and now we have all our best-informed orchidists going for selection; hence the appreciation in value of good Orchids. But it is cultivation that we have taken as our text in this notice, and no doubt it will be interesting matter to tell, as exactly as pen-portrayal can make it, the system as practised in this charming Orchid home.

The house in which the chief lots of *Cattleyas* are growing is about 30 feet long by 15 feet wide. It is span-roofed, standing north and south, with its perpendiculars, half brick, half wood and glass, 6 feet high. The height from floor to apex is about 10 feet, leaving, therefore, the sloping roof on either side at about an angle of 30°. This, as will be noticed by those who follow me, is a flat roof. The house is substantial, without rafters, but with strong astragals, all grooved for catching the drip, placed about 15 inches apart, running from the perpendicular sides to the apex, filled in with 26-oz. glass. There are no longitudinal openings on the roof, only apertures here and there on the western slope for roof ventilation, of which more anon. The brick walls are also fitted with

apertures covered with wooden shutters, and lined in the interior with wire-gauze. These apertures are, judging by the eye, about 5 feet apart, and are placed directly opposite the lower tier, or return-pipe, in the heating apparatus. There are four rows of 4-inch piping—two flows and two returns, which, with a useful boiler, are fully adequate, even in this very exposed locality, to do the work in stress of weather. The interior presents a stage fully 5 feet wide on either side of a 3-foot passage. The stage rests rather under the top of the brick side, and is of strong flags resting on pillars arched from pillar to pillar, so that air may not be unduly impeded in passing from the bottom ventilators below the stage and up through the house itself. It will be seen therefore by those who know anything about hothouse building, that the Stand Cattleya-house differs from most of those recently erected in not having a skeleton or double stage. On the flags are placed a few inches of what appeared to the writer to be more chippings of coal rather than charcoal. Any way, that is the covering upon which the plants in pots stand. Nearly every one on the side stages is raised on an inverted pot, and indeed this is absolutely necessary, because of the roots, which we shall advert to presently, going down like living things in search of some support to take hold of. The ground below on either side of the passage, and indeed the passage itself, is covered with a thick layer of this so-called chip-coal. The path is latticed, and accumulated water, or rather surplus-water, from watering, goes down into this black medium. The roof is shaded with a kind of lath-blinds, much broader in the lath than usual, I should say 3 inches wide, and placed proportionately wide apart, thus giving a maximum of light, and at the same time acting as a sufficient preventative to screen the gems within from scorch. That comprises the ground-work for the system in practice; and now for some of the results of the practice itself.

A few sentences, however, on the reason why top-ventilation is not more liberally provided for. Both Mr. Scatter and his accomplished orchidist, Mr. R. Johnson, aver that half the success of the culture within is attributable to free ventilation at the bottom, and little, or as little as practicable, at top. The old system was the converse of this, and hence, whenever moisture was generated within, it went out at a gallop at the top. The condensation of moisture, particularly with a down-going sun, is of the highest importance for successful Cattleya culture. These flat-roofed houses, too, are capital in respect of the sun not beating too fiercely upon them. The cool atmosphere coming in from the low ventilators makes a "sweet" home, pleasant to the olfactory nerves of an expert orchidist. Mr. Johnson says that from May to September his bottom ventilators are seldom, if ever, shut, "night or day," and when the top ventilator is used, it is only for a few hours in the middle of the day—always shut before damping down.

There are three kinds of utensils or receptacles used for culture; first, pots mostly of common make; second, square teak baskets; and third, deep cylindrical teak baskets of rather elegant form, tapering from top to bottom. In the first-named, the stronger specimens of the race are growing; in the second, the medium lot; and in the third, the choice bits of slow and dwarfish growth, and the auxiliaries—bits cut off. *Cattleya gigas* the Stand Hall variety, was producing flowers 10 inches across, and such flowers with ruby segments filled up as we like to see them; and then the lip, gorgeous in its intensity of cardinal-purple, with two great yellow eyes, one on either side, the crests lovely, a king among Cattleyas; the leaves were grand, and the roots coming over the pot-rims. Then alongside of it was a very deep-coloured variety of *Lælia tenebrosa*, one of the greatest gems in the grandis way in modern times, with nine spikes, each three-flowered—great flowers, too, in the height of exuberance. *Lælia purpurata* Statteriana is after the Hardyana type, with a lip of equal brilliancy, and the segments broader, and white as snowflakes.

There is a most beautiful hybrid between *Lælia purpurata* and *Cattleya Warneri magnifica*, from the Jules Hye collection, temporarily named *Parisiana* ×, of unusual brilliancy, and growing away like its fellows, although not yet up to Stand Hall growth. *Cattleya Johnsoni* × *C. gigas* and *Loddigesii* is very uncommon. *Lælio* - *Cattleya* × *Cannhamiana alba*, *Lælia purpurata* × *Cattleya Moesia* are gems of the first water, the roots going down quite 12 inches after filling the pot, delighting one's eye as much as the plant itself. *Cattleya Statteriana*, a natural hybrid of aurea type, is growing in this climate in a way which we do not often see aurea do; its roots are actually touching the coal, after dipping past pot and inverted pot, to a length from the base of nearly 2 feet; and what a gem that selected variety is!—more valuable even than many of our home-raised hybrids. *Lælio* - *Cattleya* × *Phœbe* *Lælia cinnabarina* × *Cattleya Moesia* is quite a strong, finely developed plant; and then how glorious the flowers! The nankin colour is emphasised, and the size of *L. cinnabarina* more than doubled. This is grand work on the part of the cross-breeder. *Cattleya superba alba* is beautifully developed, and is likely to be shown at the fortnightly meeting (it has been so since this was written)—a capital managed plant of one of the most difficult to do of all Cattleyas. Then there is × *C. eximia*, × *C. Nisa*, in which the parents, *C. gigas* and *C. crispata*, are both observable, and the roots here, too, sometimes clambering on the rim and over the side of the pot, and sometimes dipping vertically, showing abundantly to the practised eye the suitable character of the atmosphere. In houses kept in the dry order day and night this scarcely ever occurs, the roots electing to take hold of the burnt-clay pot, which is the only moist medium come-at-able for them. *C. × Macenas* is in rude growth, forming double leaves to its flowering bulb, from the centre of which the sheaths spring. *Cattleya crispata superba*, which was honoured with a first-class award at the chief seat where Certificates are given, and where few are thrown away upon even high-class articles, was showing dozens of flowers. The charming *Lælio* - *Cattleya* × *Ameisæ*, *C. crispata* × *C. maxima*, is another grand example of extra growth, and abundant root-action; indeed, many of the hybrids are freer in root-action than some of the imported species. We must always except *C. labiata*, the root-action in which is pronounced. It seems to be the easiest to transport safely, the quickest to recuperate, and freest to flower of all among the great host of sectional forms. *Cattleya Rex* is doing extraordinarily well. It was in bad repute as a doer at first, but here it is rampant in a good many plants, but not so variable in variety as its compeers. *C. Classiana* of the *C. intermedia* type differs from many in respect of making its growth in winter, like *Lælia anceps* and its brood. *C. Bowringiana* is a giant to grow in a climate of this kind; its pushing leads are as thick and prominent as one's thumb, and a glorious coloration it makes when in flower. The rather unique *C. Mendeli leucoglossa* is doing grandly; indeed, the varieties of *Mendeli* here are of pronounced good quality, and there is no subsection that commands general attention so much as this, and then the vigour of the growths and the dark green of the leaves keep one's eye upon them. *C. × Pallas* and *Lælia purpurata*, and *C. Dowiana*, with its intense velvety-purple labellum, are among the most distinct of hybrids, and the plants here show great vigour. *C. × Lord Rothschild*, *C. × Gaskelliana*, and *C. aurea* has the vigour of *Gaskelliana* imparted to it. The wonderfully broad leaves induce long roots, pushing downwards and breaking at intervals, close intervals too, with subsidiary ones like a crop of lateral buds on a dwarf Apple tree. No more remarkable growth for a rarity is visible than that of *C. Gaskelliana alba*. Looking at other albinos of similar species, this is a veritable giant, and as white as paper. But this is an emporium of rarities which we cannot linger much longer upon. It was with pardonable pride that Mr. Johnson pointed—"there are my three selected Cattleyas

that have won honours—*C. aurea* Statteriana, F.C.C., 1890; *C. Statteriana*, F.C.C., 1892; *C. Warszewiczii* Countess of Derby, F.C.C. in 1894." The last is a gem of the first water, and what in gardening phraseology is called a white *gigas*. It has been divided into two pieces, each running neck and neck, both about showing for flower (see, for description, *Gardeners' Chronicle* for September 28, p. 360). The open cylindrical raft, letting in the air in the suspended position, evidently suits this plant.

In another house, the counterpart of the one above described in detail, the *Cypripediums* and the *Lælias* divide the pride of place. *Lælia elegans* in many varieties is doing well, some pieces in rather indifferent health, bought in, have been cut up, and are gaining strength. *L. e. nobilium*, *Blenheimensis* excellens, *Chelsoni*, and one called *Statteriana*, with white segments and brilliant lip, attract attention.

The seedlings are grown here, and wonderfully well they look in their comparative initial stage. There are some promising broods of *Lælia cinnabarina* and *Cattleya Lawrenceana*, of *C. Sanderiana* and *Lælia purpurata*, and many others. The batches are in small thumbs, plunged into shallow seed-pans, and as they increase in size, they are potted on and hung up on their own account. Mr. Scatter is strongly of opinion that the best seed-bed for hybrid Cattleyas is in pots, where the plants have not been moved for two or three years, among decaying material, and where watering is of little consequence, because of the little value of the plant. Seedlings will not do, for a time, with a season of rest, only, singularly enough, I never knew them to come up unless in the peat surrounding a living plant. The little embryos in a house of this kind were getting on. We never can have too many Cattleyas; there is so much difficulty in getting a large brood from one seed-vessel—so different from *Cypripediums* and *Dendrobiums*; and Mr. Johnson would not sow a seed upon the surface of the pots where any of his choice plants are growing. Some people might say that the extraordinary exuberance of the plants was attributable to their living in an artificial atmosphere. It is not so. The system here is to have a rest and a drying, at proper seasons, and, moreover, no plant is syringed or watered overhead; the moisture necessary for leaf-feeding is obtained from evaporated and condensed moisture. The material used is two-thirds best fibrous peat, and one-third best selected sphagnum-moss—a very common mixture. In fine, they are a marvellously fine lot of plants, looking even better now than I ever saw them; they are a comparatively small lot, but everyone is worth looking at, and go when you will there is something choice in flower. A.

SCOTLAND.

MORELLO CHERRIES IN THE GARDENS OF SCONE PALACE, PERTSHIRE.

MR. WARD does well to refer to these fine trees in particular, in the *Gardeners' Chronicle*, as well as to the importance of the general culture of Morello Cherries. And as he appeals to Mr. McKinnon, who succeeded the late Mr. Holliday as gardener at Scone, Mr. Smith of the Viceregal Lodge, Dublin, and to myself, for information about these models of training and fertility, I hasten to recall a few memories about them. I do this the more readily as Mr. Ward frankly confesses that the Scone trees have been his object-lessons in Morello-growing through life. Doubtless the same feeling has largely prevailed among the many ladies and men that graduated in the gardens at Scone. It was scarcely possible for any such to plant, train, or gather Morellos anywhere without recalling the giants they had seen in their Scone days. There were other good features in the old gardens, but the Morello Cherries on the north wall of the south garden were the lions of the place.

None but the master, Mr. James Dodds, in my time, or Mr. Blackie the foreman, was allowed to

prune a single twig of these Morellos, and I shall not readily forget the violent quarrel that arose with a fresh journeyman from Dicksons, in Edinburgh, mistaking his orders to go and train and nail one of these trees, went to another, and began to prune and spur the giant Morello as if it had been a Mayduke or a Black or White-heart Cherry!—an act of vandalism which was threatened with instant dismissal.

Another rule about these trees was, that if more young wood was left than could be laid in without overcrowding, the surplus shoots were to be brought under the notice of the master or foreman before removal. Seldom was any but the most experienced journeyman, or handy apprentice in their last year, allowed to train and nail these Morello Cherry trees; and in most cases, apprentice hands were only allowed to lay in the current year's wood after all the primary, secondary, tertiary, or other older branches had been displayed. I also recollect several cases, after several days had been spent on one of these fine Morellos, some error of judgment in the equal distribution or straightness of the branches and shootlets would be revealed. The foreman and master, and occasionally a jury of journeymen, would sit in judgment on the trinning and nailing. If these were condemned, the faulty part, or the whole tree, was driven into chaos by the master, and the entire work of training and nailing begun afresh. Hence it was with fear and trembling, somewhat strengthened by professional pride, that most of us took part, for the first time, in training a part of those model Morellos on the north wall of the south kitchen garden at Scone.

But the reward was sweet, when, after a week or more labour, the tree was finished, and the leading journeymen, foreman, and master pronounced it perfect, or like cautious Scotchmen, drawled out, "Yea, that will do—George—David—Bob, but that the third tertiary from the top is not quite at the same angle all the way. No, you need not alter it again, ye've been lang enough about it, mon, it'll do gie weel." Grand technical training for eye and hand were these Scone Morello Cherry trees. Neither was fertility sacrificed to form nor symmetry. From base to summit of those 18-foot walls (I had lately remembered them as from 2 to 4 feet lower, but have no doubt of Mr. Ward being right as to height), they were studded with Cherries of unique colour, size, flavour. Others will probably have something to say as to soil, site, culture. I remember nothing special of either. The Cherry-borders were surface-cropped with vegetables in the usual order, and have probably been covered with Violets and Valley Lilies, since these have been so widely grown for the London season. The corresponding wall in the north garden used to be cropped with Gooseberries and Currants, but the Morello Cherry border in the south garden had no bushes in my time; the site was due north, as near as may be. The soil was a strong loam resting on clay, and rather imperfectly drained. I was present when a considerable portion of the garden was trenched. The manure from the stables went to the farm, and not to the garden. The chief manure for the large garden consisted of cow-manure from the large Park, stretching away miles from the Palace, and fully furnished with a stock of graziers, and leaves and leaf-mould from the miles of woods. But the art of mulching was not much practised in these days, unless in the vineries, where most of the inside roots had about a foot thick of fresh or two-year-old cow-dung annually; but I do not remember the grand old Cherry trees having any of this stingo or other stimulant.

I think these trees partly owed their general immunity from fly and all other insect pests to the heavier rainfall and moister climate of the north, to the holding loam in which they grew, and the heavy clay on which it rested; while it cannot be doubted that their enormous size, long life, and annual fertility were largely developed and mainly sustained through their skillful top-treatment. Annually every foot, I had almost written inch, of weakly or diseased wood was cut out, and a fresh supply of young healthy clean wood laid in all over throughout the trees. Their

life-vigour and fruit-bearing capacity were thus renewed every year. Some will answer shortly, "Yea, it was a Cherry-soil." No doubt it was, and is to some extent. But no other Cherry trees that I can remember in the same soil ever became models of symmetry, fertility, or longevity. *D. T. Fish.*

ROYAL BOTANIC GARDEN, EDINBURGH.

Of plants in flower recently, mention may be made of *Begonia Teuscheri*, a tall-growing species, planted out in a bed in the Palm-house. The stronger growths measure in some instances 6 feet or more in height, and bear large leaves of a dark green colour above, the under-surface suffused with a reddish colour. The plant is a rather shy flowerer, the inflorescence bearing not more than a dozen large pinkish flowers. The outer parts of the wings of the ovary are darker, while the ovary itself is white. Every flower examined was a female; the males, if any are produced, having dropped whilst still unexpanded. *B. Teuscheri* is a native of Malaya, and although it may never become a popular plant, on account of its shy-flowering habit, it is still worthy of a place in any collection of these plants.

Achimenes lanata.—This pretty little Gesneraceous plant is perhaps better known under the generic name of *Mandrola*, and, indeed, it has some resemblance in habit to the general run of garden *Achimenes*, is of a dwarf habit (not more than 4 inches high); the foliage forms a dense mass, the under-sides of the leaves covered with a woolly pubescence. The solitary axillary mauve-coloured flowers rise just above the foliage, and change with age to purple; the lip of the corolla is streaked with purple, and yellow spots cover the tube. When well grown, it is a plant that is always admired, and the treatment accorded it is that usually afforded *Achimenes*. It was introduced from Mexico some years ago.

Mustanda luteola.—A good plant of this tropical African species planted out in the stove has for more than a month past been attracting notice from visitors, it being covered with flowers, which appear in terminal corymbs, every main and lateral growth bearing flowers. The showiest feature of the plant is the large white or yellowish-white bracts, the flowers are of a bright yellow colour, contrasting well with the bright green foliage. Being a native of tropical Africa, it requires a brisk heat and needs no shade. Cuttings strike readily. The plant when grown in a flower-pot is apt to become stunted and less productive of bloom, unless accorded liberal treatment.

Plumiera alba.—The beautiful tints of the fragrant flowers of *Plumiera* are very agreeable in their season, although they have little claim when out of flower to be reckoned as decorative plants, they are worthy of space in our collections. Under cultivation the stems are usually unbranched and smooth, carrying a crown of leaves at the apex, about 1 foot long. From amongst these the inflorescence rises upon a stout peduncle, and bears from twenty to thirty flowers, which expand in succession, the plant thus continuing to flower for some time. The petals are white, shaded with yellow towards the centre of the flower, the latter being from 2 to 3 inches in diameter. A warm greenhouse is the proper place for it: after the foliage has fallen, water being somewhat sparingly afforded until signs of growth reappear. *Plumiera rosea* and *P. incarnata* are two other species grown here, the latter is a native of Peru, while the species under notice comes from India.

Jacquemontia violacea.—This is an easily cultivated, excellent stove climber, doing best when planted out and given a light position near the roof, where its slender twining stems sometimes reach a length of from 15 to 20 feet; these, however, should be restricted as to number, so as to prevent overcrowding of the foliage. The smooth green foliage is cordate and pointed in shape, and from the axils of the leaves spring the pedunculate cymes bearing a profusion of flowers, with light-blue, campanulate corollas, 1 inch in diameter. The plant continues to flower for several months during the summer and autumn. A native of tropical America; it has long been known to cultivation, having been introduced in the early part of the present century. It is figured in the *Bot. Mag.*, t. 2151, under the name of *Convolvulus pentanthus*. *R. L. Harrov.*

COLONIAL NOTES.

AUCKLAND, N.Z.

We learn that Messrs. O'Leary Bros., seedsmen and plant merchants, have lately established for themselves a business in Queen Street, Auckland. Messrs. O'Leary are starting after many years experience in a similar establishment, and as their catalogue gives evidence of enterprise, as well as of determination to succeed, we trust that the results of their essay will fully justify them in making it.

JAMAICA.

We have received the *Bulletin of the Botanical Department, Jamaica*, for August, 1895, and note that the contents include such topics as:—Rum, Jamaica yeast, Colocynth, tillage of the soil, its paramount importance; importation of selections of seeds; Report on Sugar-cane Disease; and assimilation of nitrogen by plants.

GRANADA.

The *Bulletin of Miscellaneous Information, Botanic Garden, Grenada*, May, 1895, includes papers upon:—Liberian Coffee, Grape-fruit, Kola Nut, Lemons, Logwood, and other subjects.

BRITISH NORTH BORNEO.

The *Official Gazette*, from British North Borneo, for August 1, 1895, contains the following proclamation:—

"ORCHID COLLECTING.—No permit to travel for the collection of Orchids in Province Keppel and the District of Kinabalu is to be issued until further orders. Any person travelling or collecting Orchids there without a permit is liable to a penalty of 500 dols., or to imprisonment under Proclamation VII. of 1890. Sandakan, July 9, 1895."

A BOTANICAL STATION IN CENTRAL AFRICA.

The *Foreign Office Report*, C. 7829—2, contains some interesting information on the botanical and agricultural resources and prospects of the Shiré-highlands. The writer, Mr. Alexander Whyte, who is head of the scientific department, gives an account of his successful effort to establish a botanical garden at Zomba. The results seem to show that Zomba is eminently suited for the experimental cultivation of food-plants and other plants of economic value. English Potatoes grown from seed turned out remarkably well. By constant selection, several large, well-formed, mealy varieties were obtained, equal in flavour to any English Potatoes. Happily, too, they show no sign of disease. Barley and Oats from English seeds were successful; while Wheat grown from seed obtained from the missionaries at Tanganyika, yielded at the rate of nine bushels to the acre, without manure. A series of Conifers, Cypress, Thuja, and the Milanji Widdingtonia grew to an average height of 5 feet in two and a half years, while some Eucalypti shot up 45 feet in the same period. A large terrace flower-garden made a brilliant display; Balsams, Phloxes, Zinnias, Mignonette, and others seeded so freely, that they became garden weeds. Pelargoniums grew to the height of hedges, and Sunflowers and Dahlias shot up into tall, shrub-like plants. Petunias, Pinks, Carnations, and, in fact, most of the plants experimented with were successful.

Mr. Whyte strongly advises extensive cultivation of india-rubber and gutta-percha yielding plants. The cheapness of land and labour would make the former, at any rate, a most remunerative venture. Fibre-plant cultivation would also admirably suit the natives. Unfortunately, the formidable Tsetse-fly will seriously interfere with the introduction and rearing of domestic stock, while a gad-fly (*Tabanus latipes*), the size and shape of a large blue-bottle fly, is also most harassing to horses and cattle. Though said to be a great scourge in East Africa, the latter is seldom met with in Nyassaland. As regards the Tsetse-fly, smearing the animals with a mixture of kerosene oil and cow-dung, is suggested as a most effectual preventive. The West Indian jigger, a burrowing flea, has also just reached the districts round lake Nyassa and the upper Shiré, having slowly migrated eastwards from the west coast, where it was introduced with ballast from Bahia in 1873. *Natural Science.*



FIG. 80.—FALL OF ANEVOCA, IN THE FORESTS OF ANALAMA'AOITRA, MADAGASCAR.
(SEE P. 460.)

THE HERBACEOUS BORDER.

TELEKIA SPECIOSA AND T. SPECIOSISSIMA.

The *Genera Plantarum* changed the name of *Telekia* to *Buphtalmum*, and as there are only four species of *Buphtalmum*, that work departs from its usual habit, and describes them all, with their synonyms. Two of them are very well known, being common garden plants. The type of the genus, *B. salicifolium* (Lin.), has narrow, lanceolate leaves, described by its name, and a forest of stalks springing from the base to about a foot high, and yellow flowers less than those of a Corn Marigold. The next generally known as *Telekia speciosa* (Bing.) is a very coarse plant, 5 feet or more high, with broad, cordate leaves, and heads several in a bunch, a large disc, and long, narrow rays, like those of *Inula glandulosa*. It is figured in *Bot. Mag.*, t. 3466. It has the habit of *Inula helenium*, and is a good plant to naturalise by the side of ponds. This is the plant which Mr. Freshfield describes as growing in such luxuriant masses in the Caucasus, as nearly to hide a man on horseback. It is often offered in catalogues as *T. speciosissima*, probably for no other reason than a fondness for superlatives in plant names. As for the true *T. speciosissima* (D.C.) which is described in the *Genera Plantarum* as intermediate between the two last-mentioned, I do not think I have seen it in cultivation, but is said to be found in the warmer parts of the Italian lake-district. The fourth species, *B. inuloides* (Moris) is a little known Sardinian plant. I may observe that in the *Hand-list of Herbaceous Plants* issued by authority at Kew, *Buphtalmum salicifolium* (L'n.), and *B. speciosum* (Schreb.), which is the same as *T. speciosa* (Bing.), are by mistake made synonymous. It is probably a printer's mistake, and the second name should have been at the same distance from the margin as the first. The two plants are certainly very distinct from one another. *C. Wolley Dod, Edge Hall, Malpas.*

INDIA.

THE NEW PUBLIC-GARDENS SUPERINTENDENT AT NAGPUR.

We learn that Mr. John Horne Stephen, formerly of Kew, and lately curator of the Lal Bagh Botanic Gardens at Bangalore, Mysore, has been appointed Superintendent of the Public Gardens at Nagpur, Central Provinces of India, in succession to the late Mr. J. R. Ward. Mr. Ward died in January last from smallpox complicated with other maladies. He had only held his post since 1883, but had already won general regard; his untimely death has cut short a career of promise. "*Kew Bulletin*," September, 1895.

TREES AND SHRUBS.

WHITE WILLOW.

The *Huntingdon* or *White Willow*, *Salix alba*, is a tree so useful for many purposes that there is great fear, according to the September *Kew Bulletin*, that the supply of it may soon fall short of the demand. The bark of *Salix alba* is used for tanning, and yields salicine. The timber is employed in turnery, mill-work, coopering, and for making cricket-bats. The charcoal is excellent for the manufacture of gun-powder and for crayons. More than one complaint has been received from bat-makers and from timber merchants, to the effect that true white Willow-wood is becoming practically unobtainable, for that, in spite of continual search for new supplies, the genuine article is rarely forthcoming, and even when found is both scarce and costly.

A NEW GOLDEN ELDER.

Under the name of *Sambucus racemosa plumosa foliis aureis*, Messrs. K. W. Zelenburg & Son, of Hazerswoude, near Leiden, have lately sent out a

new variety of *Elder* raised from *Sambucus racemosa plumosa*. This fresh introduction has pinnate leaves, the leaflets being again cut into linear or lanceolate segments. The colour of the leaves is bright yellow, the very young foliage being striped with brown. This *Elder* is quite hardy, and retains its colour until late in the autumn, so on all accounts should prove a valuable addition to our decorative shrubs.

THE WEEK'S WORK.

THE ORCHID HOUSES.

By W. H. WHITE, *Orchid Grower, Burford, Dorking.*

LÆLIAS.—In the house or division devoted to Mexican Orchids, *Lælia albida*, *L. autumnalis*, *L. Gouldiana*, *L. Marriottiana*, *L. acuminata*, or *L. peduncularis*, *L. anceps* and its varieties, are now throwing up their flower-spikes. From the present time onwards until the flower-spikes have attained their full length, it is advisable to carefully examine the plants for insects, and clear them of dirt and dust, washing the pots. If the plants should require re-arranging, this may now be done. As a rule, *Lælias* are afforded too much water during the flowering season and the winter, whereas the roots should be kept merely moist, and a temperature maintained sufficient to fully develop the blooms; but as soon as these are expanded, a very small amount of water will preserve the pseudo-bulb plump until such time as growth recommences. All species of *Barkeria* will require a similar treatment.

VANDA TERES is an Orchid that grows luxuriantly in a sunny part of the Mexican division. As regards this plant, there is nothing in the formation and completion of the season's growth to indicate the beginning of a resting season, and the grower has to be guided in this matter by the amount of growth made since the plants bloomed. If he be satisfied that sufficient growth has been made, the plant should be kept less moist than in summer, still not so dry as to cause the stems to become shrivelled, or many of the lower leaves will fall off. *Vanda teres*, if kept in a temperature of about 55° to 60°, and afforded an occasional syringing overhead on warm sunny days will offer no difficulty, and will bloom profusely.

CATTLEYA BOWRINGIANA.—At the present time this plant forms the principal attraction in the Cattleya-house. Although its individual flowers are smaller than those of most Cattleyas, their rich colour affords a fine effect, and especially by artificial light. Generally, it is a plant of easy culture, its requirements being the same as those that suit Cattleyas generally. Immediately it has finished blooming, repotting if it should be required should be attended to, because in a very short period roots will start away from the base of the flowering bulbs, and delay in potting might result in injury to these. After the flowering is over, whether the plants have been disturbed at the roots or not, they should receive only sufficient water to keep the pseudo-bulbs and leaves fresh-looking until growth recommences. *Cattleya Percivalliana* is another desirable autumn-blooming Orchid, and this plant having completed its new pseudo-bulbs, should be kept moderately dry at the root, but avoiding over-dryness, which may result in abortive flowering or deformed blooms.

SOBRALIAS have been later than usual in flowering, but this notwithstanding, growth is already well advanced, and many large roots are coming away. If repotting or division seem called for, the present is a favourable time for doing either, as establishment is rapid. A healthy specimen needs considerable pot-space, and ample drainage is very necessary. The soil used for *Sobralias* may consist of lumps of fibry peat and sandy loam, with a small quantity of sphagnum-moss, and a moderate quantity of clean crocks. In potting, keep the base of the plant below the rim of the pot, and press the soil firmly together. When in full growth and rooting freely, *Sobralias* need to be plentifully supplied with water. Towards the end of the year the breaks or stems which have flowered, on fully established plants, should be cut off at the ground-level, and the young shoots tied out clear of each other. *Sobralias* succeed well in an intermediate house the whole year.

ODONTOGLOSSUM CITROSUM.—Plants which are now forming pseudo-bulbs should be kept in the lightest available position, and afforded plenty of water at the root till growth is completed.

PLANTS UNDER GLASS.

By W. H. SMITH, *Gardener, West Dean Park, Chichester.*

STO E.—*Allamandas*, *Stephanotis floribunda*, *Bougainvilleas*, *Clerodendron splendens*, and *Dipladenias* should be looked over, and all weak shoots removed. Snading will not be needed now. Crotons and other fine foliage plants must be placed near the glass, and in as light a position as possible. As the days become shorter, it will be necessary to use more fire-heat, but it is better to allow the temperature to fall a little than to have very hot pipes, which are liable to cause insect pests to breed. A temperature of 64° by night to 75° by day is quite warm enough for the majority of stove plants. Keep plenty of moisture about, and fill the evaporating troughs regularly. *Gloxinias* should be put away in a warm dry place underneath the greenhouse stage, where drip will not reach them. *Caladiums* and *Gloriosas*, if they have been gradually dried off, may be stored in a similar situation.

CYCLAMENS.—Seedlings sown in August may now be removed from the cold frame, and any which are fit pricked off into well-drained pans or pots, containing a compost of good loam, leaf-soil, and sand, merely covering the combs with soil. Place them on a light shelf in a warm greenhouse, and keep them lightly shaded during bright weather. A sprinkling of soil should then be dusted over the seed-pans, and these pans removed to the stove to encourage the seed left still in the soil to germinate. *Cyclamens* intended for flowering during the winter and spring should occasionally be afforded weak manure-water, and weak soot-water. Maintain a temperature of about 60° by day, and 50° by night.

ROSE HOUSE.—Tea Roses in pots for early forcing should now receive attention. The drainage must be examined, and the weak shoots cut out. Top-dress the plants with rich unctuous loam, and add a small quantity of finely-broken bones. Place them in a temperature of about 50° by night and 60° by day, and if a gentle bottom-heat can be afforded them, so much the better. Syringe the plants twice a day, and avoid cold draughts, or mildew will soon appear. This must be checked at once when noticed by dusting with flowers-of-sulphur.

HERBACEOUS CALCEOLARIAS should be potted into 5 inch pots; a compost of good strong loam, leaf-soil, and decayed cow-manure in a dry state will suit them. Pot rather firmly and deeply and do not water them for a few days after potting. Place the plants in a cold frame near the glass, and afford plenty of air during mild weather. *Calceolarias* being very subject to green-fly, the plants should be lightly fumigated on its first appearance.

CINERARIAS.—Plants from late sowings should now be potted into 6 inch pots; and placed in cold frames, well covering these with mats when frost is expected. Early *Cinerarias* commencing to show flowers should receive a top-dressing of a good fertiliser, and be placed in a little warmer temperature.

THE HARDY FRUIT GARDEN.

By W. POPE, *Gardener, Highclere Castle, Newbury.*

THE GATHERING AND STORING OF FRUIT.—Fruit gathering in all the warmer parts of the country will now generally be drawing to a close, except in the case of a few very late varieties of Apples or Pears, which, unless they come away easily from the shoot are sure to shrivel. Take advantage of every fine dry day for pushing on with the gathering, and remember that no matter how hard an Apple or Pear may be it is easily bruised, and requires as careful handling as eggs. Any fruit which may have been stored for about a week should be examined, removing any fruits that show signs of decay. When fruit is spread about on shelves in one layer, the examination is a light matter, but when two or more layers lay on the shelves, a good deal of care is necessary in searching for decayed examples. Ripening Pears require almost daily examination, as when in decay, one fruit will spoil all others touching it.

FILBERTS AND NUTS of various kinds should be stored somewhat thinly on shelves in an airy, but not too dry a room, or the kernels will shrink. The Filberts keep longest when their husks are retained, indeed, they then have the best appearance at the dessert. The fruit-room should be kept cool and dark, ample ventilation being provided at the highest part of the roof, and good use should be made of this for the first few weeks in October and November, i.e., during the time that the fruits part with a good deal of their moisture. Failure to ventilate at such time

usually leads to a great deal of loss from the excessive degree of moisture contained in the air of the room. If it can be managed, Pears should not be stored with Apples, the latter keeping longer and best at a lower temperature than suits all the varieties of Pears, except the longest keepers. If space and convenience are at command, choice Pears should be wrapped in some light sort of paper, and stored in drawers, boxes, or large plant pots, in the case of the last covering the tops with other pots or wooden covers. Nearly all kinds of Pears are improved in flavour and texture by placing them in a warm place to ripen for the table. The exceptions are varieties like Doyenné du Comice, Seckle, Louise Bonne, and similar quick-ripening ones lasting but a short time in use. The warmth to which Pears are exposed should not exceed 70°, and only enough fruits to meet the demand should be hastened in this manner.

GOOSEBERRIES AND CURRANTS.—Gooseberry and Currant-bushes covered with mats or material on purpose to keep the fruit to a late date, should be uncovered on fine days to allow the fruit and the ground beneath the bushes to get dry, and for the removal of decayed berries. Where new plantations of these fruits have to be made, or gaps in existing ones filled up, planting may at once be proceeded with if bushes are grown at home, as the early-planted stuff will get established to a certain extent before hard weather sets in. A mulching of rotten manure should be applied as soon as the planting is completed. Such early-planted bushes start into growth in the spring as if nothing had occurred.

RASPBERRY-PLANTING ETC.—If new plantations of Raspberries are to be formed, this work should also be undertaken without delay, trenching the land 3 spits deep if it be good, but not bringing the subsoil to the surface, rather incorporating with it plenty of short, rich manure, and leaving it where it is. Soft soils should be afforded a heavy dressing of coal-ashes or sand. Although an open site is the best for the Raspberry, yet partial shade will not hurt them greatly; but care must be taken that the soil is not impoverished by the roots of neighbouring trees. Of varieties, Superlative is fine and distinct, deserving of extensive planting; Baumforth's Seeding, Fastolf, and Fillbasket, are likewise excellent; and the yellow-fruited varieties should not be forgotten, as they are nice for dessert.

FRUITS UNDER GLASS.

By RICHARD PARKES, Gardener, Goodwood, Chichester.

VINES.—The Vines in the earliest house, that is, be one the forcing of which will begin in November, should have by this time lost the most of their leaves, and may therefore be pruned. After the pruning, the cleaning of the rods should be undertaken, using for the purpose hot-water and a small quantity of soft-soap. Having done this, which involves the loosening of the Vines from the trellis, it will be an easy matter to clean the woodwork and walls, the latter being afterwards washed down with lime-wash, into which a wineglassful of petroleum to each gallon may be put. The crust of the borders should be removed to the depth of an inch or two, and if the soil appears to lack water, a heavy watering should be afforded before any new soil is added in the place of that taken away. As a surface-dressing for Vines, I am now collecting the edgings from the carriage-trives, which contain a good amount of sharp grit, and to this some manure is added, the whole being mixed with fresh-cut turf, old mortar or plaster, and wood-ashes, and the mass turned over several times. These materials must not be allowed to get wet before using them. The quantity prepared may be sufficient for all the Vine-borders. In affording crushed bones to the soil of Vine-borders, I find it better to sprinkle them on the border as the work proceeds. After the Vines andinery are cleansed and the border top-dressed, theinery should be left open up to the time of beginning to force, any frosts that may occur doing good rather than harm if they do not freeze the water in the heating apparatus.

SECOND - EARLY VINERY.—In this house the Vines will require abundance of air day and night, but beyond shortening the longest shoots, no pruning should be done and no leaves removed forcibly, for so long as the leaves remain on the Vine the buds are being supplied with material for future use. The foliage of these Vines should be well syringed at least once a day. Do not place any description of plants in the house, fire-heat

being usually required at this season to protect these from injury by frost. Where a few bunches remain on the Vines, remove them, each with a long piece of the shoot attached, and place in bottles of water, and store in a dark, cool, dry room. The Vines will be greatly benefited if the roof-lights can be taken off theinery, thus affording full exposure.

MUSCATS.—Maintain a warm, dryish atmosphere to complete the ripening, for unless this be done these varieties do not keep satisfactorily. It is advisable to have a regular, gentle warmth in the pits at this season, so as to keep a temperature of about 60°. Ventilation should be carefully afforded, avoiding cold draughts which cause rusting of the berries. If the border needs water, it should be afforded on bright mornings, and at a temperature several degrees higher than that of the house. The bunches should be carefully looked over once a week, and decaying berries deftly cut out of them. Any late-formed laterals may be pinched off, and the foliage so regulated that the sun may shine on the bunches.

THE KITCHEN GARDEN.

By JOHN LAMBERT, Gardener, Powis Castle, Welshpool.

SEAKALE.—The present will be a suitable time in some gardens to put the first batch of roots into heat, choosing those that are the best matured; in fact, I think it is a good plan in all gardens where this useful vegetable is much in demand, to plant a small bed of it in a warm, sunny aspect, which, if left two years before taking it up to force it, will produce shoots earlier than others in the spring, and consequently, the crowns ripen betimes in the autumn. Choose the white variety for the earliest forcing, as the first very early batches of this vegetable are never quite so nicely blanched as later ones. I have tried Seakale forcing in many different ways, and found that a mild hot-bed made of stable-manure and leaves is the best for the production of crisp, tender Seakale. Mushroom-houses and cellars are convenient places for forcing the roots throughout the winter, besides being accessible in the worst of weather. The large and small thongs of the Pearl-white variety should be saved for propagating purposes if stock be short, laying them in damp soil till they can be made some time during the winter.

VEGETABLE MARROWS.—If it be not intended to cover the plants up, and they are yet fresh and in a growing state, cut the fruits directly they are large enough for consumption. But these plants are worth the protection of cold frames so long as the day temperature is mild.

THE FLOWER GARDEN.

By BAILEY WADDS, Gardener, Birdsall Gardens, York.

SPRING FLOWERING PLANTS.—If the planting of the beds has been delayed by rainy weather, and a change to dry weather should have taken place, the following plants, mostly employed for edging, should be put out:—Carratum, Ajaga, Arabis of varieties Daisies, and Pansies, without delay, thus affording the plants a chance of getting established before the winter. Other plants used for furnishing the beds, viz., Wallflowers, including always B-d'ont Yellow, which is one of the best; Auriculas, Primroses, and Primrose Polyanthuses; Alyssums, Honesty, Saxoonaria cymoides, Silenes, Limnanthe, Erysimum Peroffkianum, and Myosotis should be planted.

HARDY ANNUALS.—Seeds of suitable species may be sown in sandy loam and leaf-mould in small pots, and placed in a cold frame or pit, and afforded air freely as soon as the seedlings are above ground. They need protection from severe frosts, and will be found very useful for filling up or making beds in the spring gardens. It will be very necessary to thin out the seedlings from time to time till there are not more than three to five left in each pot, and to keep the pots pretty close to the glass to avoid spindling. As these plants should not make much growth in the winter season, only enough water should be afforded as will keep the soil moderately moist. Clarkia elegans var. integriflora, C. pulchella, and Eucharidium concinnum make the most charming of early summer beds, raised and treated in the above manner, but affording them a shift into 48's or 32's early in the spring, and hedging them out in April. These plants last much longer in flower, and do not become so waxy-looking as those sown in the spring in the open ground, which flower during the hotter summer months.

GARDEN SHRUBBERIES.—With the fall of the leaf the re-arrangement and transplanting of deciduous trees and shrubs may be undertaken, and its performance carried out in mild weather during the winter months, remembering, however, that deciduous plants recover the soonest from root-disturbance the earlier in the autumn the work is done. Always wait till the soil is somewhat friable and dry, or it will not run freely in amongst the roots, and the trampling of wet soils is always injurious to them, and ought to be avoided. In soils that are light, and those which readily get dry, the planting should be done a little deeper than in those which are retentive. If the plants removed are tall or top-heavy, staking them should be done as soon as the plants are in position, always using a soft wad between the bark of the stem and the stake. Large subjects are best fixed by ties of 8 inches long, fixed to three stout stakes, as this prevents wind-waving, but allows of the settlement of the soil and the shrub, &c. As a tying material of a provisional nature, straw bands answer admirably, and later, for permanent ties, Cuba bast, Willow shoots, and soft tarred string are the best. In removing large trees, &c., it is best to take out a deepish trench at 2 to 3 feet distant from the side, and then excavate one side of the ball, and cut through any existing tap roots; the trench should then be filled in and the plant left for one year at the least, in which period of time new roots will form at the cut sides of the ball. New beds and shrubbery borders should be trenched 2 feet deep, and the sub-soil if wet left in position, but broken up well. If the home nursery can furnish the trees and shrubs, and these are prepared by frequent transplantation, the deciduous and evergreen species may be more satisfactorily planted at one and the same time; otherwise large evergreens should be transplanted in late spring. Good immediate effects are obtained by planting at from 4 to 5 feet apart. Doing this will involve the transplantation of many of the plants in three or four years, when the thinnings will be found in excellent condition for planting elsewhere. Trees and shrubs are often placed on turf by the sides of roads, and in such case they should be selected half-specimens, well prepared by digging round a year or two before. Usually it is best to plant them at a sufficient distance apart, that each may show its true character when of large size. In the planting of shrubberies intended to afford warmth and shelter, deciduous flowering plants should be but sparingly used, and common and Portugal Laurels, Hollies, Box, Cupressus, &c., more largely employed. The S-a Backthorns and the red-twigged Dogwood, double and single-flowering Deutzias and Ribes, should be planted freely, their various coloured shoots when denuded of their foliage affording pleasing colour. Lilacs should be planted thinly, as the plants soon overshadow dwarfier growers, and the roots rapidly impoverish the soil. They are more effective when planted in clumps by themselves. The pruning and thinning of the shoots of deciduous shrubs which flower on the young wood may now be commenced, the cleaning and digging of the borders following thereon. Species which flower upon spurs and the ripened shoots, should be pruned when they have ceased to flower. Only the thinning-out of shoots may be done now.

SHU-LANG ROOT.—The *Kew Bulletin* for September includes an interesting account by Dr. Augustine Henry of the Shu Lang root (*Dioscorea rhipogonoides*) of China. The species, we learn, was first discovered in Hong-Kong by Mr. Ford, and is known to occur plentifully in the mountains of Formosa, whence, brought down to the coast, it is used by fishermen for dyeing and tanning their nets. In China also it is extensively used as a dye, being known as the "dye-root," or "dye-yam," and employed for dyeing coarse native cotton cloth, fishing-nets, grass-cloth, and certain kinds of silk. Dr. Henry further remarks that:—"The lately-opened Customs station on the Kwaugsi-Annam frontier, Lungchow, is at present the seat of the trade." The Customs Trade Reports on that port for the years 1889 and 1891 also allude to *Dioscorea*:—"The principal article imported into Lungchow in 1889 was Shu-lang . . . (over 200 tons, value £1100). It is a tuberous root, growing wild in the hilly districts of Toankin. It is now to a certain extent cultivated, but cultivation, strange to say, deteriorates the quality. It is usually gathered in spring and early summer, and is sent from here down the west river to Canton, where it is used to dye cloth that peculiar reddish-black colour one so often sees in the South."

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

APPOINTMENTS FOR THE ENSUING WEEK.

SALES.

MONDAY,	OCT 21	{ Highly Important Unreserved Sale of exceptionally well-grown Nursery Stock, at the Nurseries, Sunningdale, by Order of Mr. Chas. Noble, by Protheroe & Morris (six days). Dutch Bulbs, at Protheroe & Morris' Rooms. Plants from Belgium, Roses, &c., at Protheroe & Morris' Rooms.
TUESDAY,	OCT 22	{ Dutch Bulbs, at Protheroe & Morris' Rooms. Dutch Bulbs, at Protheroe & Morris' Rooms.
WEDNESDAY,	OCT 23	{ Dutch Bulbs, at Protheroe & Morris' Rooms. Ninth Annual Great Fruit Tree Sale, at Perry Hill, Cliffe, near Rochester, by Order of Mr. W. W. Horne, by Protheroe & Morris. Ornamental Shrubs, Lilies, Spireas, Roman Hyacinths, &c., at Stevens' Rooms.
THURSDAY,	OCT 24	{ Dutch Bulbs, at Protheroe & Morris' Rooms. Plants from Belgium, at Protheroe & Morris' Rooms. Great Unreserved Sale of Nursery Stock, at Hollamby's Nurseries, Groombridge, by Protheroe & Morris (two days). Orchids in Flower and Bud, Imported, and also from a Private Collection; also Dutch Bulbs, at Stevens' Rooms.
FRIDAY,	OCT 25	{ Dutch Bulbs, at Protheroe & Morris' Rooms. Orchids, at Protheroe & Morris' Rooms.
SATURDAY,	OCT 26	{ Dutch Bulbs, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—48°4.

Madagascar. WITH the fall of Antananarivo the French are complete masters of Madagascar, a result generally admitted, even by the enterprising traders of other nationalities, that should not only be advantageous to the islanders themselves, but also to the world at large. Wisely administered, there should be a great future for Madagascar in the development and utilisation of its natural resources, and, primarily, of its enormous vegetable wealth, which, under native government, has been sadly wasted. If early and persistently-continued exploration and investigation count for anything, then assuredly the French have a better claim to domination in the island than any other nation. After the abandonment of the island by the Portuguese, the French attempted colonisation, the first attempt dating as far back as 1642. DE FLACOURT (Flacourtia), one of the earliest governors, writing in 1658, declares that *Madagascar est un pays qui possédait tout ce qui est nécessaire à la vie et pourrait se passer de tous les autres.*

DUPÉTIT THOUARS, and COMMERSON are well-known names to botanists among the French explorers. The latter made large collections, but published nothing; whilst the former described and figured many of the curious and peculiar plants of the island, including a volume devoted to the Orchids of Madagascar, Mauritius, and Bourbon. This contains figures of upwards of 100 species, among them several of the finest *Angræcums*.

There were also issued, with this, six coloured folio plates, two of them representing *Angræcum sesquipedale*. The same author made known the singular *Ouvirandra*, and the familiar *Stephanotis*. ADANSON had previously described the celebrated *Ravenala*, and SONNERAT figured it in the narrative of his voyages to the East, early in the last quarter of the last century.

The British also had not been idle in relation to Madagascar. RICHARD BOOTHBY, a London merchant, visited the island about 1644, and wrote a glowing account of its productions. In consequence, an attempt was made to establish a factory at St. Augustine's, but after a two-years' struggle against the natives and climate, it was abandoned.

In 1815, the English Governor of Mauritius formed a settlement at Port Luquez, in the extreme north-east; and this also proved disastrous. But shortly after that date the first English missionaries established themselves in Madagascar, and from that time down to the present they have continued their labours under many vicissitudes, with varying success, and not without interruptions. They have not confined themselves to the conversion of the natives to Christianity: they have laboured at their general education, practical and mental; and they have done, among other things, much towards making known the flora of the country, both by sending home living plants and seeds, and dried specimens. Indeed, it is almost entirely through missionaries that we in England have obtained our knowledge of Madagascar, its people and productions. Foremost comes the Rev. W. ELLIS, the author of *Polynesian Researches*, a *History of Madagascar*, and other books. It was he who first brought to England living plants of *Ouvirandra fenestralis* (*Bot. Mag.*, t. 4894), and subsequently introduced *O. Bernieriana* (*Bot. Mag.*, t. 5076). Horticulture is also indebted to him for *Angræcum sesquipedale* (*Gard. Chron.*, p. 253, April 11, 1857, when the original account of the plant found place in our columns), which first flowered in his own garden at Hoddesden, Herts*; *Grammatophyllum Ellisii* (*Bot. Mag.*, t. 5179), and several other remarkable plants. Many other members of the pioneers of Christianity in Madagascar deserve mention for their exertions in the cause of science, but space will not permit. Yet there is one who has consolidated† the results of his predecessors and contemporaries in the same field whom we cannot pass over. His work is specially valuable for the local information it contains, and as a summary of Mr. J. G. BAKER'S numerous papers on the collections made chiefly by English missionaries within the last twelve or fifteen years. He roughly estimates that 50,000 square miles, or about one-eighth of the country, is clad with forest. But he goes on to say, that every year thousands of acres of trees are burned, to provide ashes as manure for a mere handful or two of Beans, and a few cobs, or a little Rice to be grown in the clearing. Moreover, young trees are extensively used to form stockades around the villages. In one village alone he counted 10,000 trees used in this way; and in another place no fewer than 25,000 trees had been sacrificed to make a road to remove a tombstone from the quarry! During the last twelve years the French have been equally active in collecting, and the collections have been worked out principally by the late Dr. H. BAILLON. The publications include a

* See *Gardeners' Chronicle*, 1857, p. 253, with a figure; and *Botanical Magazine*, t. 5113.

† "The Flora of Madagascar," *Journal of the Linnean Society*, xxv. (1859), pp. 246-291, by the Rev. R. Baron.

series of upwards of 300 magnificent quarto plates, representing as many peculiar plants of the island. It is estimated* that about 5000 species of Madagascan flowering plants are represented in the herbaria of Europe, and that they belong to about 1000 genera and 144 natural orders. Contrary to the expectations of some naturalists, the flora is very similar to that of tropical Africa, having many elements in common, and exhibiting no greater peculiarities than distant parts of the Continent. Readers of this journal may be referred to several articles on Madagascar published in these columns in 1874 and 1875, from the pen of Captain OLIVER, an authority on the geography and products of this island. The illustrations now given, figs. 80 and 82, are from his pencil.

THE fourth part of the monumental production known as the *Index Kewensis*.

Kew Index has just been issued, and with it the work is terminated. We may remind our readers that it is a list of all the properly-authenticated names of flowering plants published since the time of LINNÆUS to the year 1885. It has been compiled by Mr. B. DAYDON JACKSON, under the direction of Sir JOSEPH HOOKER, and at the expense of the late CHARLES DARWIN. Daily use has shown us how extremely serviceable the book is to workers, and it has also proved with what care the laborious undertaking has been carried out.

The expert botanist will readily appreciate the nature of the book; but it may be desirable to remind those who only make casual reference to it, that it is no more than it pretends to be—an index of names and references. The precise value and significance of each particular reference must necessarily be left to the student to determine. All that we can expect is consistency and correctness of entry and of reference, and these the unwearied patience of Mr. JACKSON and the supervision of Sir JOSEPH HOOKER have secured. Under the circumstances just mentioned, any elaborate explanation is perhaps not needed. Nevertheless, we had hoped that some explanation of the principles upon which the list has been compiled would have been afforded us. We should have liked to know, for instance, why one name is inserted and another rejected; for these particulars we must now look to some article of Mr. JACKSON'S in the *Journal of Botany* and elsewhere. Many garden names given without adequate descriptions or figures, and liable to change in the hands of commercial speculators, and those which are ephemeral, or speedily rendered nugatory by the death and extinction of the plants—are, of course, not inserted. For garden purposes, however, some of these names would occasionally be useful as historical evidence, and it would be a boon to have them published in some form. Of much greater importance, however, is the necessity for supplementary volumes, bringing the list of authenticated names up to date, and these we shall hope to see in due time. Some means should also be taken to testify the gratitude of workers towards the compilers of this work, and thus fitly commemorate its conclusion.

BRUNSVIGIA JOSEPHINÆ.—This plant is one of the ornate large-growing South African bulbs, and very striking, with its massive pseudo-bulbs covered with numerous silky tunics, and bearing in the season of vegetation broad, lorate, glaucous-green leaves. The only thing to be said against the plant

* W. B. HEMSLEY, in *Science Progress*, iii., pp. 447-475.

as cultivated in gardens is that it has not generally flowered freely. But in the hands of those who study the requirements of the species of Amaryllids, which are natives of hot, sandy plains, a reasonable amount of success is attained, and especially in very warm, dry summers. The plant makes a noble show, with its tall, stout scapes crowned with bright red flowers. The chief points to be observed in the culture of *Brunsvigia* is to withhold water early in the season, and when the leaves begin to

wither, for we have seen the species under notice in flower at Kew and several other places. One of the best examples was that exhibited by Mr. R. B. Lowe, gardener to Earl Brownlow, Ashbridge Park, at the Royal Horticultural Society on August 13 this year, and which was much admired, and from which our illustration (fig. 81) was taken (see *Gardeners' Chronicle*, August 17, p. 191). It is a very old inhabitant of gardens, and it is recorded that the first bulb to flower was purchased by the

satisfactory sale resulted. The principal things in demand seemed to be some splendid plants catalogued as *Cattleya* species, but which were evidently of the *C. Warszewiczii* type, than which no handsomer plant could be desired. Good healthy specimens of the many, fine, named forms of *Lælia purpurata* which emanate from the Brussels firm, and equally good plants of their noted *Lælio-Cattleyas* of the L.-C. \times elegant class were also offered; and the fine *Sobralia Lindenii* which we noted in a recent issue, and the singular and pretty *Zygopetalum Jorissianum* found favour with the purchasers, if we may judge by the good prices at which they were knocked down. If Messrs. LINDEN continue to offer none but really first-class plants as on this occasion, the success of the venture should be assured.

NEWCASTLE AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.—The monthly meeting of this Society was held at 25, Werdgate Road, on Tuesday, October 8, Mr. JOHN BULLOCK taking the chair. Mr. LAWSON, Heatthdale, Gosforth, exhibited a collection of twenty-two varieties of exotic Ferns, in admirable condition; and Mr. W. LARKE, Northdene, Gateshead, showed blooms of *Chrysanthemums*. An excellent paper on the cultivation of fancy *Pelargoniums* was read by the chairman, in which he recommended cuttings struck in the spring for making the strongest and healthiest plants. An interesting discussion followed, in which many took part.

MARKET REPORTS.—It is so exceedingly rare to receive a letter like the subjoined, and so exceedingly common to receive others of exactly opposite tenor, that we have great pleasure in publishing it:—“Will you pardon me saying your Covent Garden prices are a long way from accurate. Last week I note Peaches, 6s. to 8s. a dozen, and I may say—the very same day I realised 15s. at MUNRO'S, Covent Garden. R. GILBERT, Burghley Gardens, October 9.” We must repeat that the prices quoted are not exceptional ones, but averages for the week.

COMPLIMENTARY DINNER AND PRESENTATION.—On the occasion of Mr. CLIFFE leaving Shoreham Place to take charge of Lord EGERTON'S garden, Tatton Park, Cheshire, a few friends entertained him at dinner at the George Inn, Shoreham, on the evening of Friday, October 4. Mr. CLIFFE was afterwards presented with a handsome marble clock with inscription, as a mark of esteem.

THE ARNOLD ARBORETUM.—By an arrangement recently concluded between the President and Fellows of Harvard College and the city of Boston, important additions have been made, says *Garden and Forest*, to the Arnold Arboretum. These include two parcels of land with an area of about 20 acres within the boundaries of the original Arboretum, but reserved by the city for its own uses when it was established; two pieces of land with an area of about 3 acres on the north-west border of the Arboretum, and purchased by the city last year; a piece of land, the property of Harvard College, south-west of the old Arboretum, with an area of 67 $\frac{1}{2}$ acres; this consists of a high, rolling, grassy hill, the second highest land in the city of Boston. From the summit of this hill fine views are obtained; the wooded portions of the Arboretum lie at its base; to the south all the Blue Hill range is in view; the waters of Massachusetts Bay are seen to the south-east, and to the north and west a broken well-wooded country. With these additions the area of the Arboretum is 222 $\frac{1}{2}$ acres; 2 $\frac{1}{2}$ miles of drives have been finished and planted, and under the new arrangement the city of Boston is to construct 1 $\frac{1}{2}$ miles of additional roads. Among the scientific gardens in the United States and Europe, only the Royal Gardens at Kew, with an area of 251 acres, exceed the Arnold Arboretum in size, and it is probably safe to say that no other scientific garden of such an area is so accessible to the people of a great city or possesses such a diversified surface and such advantages in the way of natural woods. The Arboretum lies entirely



FIG. 81.—BRUNSVIGIA JOSEPHINE: FLOWERS DEEP RED. (SEE P. 460.)

wither, to place the bulbs in a sunny situation, either in full sunshine out-of-doors or in a frame or greenhouse, to be thoroughly dried and kept in a dry state till the flower-spikes appear, which will take place in advance of the leaves if the plant is going to flower. But if the leaves appear and get well advanced, and no flower-spike appears, it is reasonable to conclude that the bulb will not flower that season; and the plant should be liberally watered and grown on until the leaves again wither, when, if kept dry, as before-mentioned, it will, in all probability, reward the cultivator with its gorgeous display of bloom. The present season seems to have been a favourable

Empress JOSEPHINE in Holland, and on its flowering in the garden of Malmaison, it was named in honour of her.

LINDEN'S ORCHID SALE AT STEVENS' ROOMS.—On Thursday, October 17, Messrs. LINDEN, L'Horticulture Internationale, Parc Leopold, Brussels, commenced the series of Orchid Sales announced to be held at Mr. J. C. STEVENS' Rooms, 38, King Street, Covent Garden, and certainly the splendid quality of the plants sent was worthy of the occasion. There was a fair attendance in the Rooms, and with the aid of the numerous commissions held by the auctioneer a fairly

within the limits of the city of Boston, and is not more than 4 miles from the centre of population, being easily reached by one line of railroad and by two lines of electric cars, while the parkway which unites the different parks of the City Park System, starting from the Public Garden, in Arlington Street, in the heart of the residential quarter of the city, skirting the town of Brookline and enclosing Jamaica Pond, forms its eastern boundary and connects it with Franklin Park beyond. By this parkway the distance from the Common to the Arboretum is 6 miles.

THE EFFECTS OF THE FROST AND DROUGHT ON BRITISH MEDICINAL PLANTS.—The intense and lengthened frost of last winter, followed by the extreme drought of the early summer, are showing as the months roll round, that the devastation has not been confined to garden crops. One branch of British culture, about which little is perhaps generally known, is the growth of medicinal plants, which are now for the most part cultivated at Hitchin, Bodicote, Mitcham, and in Lincolnshire. A most interesting report on the state of these crops was recently given in our contemporary, the *Chemist and Druggist*, from which we gather the following facts. From Hitchin, Messrs. RANSOM & SON reported that Lavender will be the shortest crop that has been gathered for many years. A temperature of 0° Fahr. which occurred at Hitchin and many other parts of the country, proved fatal to the greater number of the older plants, and whole fields which last year appeared promising have been cleared and planted with other crops. The young plants, though in fairly good condition, are estimated to produce but very little flower this year. Peppermint suffered severely from the dry weather, the plants being short, and the yield of oil per acre being therefore considerably below the average. Rosemary, which is described as the most delicate of the cultivated Labiatae, was almost entirely destroyed by the frost. Belladonna promised well in the early part of the season, and a large crop was anticipated; the drought, however, diminished the growth, and the prospects of a good crop accordingly. The old plants of Euterpe were said to be nearly all killed by the severity of the winter, but young plants were abundant, and the field of fruit, although late, was anticipated to be fairly good. Henbane was reported to vary much in different localities; in damp, low-lying situations about Hitchin there have been heavy crops, but in dry situations the yield has been very deficient. At Bodicote, near Barbary, it is said that the winter killed at least two-thirds of the second biennial Henbane, and as much of the Belladonna; the only bright picture of the medicinal plants in that locality is stated to be Ranunculus, which has done remarkably well. From the Mitcham district the report states that it would be necessary to go back more than ten years to find a season so disastrous to the cultivation of Mint, Lavender, and Rosemary; the runners of the Peppermint plants were frozen, and the succeeding drought completed their destruction. Of Lavender, twenty-five per cent. of the young plantations were killed by the frost, and the remaining three-quarters having also suffered, only half the usual harvest was expected. Camomiles seem to have stood the winter, and on the termination of the cold weather the plants assumed a healthy appearance, and a good crop was almost certain.

GRASSES OF TENNESSEE.—The Agricultural Experiment Station of the University of Tennessee, has published a *Bulletin* containing full descriptions and illustrations of all the grasses of that State. As none of the species is peculiar to the State, this handy manual, prepared by Mr. F. LAMSON-Scribner, will be of great service to botanists and agriculturists throughout the North-eastern States generally. Mr. F. LAMSON-Scribner is "Agrostologist" to the United States Department of Agriculture at Washington. It will be some time before we are sufficiently advanced to have such officers in our Agricultural Department.

FRUIT PRESERVATION IN TRANSIT.—We take the following from the *Yorkshire Daily Post* of October 3, 1895:—The latest experiment in fruit preserving is decidedly novel. Sir SAUL SAMUEL the Agent-General for New South Wales, has just received at his London office a parcel of fruit despatched from Sydney at the end of July, which has been preserved in transit not in an ice chamber, but by an innocuous coating which excludes the air and arrests decay. The exact nature of the preparation is not disclosed, but it would appear to be something of the nature of collodion, and Oranges, Lemons, and Pine-apples, by being simply dipped in it, are coated with the preservative, which easily peels off, and is said to cause no deterioration in the quality of the fruit. Of course, only hard fruit can be thus treated, and at present the method is in the experimental stage, but its development will be watched with interest, in view of the large trade which has sprung up with New South Wales and Australia generally in fruit for winter and spring consumption in England.

IMPORTED PLANTS AT SANTA BARBARA.—We have received from Dr. F. FRANCESCHI his brochure, entitled *Santa Barbara Exotic Flora: a Handbook of Plants from Foreign Countries grown at Santa Barbara, California*. This descriptive catalogue of plants speaks well for the climate of their new country, as natives of such diverse climes there do well and flourish. Due tribute should also be paid to the enterprise of the planters, who, for various utilitarian purposes, have succeeded in acclimatizing so many valuable species; and also to Dr. FRANCESCHI, whose careful Handbook should serve both now and in the future to prove what has been done, and what may yet be accomplished in this direction.

"HORTUS FLUMINENSIS."—SENOR J. BARBOA RODRIGUES has published, under the above title, a brief account of the Botanic Garden of Rio de Janeiro, compiled to serve the requirements of visitors. It is written in the Portuguese language, and contains a brief history of the garden. The existing establishment dates from 1808. A descriptive list of the principal species cultivated, arranged under the natural orders up to Compositae, is given, and some photographic illustrations, serving to show the beauty of this renowned garden. The famous Palm avenue was planted in 1843.

ROSES.—The publication of an eighth edition of Mr. WILLIAM PAUL'S book on *Roses and Rose Culture* is in itself proof of the utility of the work. We can therefore heartily commend it to such of our Rose-loving readers who do not already avail themselves of the instructions contained in it. The publishers are SIMPKIN, MARSHALL, HAMILTON, KENT, & CO.

PRESENTATION.—On Saturday afternoon, Oct. 5, a deputation of the Chippenham Horticultural Society waited on the president, JOHN GLADSTONE, Esq., at Bowden Park, and presented him with a Silver Medal in commemoration of the silver anniversary of the society. The medal, which was richly embossed and inscribed, was presented by Mr. A. WRIGHT, the secretary, and suitably acknowledged by the recipient.

MISSING LINKS.—Commenting at the late meeting of the British Association at Ipswich, on the botanical work of the late Professor WILLIAMSON, of Manchester, Dr. SCOTT showed that the Calamariae were allied to Equisetaceae but possessing a cambium as in existing Dicotyledons and Gymnosperms. The Sphenophyllae have no living representatives; the Lycopodiaceae were represented by Sigillariae and Lepidodendron, which, however, possessed cambium. The Lyginodendreae consist of plants with the foliage of Ferns, but, according to the report in *Nature*, with stems and roots resembling those of Cycads. In this connection the existing Stangeria is of interest.

PANGIUM EDULE.—The poisonous principle of this plant has been shown to be hydrocyanic acid. Dr. TRUB, the Director of the Botanic Gardens at

Buitenzorg, is of opinion that hydrocyanic acid is one of the first substances in the manufacture of proteids, and the first visible result of the absorption of inorganic nitrogen.

CAMBRIDGE UNIVERSITY.—We learn that the library and herbarium of the late Professor BABINGTON have been bequeathed to the University. The fine collection of shells made by the late Miss SAUL has also been left to the University.

GYNERIUM JUBATUM.—Mr. W. E. GUMBLETON obligingly sends us a spike of this species, which in its alky lightness, and the silvery lustre of its florets, exceeds in beauty the ordinary form. Mr. GUMBLETON tells us that it is less hardy than the other species. *Gynerium jubatum* is a native of Ecuador, and was first noticed in the *Revue Horticole*, 1878, p. 449.

"CIDER."—This is the title of a new illustrated monthly journal devoted to the interests of cider and perry, and is the official organ of the National Association of Cider Makers. Director and editor, E. SAMSON; publishing office, 15, Lincoln's Inn Fields. The subject-matter of this magazine is explained by the title, and will prove of interest to growers, vendors, and sellers of Apples, as well as to those immediately connected with the manufacture of cider. The price of the magazine is sixpence, and it is composed of two dozen clearly-printed pages, interspersed here and there with an illustration.

"THE CASE AGAINST BUTCHER'S MEAT."—A pamphlet has been sent us which bears this name, and is written by Mr. CHARLES W. FORWARD (London: The Insurance Publication Dept., 6, Dorset Street; Ideal Publishing Union, Memorial Hall; and Manchester: Vegetarian Society, 9, Peter Street). This small book warmly advocates a non-flesh diet, and in it the author argues out to his own satisfaction many reasons, based on considerations of health, humanity, and morality, why a diet of butcher's meat is wrong for mankind.

MEAD AND HONEY.—*Mead, and How to Make It, and Honey and its Uses*, are the titles of two small pamphlets by the R-V. GERARD N. BANCES, published by PERAY & SON, Dartford and Ludgate Hill. The author recommends mead, when properly made, to the consideration of all connoisseurs, and he quotes the opinion of former generations as confirming his own. Several recipes for preparing mead carefully and satisfactorily are given. The leaflet on honey speaks highly of its dietetic and other virtues, advises the use of it warmly, and also gives receipts for various dishes, which include this dainty. The author writes clearly, and to the point.

FIRE AT AN EDINBURGH NURSERY.—A fire took place last Thursday at the nursery of Messrs. R. B. LAIRD & SONS, Pinkhill, Murrayfield. The fire was confined entirely to the office, and Messrs. LAIRD are afraid some of their autumn orders have been destroyed, and would feel obliged by their friends who may read this paragraph kindly repeating any orders they may have given for autumn or spring delivery.

LEMONS.—A writer in a morning contemporary this week makes mention of a fine consignment of Lemons just arrived from Australia, and grown on the estate of the Australian Irrigation Company, remarking that this afforded an indication of what our Australian friends could do in filling up what would otherwise be a lemonless period. It so happens, however, that there are just now some very good samples of Neapolitan and Palermitan Lemons on the London market at a fairly moderate price. Our Italian friends have been slow to move, but we fancy they are pretty well alive to the advantages accruing to being first on the market, either in Manchester or London.

THE LUTOVKA CHERRY.—Among the new or little-known Cherries received at this station in recent years, the Lutovka is one of the most promising of the late sour varieties. It was imported

from Europe about twelve years ago by Prof. Budd of Ames, Ia., who says that it is much grown in Poland and in Silesia, as a road-side tree. It was first planted at the station in 1883. So far as observed, it is not catalogued by any nurseryman, although it is grown to some extent in western nurseries. It appears to be worthy of extended trial as a late sour Cherry. Description—tree of Morello type, a vigorous grower, young branches rather slender; fruit firm, good quality, sprightly acid, as large as English Morello or larger, more nearly round, very similar to that variety in colour, but the flesh is not so dark as that of English Morello; clings tenaciously to the long stem. So far as tested here the tree has proved to be very productive, ripening its fruit as late as, or later, than the English Morello. *N. Y. Agricultural Experiment Station, Geneva, N. Y.*

RARE TREES OF WEST PRUSSIA—Herr CONWENTZ, in the *Abhandlungen zur Landeskunde der Provinz West Preussen*, heft. ix., 1895, publishes an account with figures of certain rare trees, including *Pirus torminalis* and *P. suecica*, the distribution of which through neighbouring countries is given. Under the head of *Picea excelsa* (Spruce), an account is given of various curious forms of this species, such as the Weeping Spruce, the Columbar Spruce, and of one very curious form in which the upper branches are deflexed and appressed to the stem, whilst the lower ones are spreading.

DIASTASE IN FOLIAGE LEAVES.—Professor J. REYNOLDS GREEN, in a paper read before the British Association, gave an account of a series of experiments he has been conducting on the diurnal variation in the amount of diastase in foliage leaves. From this it appears that there is more diastase present in a plant in the morning than in the evening, and to account for this fact it has been stated that the diastase is utilised for the conversion of starch, but this theory is opposed to the view that enzymes do not diminish in quantity. The author's experiments were carried out on diastase in solution and on actual leaves. In the first instance it was noticed that on exposure to the electric arc light or sunlight, 75 per cent. of the diastase was destroyed. Leaves of one of the Leguminosæ were employed for the latter experiment. They were gathered in the morning, and kept in the dark until used, when half of the blade was shaded, whilst an arc light was brought to bear on them for nine hours. It was then found that 10 per cent. of the diastase was destroyed, which proportion was increased to 20 per cent. if exposed to sunlight. It will therefore be seen that the amount destroyed is greater in the solutions than in the living leaf, and this is accounted for by the fact that the proteids in the cells have a protective action. *Pharmaceutical Journal*.

JAPANESE MATTING.—The demand for Japanese matting, probably made from the culms of *Lepironia mucronata*, appears, from a recent report from Hirgo and Osaka, to be still increasing. The progress made in the manufacture of this article is more and more noticeable each year, the export for 1894 amounting to over 277 000 rolls of 10 yards each, against 227 000 in 1893. The chief demand comes from New York, and the quantity carried to that port by sailing vessels alone amounted to over 170 000 rolls, being an average of over 12 000 rolls per vessel, which shows what an important factor as regards freight this industry has assumed. New designs of matting are constantly being invented by the Japanese, while the workmen are very ready to execute orders based on patterns received from foreign countries, so that the number of styles now available to the exporter are almost unlimited. The crop of Rush from which the matting is made was particularly good and abundant during the year, and the result has been that the trade proves capable of great expansion without any important change in prices, to the considerable advantage of both the Japanese and foreigners engaged in it. To all appearance, the demand for floor matting is likely to increase in the future.

ACTION OF SULPHURETTED HYDROGEN ON PLANTS.—M. H. BARNOUVIN has carried out some experiments which confirm those previously recorded by M. MORREN. Strawberry plants in full leaf were exposed in the one case to the action of sulphuretted hydrogen gas accompanied with free exposure to the atmosphere, whilst in the other the plant was covered with a bell jar during the experiment. As a result, it was noticed in the first instance that after the gas had been allowed to diffuse through the atmosphere for several days the leaves became covered with yellowish spots, and then withered and rotted, but the plant recovered its normal appearance slowly if removed to a pure atmosphere. If, on the other hand, the gas acted on the plants in a confined space, the effect was much more marked, as in twenty-four hours' time all the leaves assumed a brown colour, and shortly afterwards blackened, withered, and died off, and no subsequent removal to fresh air was able to restore the plant. M. BARNOUVIN concludes, therefore, that the action of sulphuretted hydrogen on plants is directly analogous to its action on animals (*Rép. de Pharmacie*, vii., 336) as "*Pharmaceutical Journal*."

BOOK NOTICE.

BIOLOGY NOTES.

Under this title Mr. Houston has got together the monthly series of notes on biological matters, issued for the benefit of the students receiving technical instruction under the auspices of the Essex County Council. Some of these students are destined to become teachers in the future, and we have before noted the very careful and thorough training they receive in botany, zoology, and the sciences, on which agriculture and horticulture depend. Illustrations of the methods of tuition adopted, whether for elementary or more advanced pupils, are given in the present volume, and will serve as excellent examples to others desirous of carrying out a similar scheme. The main feature is to make the pupil verify, as far as possible, for himself everything the teacher tells him, and then to induce him to make further research for himself. The laboratory at Chelmsford is not only a teaching centre, but it is, as we see from the volume before us, becoming the source whence information on plant-diseases, weeds, &c., is disseminated among the cultivators of the county. Those of us, who, from knowledge of what has been done for years in Belgium and Germany in this way, have earnestly advocated the adoption of similar methods here, must feel gratification at the thorough way in which the subject is being taken up by the Essex County Council and other similar bodies. Instruction in technical details and manual performance is of primary importance no doubt, and in many cases is all that can be done, or even aimed at. It is evident, however, that unless an adequate knowledge of general principles be superadded, there is no chance of making any real progress, or of turning out better practitioners than our forefathers were. The proceedings at the Summer School of Horticulture have already been detailed in full in our columns, so that now we need only congratulate the Council on the judgment, zeal, and energy displayed by their staff-lecturer.

HOME CORRESPONDENCE.

BOUGAINVILLEA SANDERIANA.—I have on three or four occasions during the past season seen Mr. James Cypher, of Cheltenham, show a fine specimen of this form, and when well-coloured it constitutes a striking contrast to *B. glabra*. The bracts are of a dark tint of mauve-purple; and in the case of Mr. Cypher's specimen, bracts and foliage alike were smaller, though it was a fine example of high culture. But as an effective exhibition plant it did not appear to me to equal *B. glabra*. When the latter is vigorously grown, and the large lustrous mauve bracts are bright in colour as well as numerous, it is a superb exhibition plant, and the first to catch the eye in a collection. I am afraid some exhibitors

make the mistake of starving the plant in order to get it into flower, with the result that the foliage is small and the lower branches bare of leaves. To see as one sometimes does a specimen of *B. glabra*, bare of leaves at the base and back, though there may be a good deal of colour at the top, is to cause one to regret that the treatment meted out to the plant was not more generous. *B. Sanderiana* is so distinct in character that it can be shown as Mr. Cypher had it at Tatton in August last, in the class for twelve varieties of stove and greenhouse plants in flower, he having also a fine example of *B. glabra*; but if species were required it might raise the question as to whether *B. Sanderiana* is really a distinct species, although it is, I believe, claimed as such. *R. D.*

FRUITING OF DOUBLE PEACH.—We would like to know if it is not unusual for the double-flowering Peach to produce fruit of a good size, and excellent flavour, out-of-doors? This has been our experience, and also that of one of our customers, whose tree is about ten or eleven years old, our trees being young nursery stock. It may have been the exceptional season, but the experience is new to us. *Carter Page & Co.*

CHOU DE BURGHEY.—I have grown this variety of Cabbage, or Cabbage-Broccoli, as it is usually called, for a number of years, but have not, so far, been able to add the surname "Broccoli" to it, failing to discover the slightest trace of a miniature Broccoli enveloped in the leaves, as advertised. Whether the fault rests on my inability to give it the proper treatment, or that I am not supplied with the genuine seed, I am at a loss to know. The outward appearance is very similar to the Sugar-loaf Cabbage, but I find it differs from any other Cabbage in point of flavour when cooked, being, to my estimation, quite equal to the Brussels Sprout, especially to the sprouts that spring from the base of the stem after the head is removed. Anxious to obtain its full value, I have grown it to come in at different seasons, to ascertain if any Broccoli heads would form, and have let it remain uncut until very late in the spring—but all to no use. Perhaps Mr. Gilbert, the raiser, will kindly let me know what time of the year they should be planted, and how long a time they should grow before a head of true Cabbage-Broccoli forms. *W. Jones, Aston Bank, Hawarden.*

VERBASCUM CHAIXI AND RUDBECKIA NEWMANI.—On looking through the fourth and last volume, just issued, of *Index Kewensis*, I note one or two things of general interest to amateur gardeners. First, a plant very often mentioned in gardening journals, *Verbascum Chaixi* (Villars), is declared to have no separate existence, but to be identical with our native *V. nigrum*. Also another very tall perennial, Mullein, about which gardeners write sometimes as *V. Chaixi*, sometimes as *V. vernale* (Wierzbick), sometimes as *V. Wierzbickii* (Heuffe), has lost all these three specific names, and is merged in *V. nigrum*, of which E. Boissier always declared it to be a hybrid. Then we have *Rudbeckia Newmani* (London), distinguished from *R. speciosa* (Wenderoth), though no name like *Newmani* is attached to any species of *Rudbeckia*, even as a synonym, in Asa Gray's *Flora of North America*; and we must hence conclude that *R. Newmani* (London) is unknown to American botanists, and that one of these two species is unknown in English gardens, where the two names have hitherto been considered synonymous. *C. Wolley Dod, Edge Hall, Mapes.*

TRIALS AT CHISWICK.—Your correspondent, "A. D.," says, at p. 336, "a recent wrangle over the nomenclature of a *Ban*, with a purposeless result, led to the statement being made on behalf of Chiswick Gardens, that not everything sent there for trial is tried. That such is the case," explains "A. D.," "is due first, to lack of space; and second, to there being no trial of the particular products taking place that season. There is," he writes, "a general assumption in the country that anyone may, unsolicited, send anything at any time to Chiswick to be grown for trial, quite oblivious of the fact that one thing grown does not constitute a trial, but that real tests of value are found only when the best representatives of any one product are grown along with new comers." Adding, "it was doubtless under these conditions that the *Ban*, the unfortunate object of a sharp discussion recently, was, in 1885, put on one side at the time, and was, with many other things, probably relegated to the dustheap after the seed had become sterile." I should like to know whether the above statement has been made

with the consent and by the authority of the Royal Horticultural Society, because if not, it would be unjust to censure it for statements made by irresponsible persons. However, I may be allowed to say that "A. D." assumes too much in writing of the "general assumption" prevailing in the country, &c. "A. D." in his support of the statement "that everything sent to Chiswick for trial was not tried," for the reasons, he asserts, rightly or wrongly, (1), that there was not space, and (2) to there being no trial of the particular product taking place that season! The Royal Horticultural Society may well exclaim, 'save us from our friend 'A. D.!' How could there possibly be a trial of the particular product taking place that season? seeing that my Climbing Canadian Wonder French Bean was the only "Climbing French Bean" heard of (except by visitors to Longford Castle Gardens), or submitted to Chiswick for trial before the above-mentioned date (April 9 1885), or for six years later, when Messrs. Sutton's Tender-and-True made its appearance. This is the annihilation of reason No. 1, and the same fate awaits reason No. 2. As it is not by any means reasonable to suppose for one moment that space would not or could not be found in our national trial-garden for a short row of a novelty, namely, a French Bean bearing the written reputation of attaining to (at the time) a hitherto unheard of height—7 feet—and heavily laden from bottom to top of bine with Canadian Wonder-like Beans of the finest quality. I repeat, is it at all likely that a novelty of the description indicated would be refused a trial in the trial-gardens of the Royal Horticultural Society on the shallow grounds mentioned by "A. D.," or that the fact of its not having been afforded a trial at Chiswick Gardens could reasonably and satisfactorily be accounted for by the explanation elicited by the Fruit Committee at Chiswick on Sept. 10, to the effect, "we do not always try everything that is sent us for trial at Chiswick." An admission which, under the circumstances, naturally provoked a pardonable expression of opinion from the person responsible for the introduction of the Climbing French Bean—an opinion which was entirely retrospective in its application, and, therefore, did not in any way apply to the present Fruit Committee or management of the Royal Horticultural Society's affairs. However, one thing I venture to think the Fruit Committee might have done on the occasion referred to, without in any way compromising itself or doing anything other than a just act, namely, recorded the fact that that body was quite satisfied, judging by the official receipt of the Royal Horticultural Society, that my Climbing Canadian Wonder French (now Veitch's) Bean had been sent to the Royal Horticultural Society's gardens for trial at Chiswick six years before Tender-and-True was heard of. This much, I respectfully assert, was within its legitimate province to do. In conclusion, I should advise "A. D.," who is ventilating the Climbing French Bean subject in all the horticultural papers, to let the matter rest now. In fact, I fail to see in what way he should consider it incumbent on him to take such a prominent part as he has done during the last twelve months in the fate of the two Beans in question, but always, be it observed, advocating the claims of one to the detriment of the other. *H. W. Ward.*

HELENIUM GRANDICEPHALUM STRIATUM—A yellow Composite, with striped flowers, having started from Ware's nursery a few years ago, is now becoming common in gardens under this very objectionable name. The plant is nothing more or less than *H. nudiflorum* of Nuttall. The striped ray, very globular head, brown-purple disc, and pointed receptacle distinguish it from all forms of *H. autumnale*, to which it has been attributed by some. All these are characters of *H. nudiflorum*. See Asa Gray's *Flora of North America*. C. Wolley Dod, *Edge Hall, Malpas*.

ROTATION OF CROPS—In answer to your correspondent, "D. T. E.," at p. 399 of the issue of the *Gardeners' Chronicle* for October 5, I admit the statement "that the Cabbage tribe will thrive upon land much too poor to grow a good crop of Onions or Carrots," requires some qualification. We have in this neighbourhood a field which, within the last ten years, has been let out in garden allotments. This field had been under ordinary arable culture, but had been sadly neglected, hence fouled with weeds of the very worst kind, and exceedingly exhausted of its natural fertility. For several years it was utterly impossible to grow a crop of either Carrots or Onions upon the land; but as the soil is gradually being enriched and ameliorated by careful

cultivation and manuring, these latter crops are now becoming more frequent. The Cabbage tribe thrives capably from the first commencement of the gardens. The explanation appears to me to be, that the Cabbage tribe, while they undoubtedly prefer an enormously rich soil, yet from their deeply rooting habit and robust character of growth, are able to draw upon the store of plant-food in the subsoil (the surface-food having become exhausted), and below the root-range of the more shallow rooting crops. Also this same power from deep-rooting, gave to the Cabbage a command of the water supplies of the subsoil not available to surface-rooting plants. Of course, the texture of the soil has much to do with the successful growth of any crop. While Onions and Carrots delight in a light free working soil containing a good supply of lime, the Cabbage tribe seems to do best on the stiffer classes of land, which on analysis show a large percentage of potash and phosphoric acid in the subsoil. These different descriptions of soil best afford to the roots of the different plants substances which enter directly into their structure. *J. J. Willis, Harpenden.*

WARE'S BEGONIAS.—Another roadside garden, but unlike the suburban one described at p. 431, is that consisting of 3 acres of land under tuberous-rooted Begonias in full bloom—a very valuable crop, the property of Mr. T. S. Ware, of Hale Farm Nursery, Tottenham. This is a branch nursery, and adjoins the road at Crook Lodge, Bexley Heath, about a mile distant from the town of Woolwich, on the Dartford Road. The plants number about 200,000, and they were a blaze of colour when I saw them, double and single-flowered varieties, of fine form and glowing tints. The novelties are kept in pots in the glass-houses. Mr. Pope, the manager of this nursery, is a specialist in Begonia, and he was moreover the raiser of the first hybrid tuberous-rooted Begonia of gardens, when employed at the Exeter nursery. This cross was obtained from *B. Veitchii* × *B. Pearcei*, and it has the brilliant flowers of *B. Veitchii* with the beautiful marbled leaves of *B. Pearcei*. This cross was named *B. Woodmanii*, in compliment to the late Dr. Wm. Robt. Woodman, who had just succeeded his uncle, the late Mr. R. T. Pince, in the proprietorship of the Exeter Nursery. *W. Napper, Chelsea.*

THE SEASON.—On Saturday last, the 12th inst., I was driven with some friends through the Epping Forest with a view to inspect the autumnal tints, but to my surprise the foliage of the trees was as green as in June or July. Perhaps some of your readers will be good enough to state whether such an abnormal state exists in other counties. It has been attributed to the absence of frost, but I doubt not horticulturists may be able to give other reasons. I spoke to a few people at Loughton close by, who never before remembered the forest remaining so green at such a late period of the year. In Leicestershire in August I saw in the garden of a friend an Apple-tree both in fruit and blossom, and I heard in Essex that persons there had witnessed the same thing. *C.*

PEPPERMINT CULTURE.—Messrs. G. & J. Miller, Mitcham, extensive growers of Peppermint for distillation, find—first, that Mitcham soil is almost the only soil about London that will grow this Mint profitably; and, second, that when a crop has been grown for four years, the ordinary time, that, so much is the soil exhausted of the constituent which produces the essential oil, that it is useless to plant the same ground under twenty years. Could it be shown what that needful constituent is, and whether it could be artificially supplied in any form of dressing? *A. D.* [Only by analysis.—*E1*].

THE CULTIVATION OF THE ENGLISH SHOW TULIPS.—It is both gratifying and encouraging to learn that the efforts which have been made during the last few years, to resuscitate in the south the cultivation of that fascinating florist's flower, the amateur's English Tulip, are meeting with so much influential support, so much so, that an annual Tulip Exhibition in London, in conjunction with the leading flower shows, may in the future be considered a settled question! The Tulip exhibitions held in London last year and this, could only be looked upon as successful, especially as the exhibitors had no choice as to the date of exhibition, and consequently, the Tulip blooms could not be shown in the highest state of perfection; they were, however, sufficiently attractive to call forth the admiration of all persons touched with the love of florist's flowers, and many were not surprised, after minute examination of their exquisite purity, shape, and

refinement in marking, that their fathers and grand-fathers should have been so infatuated in the cultivation of them. Money prizes, although not high in amount, were given, but the handsome Silver Medals awarded by the Royal Horticultural Society, and Messrs. Barr & Son, of Covent Garden, were highly appreciated by those exhibitors who were fortunate enough to win them. I understand that Messrs. Barr are still adding to their leviathan stock, feeling assured that the time is not far distant when the English Talips will be cultivated in the south by amateurs, as extensively as they are at the present time cultivated in the north. I have cultivated for nearly half a century, almost every description of florist's flowers, and I can reiterate sincerely what I have heard the late Doctor Hardy say on many occasions, "that of all the pleasures which can be derived from the cultivation of florist's flowers, none are so great and charming as those experienced by the growers of the English Show Tulip!" The time having now arrived for Tulip planting, amateurs who may feel inclined to give their cultivation a trial, should lose no time in obtaining a small collection, the price of which is a very nominal sum. *Jam's Thurstan, The Green, Cannock.*

VALE OF CLEVELAND POTATO.—When recently in Lincolnshire I inspected a plantation of early varieties of Potatoes grown to test their earliness and cropping qualities for market purposes. It has been stated that in the Boston district considerable breadths of early Potatoes are grown, the soil, position, and method of culture adopted favouring precocious ripening; and considerable sums are made by the growers by getting early produce into the various markets. Among the varieties tested are Vale of Cleveland and Sharpe's Victor, and I could detect no difference between them—in growth, in haulm, and in the shape and colour of the tubers. On making enquiries as to the origin of the Vale of Cleveland Potato, I found it was raised by the late Mr. Geo. C. Short, nurseryman and seedsman, Stokesley, who described it as a seedling raised from a cross between the Early Rose and the old Ash-top Kidney. The stock of this Potato was, it is said, sold to Messrs. Charles Sharpe & Son, in the early part of 1879, and shortly after Sharpe's Victor was put into commerce; and Mr. Short on testing Victor, pronounced it to be identical with his Vale of Cleveland. Assuming these facts to be correct, it will account for the similarity I observed in the trial above referred to. I think it is claimed that Victor was raised by Mr. R. Nisbett, for many years gardener at Aswarby Hall, Lincolnshire, and latterly at Cliveden, Maidenhead; and the question fairly arises—did two men working in the same direction, each raise a Potato perfectly alike? But it should be stated there are two Victors in the field, one a yellow-fleshed tuber, which is said to be the original and true form of the Potato, and a white-fleshed form, which is said not to be so good. It is claimed for Mr. Nisbett that he raised Victor from Alma Kidney, at one time a popular early variety, and the old Early Short-top Round. Did one raise the yellow-fleshed, and the other the white-fleshed form? For it is well known that seedling Potatoes raised from definite crosses vary considerably, not only in the tint of the flesh, but also in shape and colour of the skin. In the particular trial of early varieties to which I have referred, both Vale of Cleveland and Victor were yellow-fleshed. I am quite unable to assign a reason why Mr. Short of Stokesley named his seedling Vale of Cleveland, unless that is a local name for the district in which he resided. I have referred to this matter because I find that Vale of Cleveland and Victor are being cultivated under different names though to all appearance identical. *R. D.*

NURSERY NOTES.

MESSRS. J. CHEAL AND SONS.

If further illustration of the extent of the season's Apple crop were needed, this and much other interesting information was afforded by a recent visit to the nurseries near Crawley. We believe these are generally thought to be in Sussex, probably because Crawley is the post town, and the nearest station is there. As a matter of fact, the whole of the land is in Surrey, and the visitor from London will generally find it most convenient to book to "Three Bridges" station, from whence the nurseries are distant rather more than two miles. The soil in the neighbourhood

is very heavy, and there is no trace of chalk, nor much lime, as the chalk only approaches as close as the nearest "downs." The nursery itself is, in large measure, reclaimed land from Lowfield Heath, and consists of better surface-soil than that which surrounds it, inasmuch as it is lighter and more workable.

Apples usually do well here, but the crops this season are extraordinary. A large tree of *Bess Pool*, near Mr. Cheal's residence, attracted our attention, as it was covered with an abundance of good-sized, well-coloured fruits. "Yes," said our guide, "that is just a fair instance of the

until February. Then is seen a good crop of *Washington*, the fruits well coloured and large; it is a good dessert variety, but too tender as a rule in this district. *Yorkshire Beauty* is strongly recommended to growers who have a cold soil as a culinary variety, being thoroughly hardy; the fruits are yellow-coloured, with bright cheek, and of good size. *Jefferson* is a soft-fruited variety for dessert, very pretty, but not planted in many gardens; some very fine fruits of it were noticed. Passing many varieties, most of them with large crops, we come to *Lansberger Reinette*, an excellent Apple, good for both kitchen and dessert, and a faithful cropper; it is in

quality. *Margil* and *Lady Henniker*, *Cox's Pomona*, and the pretty fruits of *Colonel Vaughan* were numerous and good. *Beauty of Kent*, an exceedingly pretty and useful culinary Apple, though not one of the most suitable for the locality, had some very good fruits; nor have we ever seen better specimens of *Royal Jubilee* than Messrs. Cheal have in their fruit room; they are splendid fruits.

Turning from the fruiting-trees to the nursery-grounds, there are stocks of Apple, Pear, Plum, and Cherry-trees, and a lesser quantity of Peaches in trained and untrained specimens. Apples two and three years old on Crab stocks, and others upon the

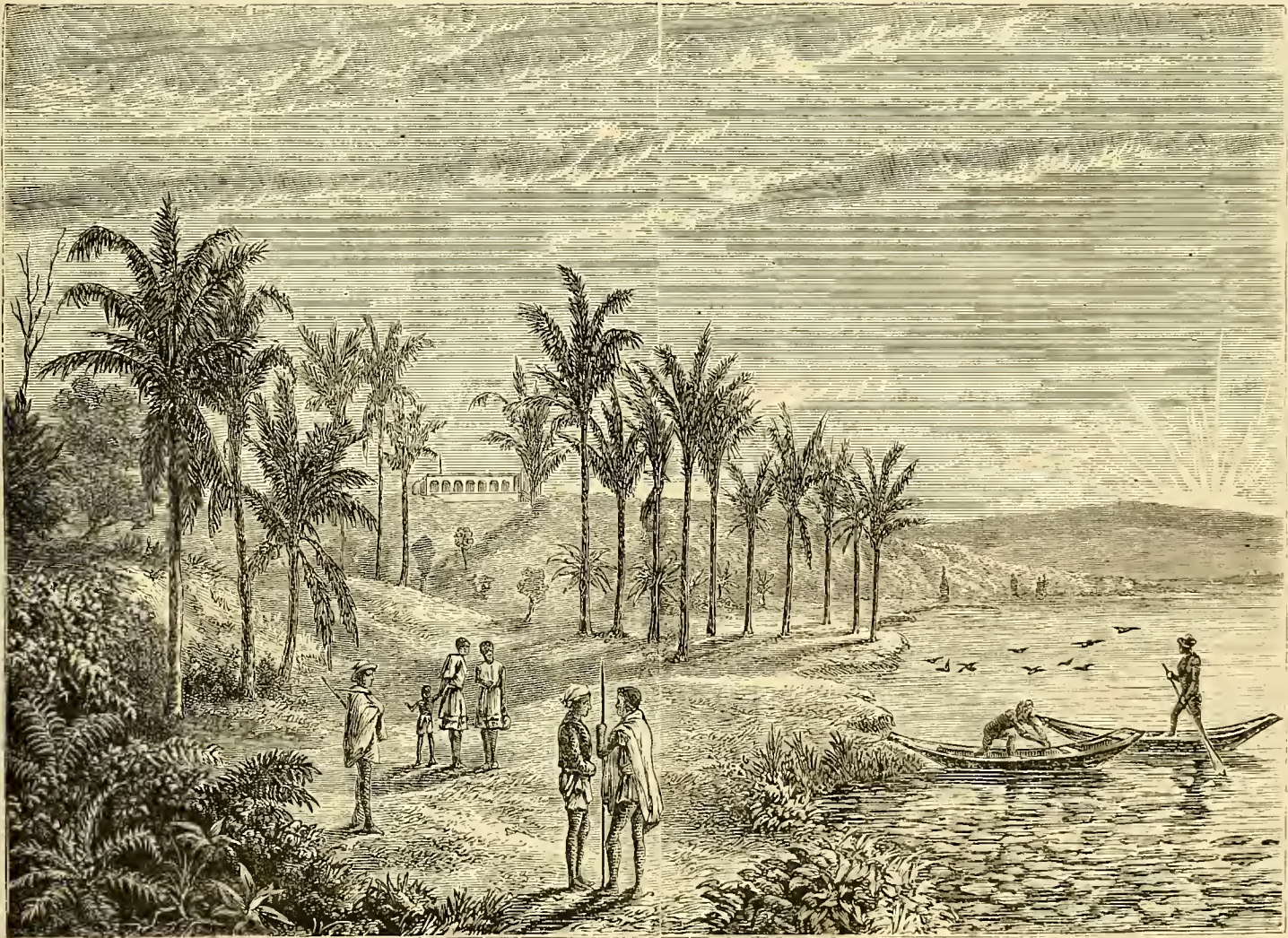


FIG. 82.—A ROYAL GARDEN IN MADAGASCAR. (SEE P. 460.)

remarkable character of the season. *Bess Pool* is a variety which by reason of the cold subsoil matures but poorly here, and that tree has never during the last fourteen years, to my personal knowledge, borne such a crop of fine fruit as you now see. *Cox's Orange Pippin*, *Washington*, and such varieties, are also wonderfully superior in quality than we generally have them." In a closely adjacent spot are kept a few trees of a good many varieties for the convenience of visitors who may wish to inspect the trees when in fruit without walking through the whole of the grounds. Here was first remarked a tree bearing an abundant crop of one of the best of dessert Apples—*Loss Nonpareil*. For cold soils none is better, and the quality of the ruddy fruit is good; it is in season about the beginning of November, but will last

use at this season, and will be good until the end of the year. *Hoary Morning* does not usually bear many of its pretty fruits in this district, but there were good crops when these notes were taken. We should not class this variety higher than third-rate in quality, although it bears heavily. *King Pippin* and *Ribston Pippin*, very well known, need no remark, but the crop each was carrying attracted our notice; as did *Hornmead's Pearmain*, which was marvellous—this is a good Apple, but more suitable for cooking than consuming raw, though it is sometimes used for both purposes. A tree with a crop of excellent fruits of *Lord Lennox* was interesting, as we have not seen the variety for some years. It is essentially a midland county Apple, and there we have seen it; the fruit is high-coloured, rather small, and of very good

Paradise, we noticed in considerable quantity; and maidens on either stock had made a good growth. Pears, like the Apples, may be seen of differing size and age on the *Quince* and on the *free or Pear* stock, and the young trees were fast ripening their growths.

The stocks, which have been budded this season, in most cases are good and strong, in others again they are weaker on account of the dry hot spring following on the severe frost. Among trained trees, the most popular style at these nurseries is the cordon, and it is made a specialty. We noticed a lot of excellent cordon Pears three years old, studded thickly with good fruit buds, and very healthy. These trees, if planted against a wall, would bear good crops of fruit at once. The system is certainly one by which a wall may be quickly and

profitably covered, and also one which will produce really fine exhibition fruits, but it must be remembered that some varieties are less suitable for such treatment than others. The nursery grounds, as some of our readers will remember, are divided by a considerable number of thick, high hedgerows of Hornbeam, Thorn, and other plants, which are invaluable as protection from winds. There is a compact piece of land entirely devoted to young fruit trees, known as the "8 acres." Here we thought were the kindest-looking, most promising of all the stock. Amongst the Apples notice was made of the two varieties that Messrs. Cheal sent out a year or two ago. The first is Armored (figured in *Gardeners' Chronicle*, March 4, 1893), a rather small russety-dessert kind of very high quality; it is exceedingly late, and may be had in good condition in May. Acalanta (figured in *Gardeners' Chronicle*, March 11, 1893), is a larger Apple, pale yellow in colour, with sparse red streaking on one side, and is fit for culinary and dessert purposes; it comes into use about November, and is an uncommonly good cropper.

Now we have to speak of another Apple, called Bismarck, because this variety furnished an instance of precocious, heavy bearing that we do not remember to have seen equalled. Eighteen rods and a half were covered with Bismarck trees of two years old upon the Doncin. Many of these had eleven, a few twelve, large fruits upon them, and some had none. Now all the fruits on this piece of land were counted, and the total divided by the number of trees, which gave an average of five to each tree. The trees are planted in rows about 3 feet apart, and the plants about a foot asunder. An acre of land cropped in such a manner would yield about 500 bushels of fruit per acre.

Trees and Shrubs, Dahlias, &c.—Messrs. Cheal cultivate a great many other subjects than fruit trees, and it would be hardly fair to conclude this note without some reference—though it must be only reference—to the stock of ornamental trees and shrubs, Conifers and other plants useful for the furnishing and embellishment of pleasure-grounds. Mr. Jos. Cheal being frequently employed in laying out new grounds, and in the improvement of existing ones, a collection of the best kinds of such plants is very necessary. Considerable quantities of Rhododendrons of choice varieties grafted on a common stock were noticed, and others which had been so treated a season or two back appeared to be very happy; nor were many of the varieties of Conifers in a less healthy condition. The Silver Poplars, and other shrubs and trees with variegated or coloured foliage, might be remarked upon, but we must close after mentioning the Dahlias. The firm has an excellent reputation for these showy autumn-flowering plants, and the Lowfield collections are a very familiar sight at most of the exhibitions. Only a fortnight or so ago we figured a novelty in the Cactus section for which Messrs. Cheal received an Award of Merit from the Royal Hort. Society at the Chiswick meeting; this was Mrs. Wilson Noble, a variety of much excellence.

The date when these notes were taken was a late one to visit the Dahlia-grounds, and the plants were very thirsty-looking in the absence of the rain they have since received, but plants of the variety just mentioned were remarked, and a fine stock of Matchless and Mrs. Montefiore, a true Cactus-like bloom, and a better habited plant than many of the older ones, the flower-stems being much longer than is usual in such varieties as Lady Penzance and nearly all others. The blooms were thoroughly well above the foliage. Pompons to our mind are not less effective than any of the types, and new ones that may be mentioned are Annie Holton, scarlet-crimson, with silver tips, very high centre; and Rosebud, which has a light ground, and is tipped with rose. Until we saw the Tom Thumb type of Dahlias as growing in these nurseries, previous experience with them had not been altogether favourable. Here they looked healthy and were blooming in profusion, and some of the varieties

bear the flowers only 11 inches above the ground-level, others 14 and 20 inches high. The varieties Canary, Fairy Maure, and Dailey, the last-named being 20 inches high, with good dark blooms, were remarked, and Gam, pale yellow; Tomtit, scarlet with yellow rim round disc; Mignonne, mauve, with white rim round disc; and Hoop La, maroon-crimson, with light ring, were pretty. This type of single-flowered Dahlia raised by Mr. Girdlestone is, of course, only suitable for bedding purposes.

MR. HENRY BROWNELL'S SEED STORES, SALE, MANCHESTER.

All about Cheshire, within convenient proximity to Manchester, there are plant and seed farms which evidently pay better than the various subjects of agriculture. The land is low-lying, and the marshes are sufficient even in dry seasons to keep up the nutriment needed for a crop of flowers. Many of the growers here about grow for the market alone, and the bundles of flowers of all sorts that are cut twice a week—in fact, every morning—and which find a ready sale in town at a price, are astonishing. The trade in this way has grown immensely, and the teeming thousands that flock into Manchester almost every day, but particularly at week ends, from the densely populated places of Yorkshire, Lancashire, and Cheshire use up large quantities of them. Mr. Brownell, in addition to his local trade, grows largely in the seed way for the general market, and in this way he has a grand show of flowers all through the season. His stock of annuals, comprising Everlastings, Asters, Stocks, Gaillardias, Centaureas, Chrysanthemums, Poppies, Zinnias, Scabiosas, Mignonettes, and so forth, cover a considerable area, and are selected with the greatest of care. His stock, too, of such things as G. adoli of the *Brenchleyensis* section is notable, although, he says himself, since the drainage operations came into force about his neighbourhood, he cannot grow the same sized bulbs. The plants were beautiful and healthy, but bottom moisture is much relished by them. The scarlet is the popular colour in these Sword Lilies. Whits in Asters, in Stocks, in Gaillardias, in Dahlias, aye, even in Begonias take well.

This is a special mart for tuberous Begonias, which are bedded-out galore both out-of-doors and in the houses covered with glass for them alone. In double Begonias particularly, there is a large and selected lot. Whenever something better turns up in the seedling way than any of the type, it takes the place of the discarded ones. Really, the gain in double Begonias is very marked, more particularly on those sorts that are as double and as formal as a Camellia. Many partake of the Hollyhock form, and are heavy masses of florets, so heavy, in fact, that the flowers bend over and require to be lifted up to be seen to advantage. Among some of the most striking of the Sale novelties are Dr. W. G. Grace, a finely-formed rose; E. W. Powell, grandly imbricated, and having the Picotee edging, which is much sought after by the cross breeder; Modiste is a beautiful marked variety; Beauty of Sale is an immense flower of bright colour; and amongst pinks, Robert Hughes is very telling, and so is Linnie. W. F. Smollet and G. R. Ward are among the best of yellows. Indoors they are really beautiful when you see them by the thousand, and outdoors, in anything like weather, they make grand beds.

Roses, particularly Teas, are largely grown indoors, both as standard plants, allowed to roam as they like, and as climbers in the ordinary way. One of the most useful is Bongère, because of its standing longer when cut, which is of commercial importance. Niphetos still stands its ground among whites, and the climbing Niphetos is much appreciated as a good paying variety. Among others, Madame Hoste is grown more than Marshal Niel, and then Grace Darling, Catherine Mermet, and the Bride are chief among others. The old Géant des Batailles, as an H.P., is grown here, and proves one of the best of market Roses.

There are quantities of created Pteris grown, chief among them for market being *sempervirens*, a good grower, and a captivating plant. One Pteris named

Ouverardi was a dwarf beautiful form, with undulating pinnae, and so dwarf and bushy, as to make it an eligible plant for table decoration.

A large crop was being harvested of a new Pea called Rantpayer. It is a cross between Maclean's Little Gem and Duke of Albany. It is a remarkable gain in its stiff habit, about as stout as a Windsor Bean in the stalk, and remarkably dwarf, bearing about an average of ten peas in a pod of typical size. The pods were borne in clusters about two-thirds up the stem, and the heaviest manured plots did not produce stalks more than 30 inches long. *Viator*.

SOCIETIES.

ROYAL HORTICULTURAL.

OCTOBER 15.—Owing to the vegetable exhibition held at Chiswick in September, and the great show of British-grown fruits at the Crystal Palace on the 26th, 27th, and 28th of the same month, the meeting held in the Drill Hall, James Street, Westminster, on Tuesday last, is the first that has taken place in the building since August 27. On the occasion under notice there were plenty of exhibits before the committee. Orchids were numerous; Chrysanthemums occupied a considerable share of space and attention; and several groups of a miscellaneous description were important. Fruits were again largely exhibited, more especially Apples and Pears; and new Melons, Apples, Pears, and Grapes, a seedling Plum, &c., gave this committee ample scope for their discriminating qualities. Of vegetables there was staged one of the very finest collections ever exhibited in the hall.

Floral Committee.

Present: W. Marshall, Esq., in the chair; with Messrs. J. Fraser, O. Thomas, C. T. Drury, H. B. May, H. Herbst, J. H. Fitt, R. Owen, R. Dean, G. Stevens, C. J. Sater, J. Jennings, H. Cannell, H. J. Jones, H. Briscoe-Ironside, E. Beckett, J. Walker, C. E. Pearson, E. Mawley, C. E. Shea, J. D. Pawle, J. T. Bennett, F. H. Turner, G. Paul, Rev. H. H. D'Ombraun, C. Buick, G. Nicholson, and C. Jeffries.

A large and excellent collection of Crotons, arranged in a group, was exhibited by Mr. H. B. MAY, Devon's Lane Nursery, Upper Edmonton. The broad and medium-leaved varieties Thomsoni, Newmani, Massangeana, Motii, and rose-pictus were noticeable for their colour; also finer-leaved sorts, as Mrs. Durman, nobilis, formosus, majesticus, ruberrimus, Flambeau, and elegantissimus. A few plants of a new yellow Carnation named Primrose Day were also included, and a crimson-scarlet one named Leonidas (Silver-gilt Flora Medal).

A collection of Nepenthes and stove decorative foliage plants was shown by Earl PERCY, Syon House, Brentford (gr., Mr. Wythes). The Nepenthes were very praiseworthy, and carried a fine lot of pitchers. Included were such varieties as Masersiana, Rafflesiana, Hookeriana, Amesiana, Dicksoniana, the new and handsome mixta, formosa, Wrigleyana, Curtisi superba (Gold Medal).

Mrs. WINGFIELD, Amphill House, Amphill (gr., Mr. W. J. Empson), had a group of small Crotons, Aralias, and other foliage plants, backed by a few specimens of *Aracaria excelsa*, *Dracena australis variegata*, &c. (Silver Banksian Medal).

Dahlias have not yet been cut by frost in the Tottenham district, for Mr. THOS. S. WARE, Hale Farm Nurseries, staged a large collection of flowers of the single type, very remarkable in quality and freshness for so late a date. A few Nerines in flower were also shown by Mr. WARE (Silver Flora Medal).

A. LAURIE, Esq., Rockdale, Sevenoaks (gr., Mr. E. Francis), exhibited a dozen plants of a seedling yellow-leaved Pelargonium, but as exhibited the variety is not valuable. A plant in flower of *Hippeastrum striatum maculatum* in a 10-inch pot, bearing about eighteen scapes of flower, was exhibited by H. G. E. GREEN, Esq., King's Ford, Colchester (gr., Mr. T. H. Kettle). Mr. O. THOMAS, Frogmore Gardens, exhibited blooms of a new Violet named Princess of Wales; the flowers are very large, pleasantly fragrant, and of a pretty blue, with a distinct white eye (Award of Merit).

A First-class Certificate was awarded to a plant of *Abies Douglasii glauca pendula*, shown by Messrs. PAUL & SON, The Old Nurseries, Che-hunt. This glaucous variety is quite distinct, and decidedly pendulous, the branches drooping close to the main stem. Messrs. PAUL & SON also staged a few plants in flower of a new Tea Rose, which they have called Paul's Winter Broomer; the bloom is pink in colour, and very pretty as a bud. Also a few plants of the blue-flowered *Caryopteris Mastacanthus* from the open ground, where it stood during the last severe winter.

Mr. E. MAWLEY, Rosebank, Great Berkhamsted, exhibited blooms of an attractive single Dahlia, named Beauty's Eye; and new single-flowered Dahlias were also staged by Mr. W. J. Empson, gr. to Mrs. WINGFIELD, Amphill.

A few blooms of the intense-coloured Nerine *stro-rubens* were sent by Mr. F. W. MOORE, Botanic Gardens, Glasgoven.

Another Apple, called Stubb's Seedling or Winter Quarrenden, was shown in quantity by Mr. W. PALMER, Cobden Villas, Andover. The fruits are very highly coloured, in shape like Quarrenden, but rather larger. Some of the best fruits were taken to Chiswick with a view to ascertain their keeping qualities.

Mr. E. C. BANKS, Waterville, Nova Scotia, sent some fruits of an Apple which he called Banks', or Red Gravenstein, also some fruits of Gravenstein, for comparison.

Messrs. PAUL & SON, Cheshunt, sent fruits of a large kitchen Apple, named Captain Sanders, which the committee desired to see again in the spring.

Still another new Apple, Lindura Pippin, was exhibited by F. WELLS, Esq., Leighton Buzzard; the fruits are of moderate size, quite yellow in colour, and but little like a Pippin in appearance.

An extraordinary coloured fruit of Benheim Orange Pippin Apple were shown by Mr. JNO. MILES, S, Dudley Villas, Portwood Road, Southampton (Vote of Thanks); and Mr. E. Hill, gr. to Lord ROTHSCHILD, Tring Park, exhibited some of the largest fruits of Doyenné du Comice Pear ever seen. They were grown on an outside wall (Cultural Commendation).

Mr. WILL TAYLOR again exhibited bunches of the hardy Grape, Reine Olga de Wurtemberg; and from the Royal Horticultural Society's Garden at Chiswick came ripe bunches of the hardy Grapes Chasselas Rose, Chasselas Noir, and Gamay Noir; the two last-named, but especially Gamay Noir, give the best results in the open-air vineyards belonging to the Marquis of Bate at Cardiff. Another Grape, named Black Monukka, was also sent from Chiswick. The bunch was long and thin, and the berries of acorn shape, and rather small, with little flavour, but juicy and sweet, evidently from indoor culture.

Mr. W. J. EMPSON exhibited a rather indifferent bunch of the Grape Mrs. Wingfield; the berries are black and rather long in shape, a little like those of Madresfield Court. The committee asked to see the fruit again in March.

The white Grape Marchioness of Downshire was exhibited by Mr. T. BRADSHAW, Hillsborough Castle, co. Down.

Mr. McIndoe, gr. to Sir J. PEASE, Hatton Hall, Guisborough, Yorkshire, exhibited four fruits of a new Pear, named Charles Ernest. The fruits are large, not unlike those of Pitmaston Duchess in shape, yellow with isolated flushes and stripes of red.

Mr. H. DEVERILL, Banbury, exhibited very large bulbs of his Ailsa Craig Onion, and the flatter-shaped Anglo-Spanish variety.

Messrs. DOBBIE & CO., Rothsay, had good Leeks and excellent Curled Parsley, known as Dobbie's Selected (Silver Bankian Medal).

Mrs. JONES, Greenford Place, Sudbury, Harrow (gr., Mr. Jones), exhibited excellent Leeks, Auburn Castle Giant, Champion, The Lyon, and Sutton's Prizetaker (Cultural Commendation).

Melon Earl's Favourite was again exhibited by Mr. WARD of Longford Castle Gardens, who had six fine fruits (Vote of Thanks).

Seedling Melons included one called Anthony's Favourite, shown by Mr. W. J. EMPSON. The committee asked to see further fruits of the variety.

R. BURRELL, Esq., Bury St. Edmund's (gr., Mr. Bishop), showed two red-flesh Melons, named respectively, B.H.S. and Wesley Hall.

Mr. Geo. Wythes, gr. to Earl PRYOR, Syon House, Brentford, exhibited two small apricot-coloured fruits of Melon Beauty of Syon.

Apples and Pears were exhibited in large quantities. Messrs. PAUL & SON, The Old Nurseries, Cheshunt, had a collection of dessert Apples in about fifty dishes. Gascoyne's Scarlet, King of the Pippins, Jonathan, Mabbott's Pearmain, Golden Reinette, Blenheim Orange, Cheshunt Pippin, Fearn's Pippin, and Adams' Pearmain were noticeable for their size and colour (Silver Bankian Medal).

Messrs. T. RIVERS & SON, Sawbridgeworth, exhibited a collection of Apples and Pears of remarkable quality, and the varieties were selected from the very best; Washington, Court Pequin Plat, Belle Dubois, Wadhurst Pippin, Bismarck, King of Tomkins County, Peasgood's Nonsuch, and Cox's Orange Pippin (the last-named variety being shown as large as Blenheim Orange is usually seen), were all superb. Among Pears, prominence was given to Conference (Rivers), Pitmaston Duchess, Magrate, General Todleben, and Doyenné du Comice (Silver gilt Knightian Medal).

Messrs. T. RIVERS & SON, Sawbridgeworth, exhibited fruits of a new large purple Plum, Rivers President. It was recommended an Award of Merit on account of the fruits being so late. This much has already been proved.

Messrs. JAS. VEITCH & SONS, Royal Exotic Nurseries, King's Road, Chelsea, brought a collection of Apples in a hundred varieties, all of them different from the hundred kinds staged by the firm at the recent show at the Palace. Among Apples we noticed Lady Snuffield, Braddick's Nonpareil, Rymel, Wyken Pippin, Bess Pool, Northern Greening, Betty Geeson, Golden Pippin, the Old Ringer, and other less known sorts (Silver Knightian Medal).

The only collection of fruit from an Amateur was one of Apples and Pears, from the Dowager Lady FREAK, Fulwell Park, Twickenham (gr., Mr. Richmond), who had about forty dishes of Apples, and thirty of Pears. Many varieties of each were shown in good condition (Silver Bankian Medal).

Vegetables were capitally shown by H. H. GIBBS, Esq., Aldenham House, Elstree (gr., Mr. E. Beckett). This exhibitor had a very large and excellent collection. The background consisted of Savoy, Artichokes, Broccoli (Veitch's Self-Protecting), Cauliflowers (Veitch's Autumn Giant), Kale, &c.; and there were very fine roots, Parsnips,

Sutton's Student, Carrots Long Red Surrey, Veitch's Matchless Scarlet, and Sutton's New Intermediate, were all capital. Leeks, Sutton's Prizetaker and The Lyon were large and very good. Celery, Standard Bearer, Sutton's Solid White, and Catbush's Red. Onions were wonderfully large and heavy; the varieties were Ailsa Craig, Sutton's Al, Cocconut, and Sutton's Exhibition. The varieties of Beet exhibited were Pragnell Exhibition and Dell's Crimson. Turnips, Veitch's Red Globe, Green-top, Stone. Potatoes, Magnum Bonum and Snowdrop. Bean (Banner), Ne Plus Ultra and Jubilee. Then there were Brussels Sprouts, Salsafy, Stachys tubifera (Chinese Artichoke), Capsicum, Tomatos, Cabbage, Colewort, French Beans, Peas, Mushrooms, Maize, Marrows, &c. (Special Cultural Commendation and Silver-Gilt Knightian Medal).

A fine collection of Celery was exhibited by Mr. W. H. Divers, gr. to the Duke of RUTLAND, Belvoir Castle Gardens, Grantham. Sutton's White Gem, Sandringham Dwarf White, Incomparable Dwarf White (Veitch), Wright's Grove White (Veitch), Cole's Crystal White (Veitch), Sutton's Solid White, and Belvoir Castle White, raised by Mr. W. DIVERS. The last-named is described as being similar in quality to the Major Clark from which it was raised. Nearly a score of red and pink varieties were shown, and among them was included a rather large variety named Man of Kent (to be tried at Chiswick), raised by Mr. Divers, and described by him as remarkable for standing longer than other kinds before running to seed (Silver Bankian Medal).

Mr. H. A. ORR, Bedford, exhibited his patent storing-trays for fruit, noticed at the Crystal Palace. High Commendation and a Silver Bankian Medal were extended by the committee to this useful contrivance.

Lecture on Nut Culture.

In the afternoon a lecture on Nut culture in England was given by Mr. J. Omer Cooper. The lecturer explained the botanical affinities of the Hazel, the various uses to which the wood has been put, and then gave some information respecting the culture of Filberts in the district of Maidstone. Mr. Cooper's remarks were devoted solely to Filberts.

NATIONAL CHRYSANTHEMUM.

OCTOBER 8.—A considerable number of new varieties of Japanese Chrysanthemums came before the Floral Committee on the above date, and First-class Certificates of Merit were awarded to the following:—Mons. Auguste de Lacvievier, pale reddish-cerise, with yellow reverse—a large, full, broad-petalled variety, of great promise (H. J. Jones). This variety was also finely shown by Messrs. J. Veitch & Sons, in their group of plants. To Phœbus, a large deep yellow Japanese, likely to make a very useful exhibition variety (H. Shoemith). To Boale d'Or 95 (E. Calvat), a very fine amber-coloured incurved Japanese, in the way of Louise in reference to its build (W. Wells). To Lady Esther Smith, a magnificent broad-petalled white variety, a seedling from Viscountess Hambleton; and Pompon Little Gem, a small and finely-formed bright yellow variety, very free (both from Mr. R. Orr). To Mons. C. Molin (W. J. Godfrey); and to an early-flowering Japanese, Madame Maria Masse, previously described, a most useful decorative variety, being remarkably free.

NEW INVENTIONS.

A SAFETY LAMP.

THE question of the safety of paraffin lamps is one of great interest, affecting rich and poor alike. Far too frequently we read of lamp explosions, and many times the necessity of legislation in the matter has been urged. But with the Kiesow Safety Lamp (one of which we have received for notice) explosion is impossible. And considering that one of the largest insurance companies has taken the risk of issuing an insurance policy against fire with every lamp sold, they at least must believe in the claims of the inventor and manufacturer. The reservoir being made of metal, it is unbreakable in the ordinary sense of the word. The patent consists of a tube made in the shape of the letter S, through which the wick passes, and should the lamp be upset or dropped, one half of the S-like tube fills with air and prevents the oil escaping. An excellent gardener's lamp for use in his lantern when examining the thermometers in the houses and stoking the boiler-fires at night, the light being far more brilliant than that of a candle; and should the lamp be knocked over, nothing worse than a smoky chimney can happen. The reservoir is of about the size of a

Peasgood's Nonsuch Apple; and the total height, including the chimney, about 9 inches. The makers are Messrs. Kiesow & Co., 25, Fore Street Avenue, London, E.C.

Obituary.

J. CRISPIN, F.R.H.S.—We regret to announce the death of Mr. James Crispin, F.R.H.S., the head of the firm of James Crispin & Sons, Horticultural Engineers, of Nelson Street, Bristol, who, after a prolonged illness, at fifty-five years of age, passed away at his residence, Chester Park, Fishponds, on the 14th inst. Mr. Crispin was born at Mells, near Frome. A skilled horticultural engineer, he spread his business operations over a very large area, where his knowledge and experience were readily admitted, and always appreciated. He was one of the most successful growers of Orchids in the kingdom, and only recently, it will be remembered, he had a magnificent show of these much-prized flowers at the showrooms of the firm in Nelson Street. His collection at his residence, Chester Park, was well known, and attracted many amateurs from all parts of the West of England. He many times won 1st prizes for these Orchids at flower shows, and twice he was awarded the Bankian Medal of the Royal Horticultural Society.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named:—a "Day-degree" is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.				RAINFALL.		BRIGHT SUN.			
	Above 42° or below (—) the Mean for this week ending October 12.	ACCUMULATED.			10ths Inch.	Ins.	Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1895.		
		Above 42° for the Week.	Below 42° for the Week.	Above 42° difference from Mean since January 1, 1895.					Below 42° difference from Mean since January 1, 1895.	
0	2	34	5	+ 326	+ 253	4	182	35.9	24	29
1	1	38	3	+ 95	+ 404	0	146	23.1	27	36
2	aver	50	0	+ 271	+ 267	7	142	21.4	31	35
3	aver	56	0	+ 207	+ 274	5	122	18.6	24	43
4	aver	53	0	+ 229	+ 355	1	119	18.0	23	39
5	aver	69	0	+ 185	+ 326	2	113	16.8	26	42
6	1	44	0	+ 184	+ 356	0	153	27.2	29	34
7	1	57	0	+ 272	+ 299	1	134	23.1	28	37
8	1	63	0	+ 191	+ 335	0	120	24.6	24	44
9	1	43	0	+ 123	+ 264	3	164	25.1	31	32
10	2	46	0	+ 33	+ 191	3	137	26.4	31	35
* 0	aver	91	0	+ 243	+ 248	3	135	19.9	30	52

The districts indicated by number in the first column are the following:—
0, Scotland, N. Principal Wheat-producing Districts—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending October 12, is furnished from the Meteorological Office:—

"The weather during this period was generally changeable and unsettled. Frequent rain was experienced in nearly all districts, heavy falls occurring at most of the English stations on the 6th, and in Scotland on the 11th.

"The temperature just equalled the mean over the greater part of England, but was slightly below it in the western and northern parts of the Kingdom. The highest of the maxima, which occurred on somewhat variable dates, ranged from 64°

in 'England, S. and the Channel Islands,' to 57° in 'England, N.W. and Ireland, N.'

"The rainfall was rather less than the mean over 'Ireland and in England, N.W.' and just equal to it in 'Scotland, E. and W. and England, S.W.'"

"The bright sunshine was much less prevalent than of late, but, taking the Kingdom as a whole, it did not differ much from the normal for the time of year."

MARKETS.

COVENT GARDEN, October 17.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations.

Table with columns for 'AVERAGE WHOLESALE PRICES' and 'ORCHID-BLOOM in variety'. Lists items like 'Orchids', 'Cattleya', 'Odo n to glosum', etc.

Table with columns for 'PLANTS IN POTS.—AVERAGE WHOLESALE PRICES'. Lists items like 'Ficus elastica', 'Foliage plants', 'Fuchsias', etc.

Table with columns for 'FRUIT.—AVERAGE WHOLESALE PRICES'. Lists items like 'Peaches', 'Pears', 'Marie Louise', etc.

Table with columns for 'VEGETABLES.—AVERAGE WHOLESALE PRICES'. Lists items like 'Onions', 'Tomatoes', 'Liflowers', etc.

POTATOS.

Markets during the past week show a tendency to harden, and prices inclined to advance, especially for best samples.

SEEDS.

LONDON: October 16.—Messrs. John Shaw & Sons, Seed merchants, of Great Maze Pond, Borough, London, S.E., report a more hopeful feeling.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending October 12, and for the corresponding week in last year:—1895: Wheat, 24s. 3d.; Barley, 25s. 7d.; Oats, 13s. 4d.

tions are cabled for Canary-seed; the new Turkish seed, just landed, shows satisfactory quality. Hemp-seed is dull. For Peas and Haricots there is a brisk sale at the late advance.

FRUITS AND VEGETABLES.

BOROUGH: Oct. 15.—Quotations:—Cabbages, 1s. 6d. to 2s. 6d. per tally; Marrows, 2s. to 2s. 6d. do.; Onions, 3s. to 4s. per bag;

SPITALFIELDS: Oct. 15.—Quotations:—Sprouts, 2s. 6d. to 3s. per half-sieve; Greens, 2s. to 2s. 6d. per dozen bunches;

STRATFORD, Oct. 15.—Fair supply of all kinds of fruit and vegetables, and rather better trade, except for Potatoes, which was a weak trade. Quotations:—Cabbages, 2s. 6d. to 5s. per tally;

FARRINGTON: Oct. 17.—Quotations:—Cabbages, Collards, 3s. per tally; Sprouts, 2s. 6d. per half-bushel; Spinach, 1s. 6d. per bushel;

POTATOS.

BOROUGH: October 15.—Prices here ranged from 50s. to 80s. per ton.

SPITALFIELDS: October 15.—Quotations:—Magnum's, 45s. to 55s.; Main Crop, Kidneys, 50s. to 60s.;

STRATFORD, Oct. 15.—Quotations:—Bruces, Dark soil, 32s. 6d. to 40s.; light do., 45s. to 65s.;

FARRINGTON: Oct. 17.—Quotations: Jeannie Deans, 75s. to 80s.; Sutton's Abundance, 65s. to 75s.;

LONDON AVERAGES: Oct. 16.—Regents, 60s. to 80s.; Early Rose, 50s. to 60s.;

HAY.

Averages.—The following are the prices at the principal metropolitan markets during the past week:—Clover, best, 80s. to 105s.;

VARIORUM.

ENGLISH WHEAT AND A NATIONAL LOAF.—In reference to the idea recently suggested that, in order to revive the Wheat-growing industry in this country, we should have a "national loaf," that is a loaf made exclusively of English Wheat, and sold at a penny a quarter more than other bread,

ENQUIRY.

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

FRUIT FARMING, ETC., IN SOUTH AFRICA.—A correspondent, "H. E. T.," is desirous of looking up the question of fruit farming and cognate enterprises in South Africa, and would be glad if some of our readers having acquaintance with that colony would kindly furnish him with reliable data.



Owing to the large increase in our circulation, we are under the necessity of going to press some hours earlier. Our contributors will kindly aid us by sending their communications as early in the week as possible.

BELLADONNA LILIES AND VALLOTAS: W. S. When purchasing the bulbs of the Belladonna Lily in August and September, the flower-spikes should be prominent. They will expand perfectly if they are potted in any kind of moist material, although if they are to be kept for the purpose of planting out on a warm border close to a wall where the young brood will bloom beautifully if left for years undisturbed, and merely protected by a covering of leaves, or by having a handlight put over the clump, they should be potted in rich sandy loam, three bulbs in an 8 or 10-inch pot, with the swelling part of the bulbs just beneath the surface of the mould.

BOOKS: A. B. C. The Garden Annual, 37, Southampton Street, Covent Garden, W.C. Chrysanthemums and their Culture, 171, Fleet Street, E.C.; and of the author, Mr. Molyneux, Swanmore Park Gardens, Bishops Waltham.

ERRATA: Top line of col. 3, p. 399, scale on Carrots should be scab.—Mr. Charles Slocombe. We were in error in supposing Mr. Charles Slocombe, whose death we recently announced, to have been the artist who occasionally contributed illustrations

to the *Gardeners' Magazine*. These are the work of Mr. Alfred Slocombe, who is still happily among us.

FLAX CULTURE: *Enquirer*. It is still cultivated in Ireland for manufacturing purposes, but in not such large quantities as formerly, although the maritime climate of that country is well adapted to the needs of the plant. But, as in many other productions which we are well able to raise as the foreigner, we go abroad for the greater part of our supplies, and the farmer wrings his hands and laments his lack of pence.

HOLES IN PEACH WALLS: *F. Moulard*. Portland cement is a good material for stopping the nail-holes; and to give a uniform appearance to the face of the wall it may be coated with a thin coating of cement, which may be put on with a whitewash brush, or, if freed from all grit, with the garden engine.

INSECTS: *A. Laker*. We do not recognise the caterpillar; try and breed the moth. Thorough fumigation two or three times repeated, might be efficacious.—*Armitage Bros.* The grubs were those of Dipterous insects, apparently of two kinds, but it is not possible to state the species with certainty. The earth should be treated with some insecticide. *R. McL.*

LEAK IN PIPE: *Vinder*. Cut out the packing of cement, and make a new joint with molten lead, or iron-filings and sal-ammoniac.

MANUSCRIPT FOR PUBLICATION: *A. B. C.* We cannot publish any communication from unknown correspondents unless it be accompanied with full name and address; not necessarily for appending to the article, but as an earnest of bona fides.

*. PLANTS, FRUITS, ETC., TO BE NAMED.—The applications to name flowers, and especially fruit, are so numerous at this season as severely to tax our resources. They entail an expenditure of time, labour, and money, of which our readers have no idea. We are always willing to oblige our correspondents as far as we can, but the editing of the *Gardeners' Chronicle* is our business, to which everything else must give way. Correspondents are respectfully requested to observe the rule that not more than six specimens can be dealt with at a time. If more are sent, it would be a graceful act on the part of the sender, to send also a small contribution to the *Gardeners' Orphan Fund*. Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered. Leaves only, or Florists' varieties cannot, as a rule, be named.

NAMES OF FRUIT: *R. V. Sherring*. Pear Doyenné du Comice.—*G. S. 1*, Marie Louise; 2, Benrrié Charnenees; 3, Seckle; 4, Col. Vaughan; 5, Court of Wick.—*A. G. T. 1*, Williams' Bon Chrétien; 2, Ne Plus Mearis; 3, Marie Louise. Apple; 1, Beauty of Kent; 2, Golden Reinette; 3, Minchall Crab; 4, Baxter's Pearmain.—*F. F. P. 1*, Golden Noble; 2, Bachelier; 3, 4, Blenheim Orange; 5, not known; 6, Jersey Gratioli; 7, Benrrié Clairgeau.—*T. S. 10, 27, 28*, Damelow's Seedling; 25, Col. Vaughan; 42, Dutch Mignonne; 52, Blenheim Orange.—*D. McD. 1*, Minchall Crab; 2, Stirling Castle; 6, Lane's Prolific; the others too much bruised to determine.—*Carlton. 1*, Queen Caroline; 2, King of the Pippins; 3, Mammoth; 4, Cox's Orange Pippin. Pear, Benrrié d'Amanlis. [Contribution to *Gardeners' Orphan Fund* has been sent to the Secretary.]—*H. Howard, Purfleet. 1*, Alfriston; 2, Frogmore Prolific; 3, too small to determine.—*J. W., Please. 1*, Nonsuch; 2, Alfriston; 3, Beauty of Kent; 4, Hawthornden; 5, B-nrrié de Capiaumont; 6, Winter Nellis; 7, Old Crassane.—*G. A. J. 1*, Baxter's Pearmain; 2, Golden Noble; 3, Gloria Mundi; 4, Hornead Pearmain.—*J. Kent. 1*, Reinette du Canada; 2, Cellini Pippin; 3, not recognised; 4, Northern Greening; 5, Cox's Orange Pippin; 6, Cellini Pippin.—*Biddles & Co. 19*, Jersey Gratioli; 21, Murfitt's Seedling; 20, Cox's Orange Pippin; 23, Tower of Glamis; 30, Golden Noble.—*J. W. M. 1*, Court Pendu Plat; 2, New Hawthornden; 3, Northern Greening; 4, not recognised; 5, Reinette du Canada; 6, Tower of Glamis; 7, Lane's Prince Albert; 8, French Crab; 9, Wareham Russet; 10, Bedfordshire Foundling.—*J. W. Swaffield. 1, 1½*, resemble Keswick Codlin grown in a cold locality, but they are evidently not that variety—they may be Lord Grosvenor. 2, Scarlet Nonpareil; 3, Golden Winter Pearmain; 4, Autumn Bergamot; 5, Comte de Lamy; 6, Bonne d'Ézée. [Never send plants and fruit in the same box, kindly send fresh specimens of the shrub, Lily, and grass.—*C. G. Woodrofe. 1, 2, 3*, Blenheim Orange;

4, 5, 6, 7, 8, 9, 10, 12, Cox's Orange Pippin, excellent specimens; 11, Ribeton Pippin; 13, Kerry Pippin; 14, New Hawthornden; 15, Damelow's Seedling; and 16, probably small fruit of Bramley's Seedling.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to consult the next number.*—*E. B.* A species of Casuarina.—*S. K.* Plumbago Larpentæ.—*Ignorant. 1*, Malope trifida; 2, Hibiscus syriacus, commonly called Althæa frutex; 3, Sedum spectabile; 4, Malope trifida, white var.—*W. M.* Houletia Brocklehurstiana.—*W. J. B.* Phytolacca decandra.—*J. P.* Tropæolum speciosum.—*E. W. 1*, Sedum tortuosum (*Bot. Mag.*, t. 296) var. variegatum; 2, Diplacnis glutinosus; 3, Fuchsia procumbens; 4, Selaginella viticincosa; 5, Enallia japonica variegata; 6, Agathea celestia.—*J. R. 1*, Cattleya Walkeriana; 2, Oncidium spillopterum; 3, Ocidium divaricatum.

PEAR: *Mells Rectory*. A seedling probably of some garden variety of Pear. Can you send some fruits when ripe?

POTATOS SEEDING: *E. H. O.* Many varieties do not bear flowers, or they rarely do so, and those which flower do not always "set" the flowers. Cultivation has a tendency to suppress the flowers, and prevent their fertilisation! and the longer any variety has been in cultivation, the fewer the blossoms, or none at all. In the Ashleaf varieties, the ability to flower seems to be quite lost.

ROCK PLANTS: *W. T. H.* Omphalodes Luciliae, Globularia, and Campanula Zoyisii and C. Waldsteiniana, by division; Edriantia by seeds.

ROSE DIFFICULT TO STRIKE: *Miss Armstrong*. The species is Rosa Brunonis. The striking of cuttings would be successful if half-ripened shoots with a heel were taken in July, and struck in a close frame or hand-light, on bottom-heat of 75° to 80°. The leaflets should have the central one cut off, and the leaf at the base, if any, should remain on the cutting. Put one cutting in the middle of a 2½ or 3 inch pot, in sandy loam, pressed firmly, and then well water the cuttings. No more water is likely to be needed if the frame be well shaded during the sunny hours before rooting has taken place. Take out all pots containing rooted cuttings, and place in a less close frame, gradually inuring them to full exposure. The above method is applicable to all Roses difficult to root as cuttings. Less troublesome methods are, to layer either the tips of the shoots—say the first foot of growth, or lay whole shoots on the soil, pegging them down at intervals of a foot, and putting a little soil over them, at the points where the pegs are inserted. Maréchal Niel Rose can be readily increased by this method. It takes a whole season.

STAPHYLEA PINNATA: *W. D. H.* It is called Job's Tears, Bladder Nut, and St. Anthony's Nut. London, quoting Haller, remarks in *Arboretum et Fruticetum Britannicum*, "that the kernels taste like those of Pistacia, and are eaten in Germany by children, and this appears to have been formerly the case in England, for Gerard says the kernels, though sweet at first, are succeeded by a nauseous taste, and finally they act as an emetic." The flowers contain much honey, and are much visited by bees. The plant is a native of Europe, and is not indigenous in this country, but it is now common.

WALNUTS TO KEEP FRESH FOR FOUR MONTHS: *F. M. C.* Oily seeds such as these cannot be kept in a good condition for eating, unless the air be kept from them, the moisture contained in the nut soon evaporating, and the oily constituent of the kernel becoming rancid. Choose a box or barrel of a size suitable to the quantity of nuts to be stored, and having at hand some not very dry sand or charcoal-dust, proceed to lay them in the receptacle in alternate layers of sand, &c., and store in a cool place.

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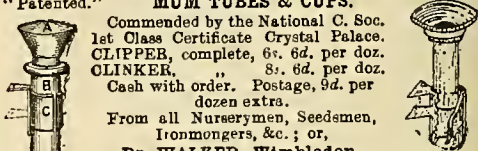
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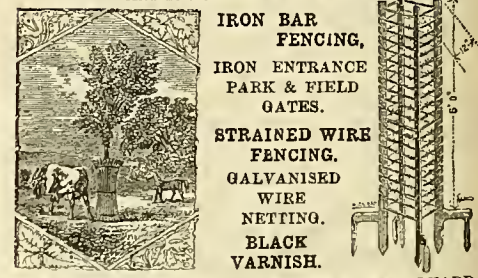
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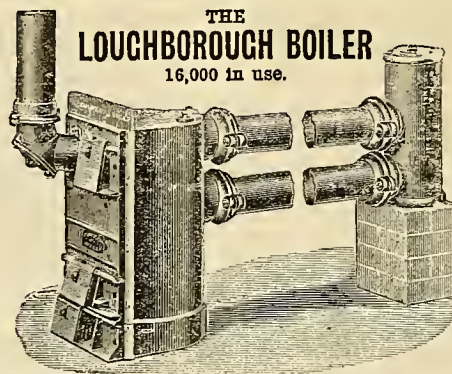
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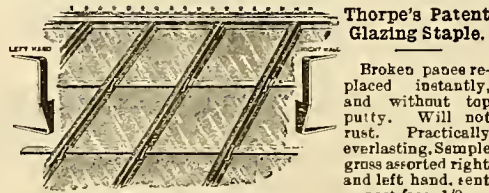
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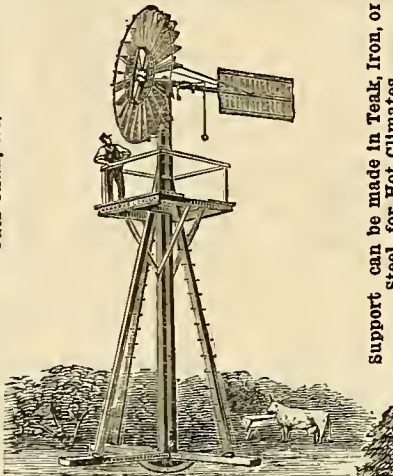
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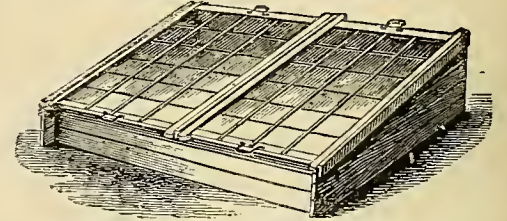
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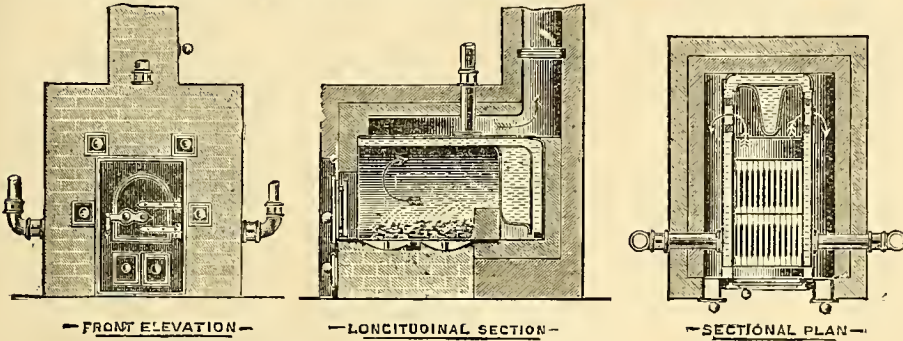
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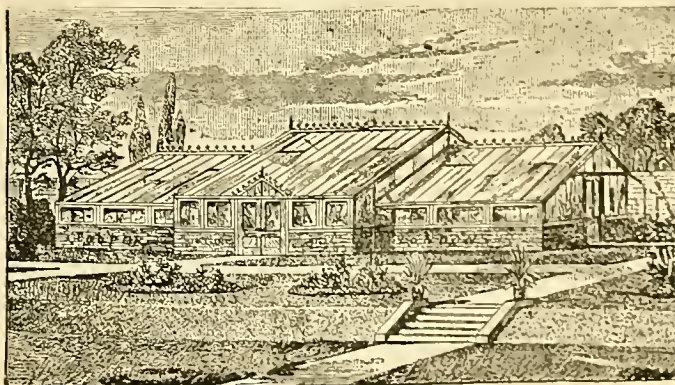
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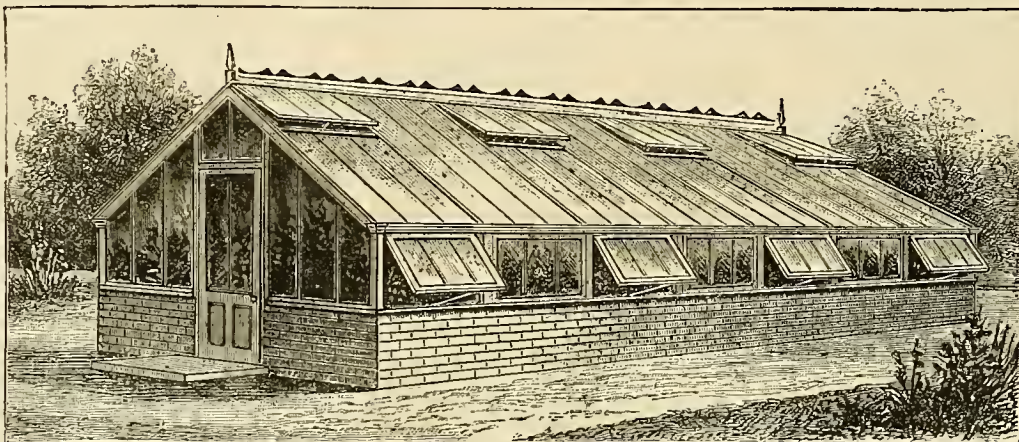
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The GARDENERS' CHRONICLE

ESTABLISHED 1841. No. 2861.

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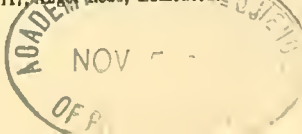
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Alice
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Cattleya Massie, fine varieties
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 36 Incurved, distinct, prizes ... £3 £2 £1.
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 Entries close November 6, 1895.

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THE
Gardeners' Chronicle.

SATURDAY, OCTOBER 26, 1895.

SACRED FLOWERS.

THE following "Rough Notes on some of the Sacred Flowers of the Hindus" are contributed by Yogendracri Ghosa, to a recent number of the *Proceedings of the Agricultural and Horticultural Society of India*:—Flowers have been associated more or less with religious festivities of every nation and in every time. Garlands and wreaths of flowers appear in the Old Testament, as well as in the *Zend Avest* of the Fire-worshipper. With the ancient Greeks and Romans, flowers were a no less favourite adjunct to their ceremonies, religious, political, and social: a Palm and a Laurel were emblems much coveted. In India, however, flowers have attained an importance unprecedented in the annals of other nations. No religious or social ceremony of the Hindus is complete without flowers. In an assembly, the respected is decorated with garlands, and at times there is much heart-burning as to who shall get the first garland. In a party the invited have their share of nosegays as well as of *pan* and *attar*. The marriage ceremony is completed by the exchange of garlands between the bride and the bridegroom. The corpse is bedecked with garlands before it is placed on the funeral pile.

Naturally, therefore, the Castras teem with directions as to the kinds of flowers to be used on particular occasions, as to the time of collecting them, as to how to collect, and who shall collect, and as to the time a particular flower is fit for offering before it becomes stale.

In festivities and ceremonies connected with the *manes* of the ancestors, white flowers, and garlands made of white flowers only, are used. In nuptial ceremonies red, yellow, and white are allowable. In ceremonies connected with the worship and festivities of the goddesses of female energy, red flowers are preferred. But in the following flowers the colour is of no consequence, viz, Karabira (*Nerium odoratum*), Padma (*Nelumbium speciosum*), and Roses. The Padma or the Sacred Lotus is considered the prince of flowers, and the prohibition as to Cudra (*Shudra*) does not apply to this. Padma and some other flowers, such as *Michelia Champaca*, where the work of collecting is arduous, a Cudra (*Shudra*) may be permitted to bring them for the use of a person of the twice-born race.

So far back as Manu, the Brāhmana himself is directed to collect his own Kuça (*Pos cynosuroides*) flowers, Samid, i.e., faggots and water: those collected or brought by persons of the Cudra class, being polluted by their touch, are not fit for use. A Brāhmana should never beg flowers, but he can take them from anywhere without the permission of their owner, for the

act is not a theft. A Bráhmāna must not buy flowers, but he may do so if he pays a heroic price for the same. Flowers should not be collected in the afternoon nor after the midday bath. Flowers growing on trees in a temple, or near a burning-ground, or on a polluted land, are unfit for the purposes of offerings. Stale flowers are unfit for offering. Certain flowers become stale sooner than others. Stale flowers, —flowers not fresh-looking, and flowers dried or withered—should never be used. In collecting flowers one should not denude the plant of every blossom, and the picking of buds which may not open the following morning is forbidden.

The use of flowers, or leaves and twigs, in religious ceremonies, though originating in the Vedas, became general in the later Páras. In the Vedas, the Samid (faggots), or rather twigs, with small leaflets for feeding the fire with, were much valued. The Soma, however, which was squeezed for its juice to mix with fermented barley gruel, superseded all. But what this Soma was it is rather difficult at this distant age to ascertain; more so when the Vedic Yágas and observances have all been forgotten. The Soma was a rare commodity even in the days of the Vedas, and it used to be brought from distant countries on the backs of goats through tracts uninhabited, and infested by wild beasts and robbers. It used to be bartered for cows. The Mojavat Hill is said to be its native land; but where is this Parvat? Scarcity of the true Soma was perceived in the later Vedas, for its substitute, the Pútikā, is mentioned in the later Bráhmanas. This Pútikā again has now become pretty scarce, and there are few experts in the Yajnas who can recognise it and know its habitat. The substitute Soma has been identified by the early Anglo-Indian botanists with the *Sarcostemma brevistigma*. It is an almost leafless twining plant which exudes a milky juice, and it grows in dry and arid soil. With the kind assistance of His Highness Prince Rájā Varmā of Travancore, a few living specimens of the same were obtained, but the plants being impatient of damp, almost all died; the few which survived are now thriving and bearing flowers in the dry climate of Vindhyaçal, in Mirzapur, North-western provinces. A solitary specimen, reared in a hanging pot, is growing with some luxuriance, but it has never been seen to bear flowers here in the moist atmosphere of Calcutta.

The Palāça (*Butea frondosa*), is a Samid or faggot of Vedic antiquity. Its origin is described in a legendary anecdote occurring in one of the Bráhmanas of the Veda, and it is said to have been born of Nectar. With this tree is associated in the Vedas the Khadía (*Acacia Catechu*), but they are both used as Samid or faggots dipped in *ghí* and thrown on the fire just to feed on the same. The Soma and the sacred Grass *Kuça* predominate in the Vedas.

Although the Soma has been forgotten and lost sight of, the *Kuça* Grass still retains its importance. No ceremony can be performed without this grass or any of its substitutes; for, under the rules, a mat made of this grass is specially considered a sanctified carpet, and though it may be dispensed with in certain ceremonies by using woollen carpets, the ring which has to be borne on both the ring fingers made of two blades of *Kuça* Grass, is an indispensable adjunct of every ceremony. A bundle of *Kuça* is equally indispensable, for it has to be held in the left hand while the ceremony continues. Three blades of the *Kuça* Grass tied together with a peculiar knot make up the Pavitri, the purifier, with which every sacrificial object being sprinkled is purified.

The ternate-leaved Palāça in the later periods has, however, been substituted by the Vilva (*Ægle Marmelos*), which has also ternate foliage. Pávanic legends assign a similar origin to the Vilva. The Vilva is said to have been born of Nectar (*Amrita*), hence the Vilva is often styled as the *Amritodbhava*,

i.e., born of Nectar (*Amrita*), which was churned out of the ocean by the joint labours of the gods and the demons, who, in so doing, used the serpent-god *Cesa* as the churning-rope, and the Mount Meru as the churning-staff.

(To be continued.)

NEW OR NOTEWORTHY PLANTS.

MASDEVALLIA FORGETIANA, Krnzl., n. sp.*

A NEW species of *Masdevallia* from Northern Brazil, the home of the old *Masdevallia infracta*, Lindl., one of the veterans of the genus. The leaves are comparatively narrow, glossy, bright green, paler below, blunt or rounded at the apex, and a little shorter than the slender sharply three-angled flower-stalk. About the latter, I am not sure if it be one-flowered or few-flowered; the specimen at hand is one-flowered, but it seems to me that there have been several flowers. The cup or calyx of the sepals is very short, somewhat compressed, with a deep impression below, forming a rectangular chin at the very base of the cup; the free portion of the sepals is very short, the lateral ones especially being united, the top excepted; the tails are about 2.5—3 cm. long, the dorsal one being a little longer than the lateral. The colour of the sepal-cup is very tender tint-apricot outside, &c., and a little more intense on the inside. The petals and the column are very insignificant, and just as in many other *Masdevallias*; the lip, though very small, needs some remarks. It is linear, with a blunt, triangular, thickened, and somewhat warty apex; in the middle there are on each side two small lobes, and two small elevations or calli on the disc. The plant is, perhaps, not a first-rate beauty, like many other *Masdevallias*, but it is nevertheless a nice little plant, and interesting as a *Masdevallia*, coming from Brazil, a country not nearly so rich as the Andes of Peru and Ecuador. It is, of course a genuine tropical Orchid, and requires warmer treatment than the alpine *Masdevallias*. By special request of Messrs. F. Sander & Co., who first flowered the plant, it is named after the collector, Mr. Forget. *F. Kränzlin.*

ANÆCTOCHILUS SANDERIANUS, n. sp. (?)

To establish a new species, flowers are, of course, strictly necessary, especially in Orchids, and nobody is able to describe a new *Odontoglossum* or *Dendrobium* when only leaves or bulbs are at hand. But among the terrestrial Orchids of the Sunda Islands the little group of *Anæctochilus* and allied genera show so peculiar a character in the leaves, that we can assume a species to be new if the leaves that we receive show differences from those of other plants of the same genus. The two leaves I received from Mr. F. Sander belong undoubtedly to a new *Anæctochilus*, and are the most brilliant Orchid-leaves I have seen. Imagine two opposite, broad, oblong leaves, blunt at the top, with a slightly wavy border, dark green and velvety on the upper side, with a network of greenish-golden veins as in *Anæctochilus setaceus*, the underside pale flesh-coloured, with whitish veins. In size the leaf greatly surpasses the dimensions of other known species of *Anæctochilus*, being nearly 11 cm. long (about 4 inches) and 6 cm. broad (2½ inches)—dimensions never reached by other *Anæctochilus*, and rarely by the beautiful *Dossinia marmorata*, which entirely differs in the

* *Masdevallia Forgetiana*, Krnzl., n. sp.—Foliis oblongo-lanceolatis obtusis in petiolum sensim angustatis laete viridibus nitida crasse coriaceis ad 12 cm. longis ad 2 cm. latis; scapo longiore 15 cm. alto, triquetro subtorto monantibus floribus saccadaneis? bractea scariosa longa pedicellum longum (3 cm.) dimidium usque vestiente, ovario-brevi; cyatho floris brevi campanulato infra mentum rectangulum formante parte libera sepalis dorsalis brevi triangula in caudam teretem 3 cm. longam protracta; sepalis lateralibus multo majoribus semi-orbicularibus fere omnino conatis parte libera brevissima in caudas 2.5 cm. longas protracta, toto cyatho pallide persicino intus roseo-adsperso caudis intensioribus; petalis linearibus subfalcatis incurvis apice brevi-triangulis apiculo incrassato; labello aequilongo lineari medio utrinque lobulato, apice reflexo triangulo apiculato carnosio tuberculoso; gynostemio aequilongo, generis.—Northern Brazil, leg. Mr. Forget, Mr. F. Sander's collector. *F. Kränzlin.*

form and position of the leaves, and the two leaves that I received were by no means the biggest. Is it a new species, or only a giant form of *Anæctochilus setaceus*? *Qui vivra verra.* To conclude, by analogy, I incline to regard the plant as being a true species, and I have therefore given it provisionally a name. *F. Kränzlin.*

AN ENGLISH ASTER FIELD:

ASTERS are at once amongst the most beautiful, easy cultivated, and popular of our half-hardy annuals, and, in fact, they deserve more care bestowed upon them than they usually get. The seeds which we purchase are mostly raised in Germany, where the weather in the autumn, as a rule, is more favourable for seed-saving than in this country. While on the Continent large breadths of land are devoted to their culture for seeding purposes, it has not been the custom to grow other than the "Globe" or "Quilled" variety in this country with the same end in view. Messrs. H. Cannell & Sons, of Eynaford, have made experiments in this direction of late years, and Messrs. Dobbie & Co., Rothesay, similar ones elsewhere with results which have justified their firm in making a more extended trial in their new grounds at Orpington, in Kent. The illustration here given (fig. 83, p. 485) is of a corner of Messrs. Dobbie's Aster field, in which were cultivated the Quilled, Victoria, Pæony-flowered, Cornet, Dwarf Chrysanthemum-flowered, and other varieties, to the number of close on 30,000 plants. The seeds were sown in March, the seedlings pricked out in the usual way, and placed in the quarters early in June—somewhat later than usual on account of the drought, from which, indeed, they suffered severely at a later stage. The remarkably fine autumn made up for these and other shortcomings, and we are informed that this year's experiment has been a decided success, and such as to lead Messrs. Dobbie to believe that in the county of Kent, seed of Aster, of the flat-petalled varieties, may be saved to advantage in an autumn of the ordinary character. Other points being equal, we should prefer home-grown seeds to any others.

KEW NOTES.

ARISTOLOCHIA CLYPEATA.—We have at last succeeded in inducing this species to develop its handsome flowers, after having been unfortunate for three years. Hitherto, the logs of October have caused the buds—of which plenty always formed on the old stems in September—to fall before any of them opened. At the present time two plants may be seen in flower, one in the Water-Lily-house, bearing about a dozen blooms; and the other in the T-range. There is a figure, with description of this species, in *Gardeners' Chronicle*, 1892, xi., pp. 433 and 435, which represents the flowers now at Kew, except that the latter are larger and more delicately reticulated, whilst the leaves are smaller. They have no perceptible odour, and are in size 6 inches by 7 inches, coloured inside of a rich velvety dark-brown, beautifully chequered with creamy-white, with a blotch of bronzy-purple above the entrance to the tube. The plant ought to find favour as an autumn-flowering stove-climber. It is quite different from the now popular *A. gigas* Sturtevantii, both in leaf-characters and habit, the leaves being ovate acuminate, slightly peltate, of rather dry and papery texture, with rough venation on the under side, whilst the flowers are always developed from the old corky-stems, and not from young shoots. The Kew plants were received for, and have been grown as *A. gigantea*, a species with somewhat similar leaves and flowers, but the latter are larger. *A. clypeata* was discovered in Colombia (New Grenada), by the collector Wallis, who sent it to Mr. Linden in 1868. There is a good coloured figure of it in *L'illustration Horticole*, 1870, pl. 40.

ALBERTA MAGNA.

This plant was introduced from Natal in 1891, and flowered for the first time at Kew in October last

year. It is now in flower again in the Cape-house, and will probably continue in bloom for some time yet. The habit of the plant is that of an erect, sturdy, freely-branched shrub, with ovate glossy green leaves, and terminal panicles of narrow tubular flowers, an inch long, and coloured of a bright crimson, suggesting, in the effect they produce, those of *Embothrium coccineum*. It is a promising plant for the cool conservatory, and may even prove hardy in the warmer parts of these islands. There is a second attraction in the bright red colour of the leaf-like calyx lobes, which develop

the form of stars, their colour being cream-yellow, dotted with brown, and the whole surface covered with long soft white silk-like hairs, the attraction of the specimen here described will not be doubted, not mentioning the disagreeable odour which excites much curiosity among visitors until its source is discovered. This *Stapelia* thrives only when grown in a hot moist stove—in fact, the Kew plants are grown along with *Dendrobium Phalenopsis*. Possibly many other species of *Stapelia*, which are generally difficult to manage, or, at any rate, to flower in a dry succulent house, would grow better and flower with

are borne on a crowded, branched panicle, which is partly enclosed in a large boat-shaped spathe 18 inches long, springing from the axilla of the oldest leaf. A figure of it has been prepared for the *Botanical Magazine*.

CYCNOCHES HAAGEI.

This distinct species first flowered at Kew exactly three years ago, a year after it had been received from Mr. E. Rand, of Para, Brazil, along with *C. pentadactylon*, which flowered at the same time. *C. Haagei* was first described by Rodriguez, and the



FIG. 83.—MESSRS. DOBBIE AND CO.'S ASTER FIELD AT ORPINGTON, KENT. (SEE P. 484)

after the flowers have faded, and assume a bright red colour. The same character occurs in the allied genera *Mussaenda* and *Howardia*. There are only two species of *Alberta*, the second being a native of Madagascar. *A. magna* is evergreen, and is a handsome Laurel-like shrub when not in flower. It prefers a peaty soil, and enjoys plenty of sunlight.

STAPELIA GIOANTEA.

A well-flowered example of this magnificent *Stapelia* has lately been exhibited in the stove at Kew. It began by developing four large flowers simultaneously, and bore at the same time thirteen buds in various stages of growth. The plant is growing in a 9-inch pan suspended from the roof, and its fleshy, four-angled stems almost completely hide the pan. As the flowers are each nearly a foot in diameter, and in

greater freedom if treated more liberally in respect to moisture and heat.

SCHEELEA SPECIES.

Scheelea is the next genus to *Maximiliana*, of which *M. Martiana* (*regia*) is one of the most magnificent of all Palms, and whose oval-shaped fruits are known in South America as "Kokerites." There is a grand specimen in the Palm-house at Kew which has been grown for this *Maximiliana*, but now that it is in flower, it proves to be a species of *Scheelea*. The principal, indeed one might almost say the only notable difference between these two genera is in the structure of the small flowers. The Kew plant has pinnate leaves 25 feet long, and narrow pinnae from 3 to 5 feet long, each leaf being a gigantic plume as elegant as those of an ostrich. The flowers

name has since been adopted by Mr. Rolfe, who has paid special attention to this and allied genera for some years, with the result that a considerable number of species have been added to our collections. *C. Haagei* has elongated pseudo-bulbs 6 inches long, pale green lanceolate leaves 8 inches by 1½ inches, and a slender arched scape 6 inches long, bearing six flowers, each 2 inches across; the sepals are 1 inch long, lanceolate and keeled; the petals are ovate, flat, and as long as the sepals, their colour being dull olive-green; the lip, which is coloured cream-yellow, with a tinge of rose and a few red dots, is nearly round, flat, 1 inch in diameter, acuminate at the tip, with a pair of teeth-like projections in the centre below the top of the slender arching, green column. The plant is again in flower in the warm Orchid-house.

BULNOPHYLLUM MEDUSÆ.

Two plants of this extraordinary species are now in flower in the Orchid-house at Kew, each bearing two of the drum-stick-like inflorescences. The scapes are about 6 inches long, and the globose heads of flowers, which are 2 inches in diameter, are composed of large lanceolate whitish bracts, and small pale yellow flowers, with sepals tipped with long soft hair-like appendages, which hang down to a length of 3 inches, and are cream-white, with a few small dull-red spots. The plant is a native of Singapore and neighbourhood, and although it has been in cultivation over fifty years, it is rare in collections. Its other name is *Cirrhopetalum*. At Kew it is grown in baskets suspended close to the roof in a hot moist house, along with *Phalaenopsis*. It is worthy of a place in all representative collections, and I believe it is to be bought cheaply. *W. W.*

CARYOPTERIS MASTACANTHUS.

Not only is this a rare and interesting shrub, but it is also one possessing much beauty. It was one of Fortune's introductions from China, but it afterwards nearly or quite disappeared from cultivation. It was, however, collected in Japan both by Oldham and Maries, and by the latter was re-introduced to English gardens about fifteen years ago. It is a member of the Verbenaceae family, and grows to a height of 3 or 4 feet; the opposite leaves are oblong-lanceolate, tomentose, and, as a rule, very coarsely toothed. The small flowers are of a pretty purplish-blue, closely packed in semi-globular cymes, which spring from the leaf-axils at the upper part of the stem. The bottom lobe (or lip) of the corolla is slightly fringed, a character which suggested the now obsolete generic name of *Barbula*. A specimen of this shrub is planted at the foot of the wall of Museum No. 1 at Kew, and is now very finely in flower. Except in the south-western counties of England and similarly-favoured localities, this shrub will probably require at least an equal amount of protection. It was originally treated as a greenhouse plant, but it is as an outdoor shrub that its value is most apparent, for flowering, as it does, in August and September, it is especially welcome. *W. J. B.*

FOREIGN CORRESPONDENCE.

CATTLEYA CANDIDA (*Kth.*) *Lehm.*

(*SYNCH. CYMBIDIUM CANDIDUM*, H.B.K.; *CATTLEYA CHOCHOENSIS*, HORT.)

IN accordance to the laws of priority in naming and describing plants, I consider it high time that this plant should be referred to its original name as given by Kunth. *Cattleya candida* is one of the two first described species of this genus, and although it was placed with *Cymbidium*, Kunth expressed his conviction that it could not belong to that genus on account of its possessing four pollinia. The species is very well described in the *Syn. Plant.* by Kunth, and easily recognised by this description. It may be objected that the plant is not a pure white one, and therefore the name *candida* is not quite appropriate. To this I observe that every author is allowed to name his plants as he thinks best, that there are other plants far less white and yet bear that specification, *vide* *Miltonia candida*, and that the specification "*chochoensis*" is far less appropriate, as this *Cattleya* does not grow in the Choco, but in the Cauca Valley, two quite different provinces.

Cattleya candida is a very variable and very floriferous species in its natural habitat. The masses attain often large proportions, are well shaped, but mostly loose and straggly at its rhizomes. The flowers are produced from three to five—most commonly in threes—on a spike, and borne aloft free of the leaves. In the best strain of the species, the flowers are pure white with the lip pearl-shell-rose at the tube, yellow at the base, and crimson at the dilated apex. There are scarcely two plants in which the cordiform crimson zones of the lip are exactly alike and of the same size and colour. It changes from the

deepest crimson to the most tender rose, but always leaving a white margin. Of conspicuous varieties, there is one with pure white flowers except some yellow at the base of the lip, and another in which the sepals and petals are deep rose and the lip of glowing crimson-purple. This latter variety is the rarest!

Cattleya candida is distributed over the valley of the Cauca from Tulná down to the neighbourhood of Fredonia and Concordia in Antioquia, and restricted to a region that extends from 600 to 1100 metres above the sea-level. It grows on trees high up on their branches in dense woods. The climate of the region is very damp for some six months of the year, and very dry during three months in the time at which the plant flowers. The temperature of the region ranges between 22° and 25° Centigrade. *F. C. Lehmann.*

A TOUR IN LOMBARDY.

The public garden at Milan is one of the prettiest gardens in Lombardy. A small stream flowing through the garden, and traversed in various places by ornamental and rustic bridges, beneath a rich and varied vegetation, forms one of the greatest features of the garden. Amongst many noteworthy trees I remarked several fine specimens of the Maidenhair tree (*Ginkgo biloba*), *Ailanthus glandulosa*, which is very common in Lombardy, several fine groups of *Magnolia grandiflora*, and some very fine trees of *Magnolia conspicua*. The latter was labelled *M. porphorone*, which is probably a mistake. Conifers, especially the *Abies* and *Cedars*, were fine. The flower garden was gay with various flower-beds, carpet bedding being the finest feature. In a subtropical bed I noticed a very showy *Polygonum*, probably *P. filiforme variegatum*, which is very effective, with its large green and white mottled foliage. In an adjacent bed was a very pretty dwarf variety of *Lantana*, free-flowering and pure white in colour.

Extending all round the town is a very fine avenue of Horse-Chestnut trees, which, before the storm of 1873, formed one of the features of the town, but owing to so many branches having then been broken off, they were topped, and present now a rather stunted appearance. The Syrian Mallow (*Hibiscus syriacus*) is used largely for hedges, and at the time of my visit presented quite a feature in itself, so varied are the colours of the flowers. Having made the tour *en bicyclette*, I cannot pass Turin without a remark on its beautiful avenues. Such a variety of trees cannot be found, I should think, in any other European town, for I noted no less than nine species including the Elm, Plane, Hornbeam, Sycamore, Horse-Chestnut, Oak, *Sophora japonica*, *Robinia pseudo-Acacia*, and *Acer*, and each rivalling the other in beauty.

After crossing the Maritime Alps, a vast plain is traversed through fields of Hemp and Maize, and a few fields of Rice near the rivers, but the crops are chiefly the two former. I was most surprised to find that fruit is not grown in this part, as the soil and aspect is certainly favourable for it. Leaving Milan *en route* for Genoa, one soon gets again into the famous Vine country, where a good bottle of *vin d'Asti* is very acceptable to a bicyclist who has done fifty miles before dinner. *Riviera.*

FOOD REQUIREMENTS OF THE CHRYSANTHEMUM.

(Continued from p. 181.)

Having written my article about a year ago, and long since got the question answered to my satisfaction, and the present being a busy time, I shall try to answer Mr. Dyke as briefly as possible. I did not write, "I have got a complete analysis of the soil;" but, on the contrary, "if we have not got a complete analysis," which the editor will find in my manuscript, and it is corroborated by what follows. I have farmed the land from which the loam was taken for the last three or four years only, and know it therefore to be of poor quality, it having been very badly farmed by my predecessor in the tenancy, but not lacking in potash; and this sub-

stance, if used alone, or in conjunction with nitrates and phosphates, does not perceptibly increase the yield of any crop, not even Strawberries or root crops. I do not think a well-managed rubbish-heap, consisting of weeds (always with soil adhering), wood-ashes, and finely-broken charcoal, night-soil, and refuse-plants, well mixed together, by being turned over several times during a year, is so much appreciated in England as it deserves to be—at least, Mr. Dyke seems to have no faith in its value as a manure; and yet it is the cheapest as well as safest one available, forming an excellent soil for pot-plants, by mixing it with fibry loam, even if that be of poor quality. Without boasting, I would mention that I have thirty years' practical experience in England, Belgium, France, and at home, as a gardener, so that I ought to know something about the mechanical and other conditions of soils used in potting.

But to return to the artificial manure question. I suppose I am obliged to quote the different mixtures and analysis again if anybody is in the least to understand the matter:—

Constituents.	Parts of Mixtures recommended by		
	Mr. Willis.	Mr. Dyke.	Used by me.
Kainite	3	4*	3
Basic slag ... ..	...	5*	3
Superphosphate ...	3	...	...
Bone-meal ... ..	...	6*	...
Nitrate of soda	1	3	...
Nitrate of potash ...	...	5	...
Sulphate of ammonia ...	...	...	1
Phosphate of potash ...	...	...	1
Magnesia (sulphate of?)	...	1½	...
Sulphate of iron	½	...	...
The above ingredients in the proportion to soil of	1·250	to be mixed 1·25 1·16 altogether	1·400

Table showing percentage of *Chrysanthemum* Ash and of *abn* Manures.

Constituents.	Chrysanthemum Ash.	Mr. Willis' Mix ure.	Mr. Dyke's Mixture.	Used by me.
Potash	16½	7½	14½	12
Soda	10½	15	8½	12
Lime	26½	18½	28½	19
Magnesia	10½	5½	11	15
Phosphoric acid	19½	19	19	17
Sulphuric acid...	4½	38	11	15
Iron	3½	1¼	3½	(?)
Chlorine...	3	2)	5½	11
Silica	5½	...	2	(?)
Nitrogen	3†	3	6	4

These do not look so entirely different from each other or from the ash; in fact, good results are generally obtained with artificial manure that is in less accordance with the constituents found in the ash of plants, and if this was not the case they could never be used without a complete analysis of the soil being made beforehand. No, the cause of my non-success is quite different, but I will return to that a little later; first a few words about quantities recommended, or actually used. When I am going to use artificial manures for plants in pots, borders, &c., I ask, what is the largest quantity of similar manure used profitably by farmers? When my plants have a restricted root run and they are gross feeders, and the substance to be used is of a harmless nature, I use double that quantity, and of course trying to make its composition in accordance with what is known about the needs of the plants.

Now, the rate of application is one of manure to four hundred of soil, which comes out as something like 2000 to 3000 lb. per acre, reckoning depth of soil at 7 to 8 inches (rather too little), and an average weight of 40 to 50 lb. per cubic foot (this varies very

* These ingredients to be mixed with the soil; the rest in this column to be used as top-dressings by-and-by.

† In fresh plant.

much). Mr. Dyke recommends one of manure to twenty-five of soil, to be mixed at once, with top-dressings following of 1-16, or something like 50,000 to 60,000 lb. per acre. I did not mix the ingredients together before using them, they were simply weighed from the bags, strewn on the heap of soil, and at once thoroughly mixed with it by several turnings. The ammonia may have been liberated in the soil, but the latter will absorb and hold fast a much larger quantity. So I had my four per cent. of nitrogen besides that contained in the soil, and in the one-fifth of good half-rotted stable-mannre; and calculating the amount of nitrogen in this to be 10 to 12, or 15 lb. per ton, every practical cultivator knows that good soil, with an addition of one part stable-mannre to four parts of soil is not lacking in nitrogen when first mixed and for some time afterwards. In fact, many Chrysanthemum growers obtain good results with this alone. And yet I came to the same conclusion as Mr. Dyke in regard to Chrysanthemum potting-soils lacking in nitrogen, as notwithstanding the good supply of nitrogen at hand, the plants were suffering for lack of it, because they are able to absorb it only in the form of nitric acid, and not as ammonia; not even the sulphate of ammonia (not organic) could be transformed into nitric acid. Otherwise this would be quickly done by Chrysanthemum plants afforded sulphate of ammonia, and with about the same result as Mr. Dyke gets from nitrate of ammonia, viz, the appearance of very dark green leaves in a few days.

Here comes the only difference of any consequence in the composition of Mr. Dyke's manure and mine. He afforded nitrates, and I ammonia (or organic nitrogenous substances), and his plants obtained their nitrogen from the nitrates, and not from the soil. But it is quite impossible for Chrysanthemums to be manured solely by artificial substances independently of the soil used. We want a concentrated, effective, but above all, harmless supplementary manure—and kainite, at all events, is not such a one. The price of an article is also of some consequence, and it should be bought in quantity and not in a small way at a high price at the druggists.

I cannot see the force of Mr. Dyke's remarks about the harmfulness of chlorine, sulphuric acid, and lime, when he himself uses the same substances in a much larger proportion to soil than I do, and with good results. His proving that Chrysanthemums may be grown in soil containing 1 part of the above-specified manure to 16 (or 25) parts of soil is very interesting. *M. P. Andersen, Jönköping.*

ORCHIDS IN THEIR HOME.

(Continued from p. 423.)

CATCLEYAS—The Cattleyas are found at from 2000 to nearly 5000 feet above sea-level, almost invariably growing on living trees, on the trunks or in the forks of the branches. They always try, as it were, to establish themselves in places where they receive abundance of light and a glimpse of sun. Sometimes, indeed, they are exposed to the full sun. The latter, as a rule, are the best plants. At the lowest elevation they will persistently follow the course of streams. Higher up they may be found growing in deep hollows or gullies, and at the last stage they are found in all exposures. This is easily explained by the atmosphere being charged with more moisture than at the lower elevation, where a dryer heat prevails. Most of the Colombian Cattleyas and also other Orchids have no well-defined resting periods, as far as I have observed, within almost two-thirds of the entire territory. There are two rainy and two dry seasons in the year, while even during the dry seasons it is not an infrequent occurrence to have a shower of rain now and then.

Plants of *Cattleya Trianaei* are found in flower almost the year round, yet there are two marked flower seasons, December to January and May to June, the latter being the chief. A number of plants would have four and five flowering leads already fully up, with another half-grown break at its base, while very often a third would be starting. Such breaks

always seemed to grow and mature in much less time than the mother bulb, in order to, as it were, in one united effort display their floral treasure.

GEOGRAPHICAL RANGE.

The Republic of Colombia is very rich in Orchids, the different species being spread over its entire territory. The greatest number of species, however, is probably to be found on the eastern foothills of the central Cordillera, which is a continuation of the Peruvian and Equadorian Andes; but upon entering Colombia they branch out into three distinct chains, known as the Central Cordillera, the Eastern Cordillera, and the Western Cordillera, forming between them the immense valley and river systems called the Cauca, the Magdalena, and "Los Llanos de St. Juan," or the "Cazanara." This latter immense territory is drained principally by the Amazon and the Orinoco systems, great stretches of which are as yet unexplored.

The State of Tolima may be considered as the home of *Cattleya Trianaei*. It follows the eastern foothills of the Central Cordillera from about the second degree to about the fifth degree northern latitude, and at its southern limit it is distributed over all the three chains. This latter region is also the home of *Odontoglossum crispum Lehmanni*.

Cattleya gigas takes the place of *Cattleya Trianaei* further northward, where it extends between the sixth and the eighth degree northern latitude on both the central and eastern chains. This territory is exceptionally rich in useful species, such as *Cattleya chrysozona*, *Miltonia vexillaria*, *Odontoglossum lateo-purpureum*, *O. spectrum*, *O. coronarium*, *O. Wallisii*, and *O. Harryanum*; also *Cypripedium Schlimii*, *Maxillaria lateo-alba*, *Epidendrum fimbriatum*, and *Masdevallia* in variety. Sansan, however, may be considered as the principal district for the latter.

I found *Miltonia vexillaria* as low as 2000 feet above sea-level, and as high as 6000 to 7000 feet, but at the first-mentioned altitude the plants were generally very small. It generally grows on smaller trees and branches of *Melastomas* and *Quercus*. *Odontoglossum coronarium* is found at a very high altitude, often growing on the ground or in masses, where it rambles for yards until it finds a tree suited for its requirements. The magnificence of the flower-spikes surpasses imagination.

ODONTOGLOSSUM CRISPUM.

On the Eastern chain *Odontoglossum crispum* is found, principally between the fourth and sixth degree northern latitude at an altitude of 6000 to 9000 feet. The best plants and the best varieties, however, occur at 6,000 and 7,000 feet elevation, where they grow in occasional openings of the forests on the trunks and branches of large trees, and where there is an abundance of light. In company with *O. crispum* grow *O. Lindleyanum* and *O. gloriosum*.

Further northward, or in the state of Santander, *Cattleya Mendeli* occurs, and on the eastern foothills of the eastern Cordillera, *Cattleya Schroderae*. On the Western chain or along the Rio Cauca, *Cattleya Chocoensis* is found. Unlike its allies, it grows to a great extent in forests on level land, stretches of which are swampy and unhealthy. This *Cattleya* is very abundant in certain places, and grows invariably on trees. The flowering season is August and September. In this region may also be found *Odontoglossum Rozellii*, growing in a comparatively high temperature.

THE END IS APPROACHING.

Many of the New Granadan Orchids are rapidly decreasing in quantity. *Cattleya chrysozona* is very near extinction, *Miltonia vexillaria* is going fast, as are also *Cattleya Mendeli* and *Odontoglossum crispum*. *Miltonia vexillaria* and *O. crispum* increase rapidly from seed, where the forests are not already destroyed, or they would have been extinct ere this. The natives are also beginning to deal more considerably with the forests, besides which many of the landowners and even the respective governments are taking precautions against the total destruction of their most beautiful jewels. And can you blame them? From a lecture by John E. Lager, reported in "American Gardening."

FORESTRY.

INSECT ENEMIES TO TREES.

The best authorities assert that high cultivation and the proper rotation of crops is the most effectual remedy or preventive of insect attack, and in many cases it is the only practical one. So far as this country is concerned, it may be reasonably contended that the injury caused by few, if any, insect attacks to which our crops are liable, equals the injury caused by a single night's frost in May or June, or a severe hailstorm later in the season. This is probably the reason why cultivators in general pay so little attention to insect pests outside gardens and forcing-houses, where preventive measures can be adopted with good prospects of success, doubtless thinking it useless to strain at the gnat when they have already swallowed the camel.

If this be generally true of farm crops, it is much more so when we come to forest trees. In this connection it must be remembered, however, that our trees in Britain are free from many of those insects which commit such serious ravages upon the same kind of trees in continental forests. The Scots Pine with us has no very dangerous foe among the Lepidoptera, while on the Continent it has at least three which may be thus classed. Among beetles, the Pine-beetle and Pine-weevil are certainly troublesome, but considering that the very existence of the former is practically ignored in most parts of the country, it has evidently done less permanent injury to Pine trees (outside small plantations and isolated clumps) than its habits would lead one to infer. The Pine-weevil is principally confined to the northern parts of the kingdom, and from its size and habit of attacking small and newly-planted trees, is brought into more prominent notice than would otherwise be the case. The Pine saw-fly again, although occasionally assuming a dangerous aspect, gives little trouble as a rule.

Coming to deciduous trees, where have we a pest which gives us any real cause for alarm? The Oak-leaf roller-moth, *Tortrix viridana*, strips our Oaks to winter bareness in dry and blighty springs, but the midsummer shoots put matters right in the course of a few weeks, and the trees seem but little the worse. Many insects, especially beetles, doubtless get a bad name from their well-known habit of attacking old and half-dead trees, and thus hastening their natural decay; but in this they merely act as Nature's scavengers. As a matter of fact, an attack by any of the bark-beetles upon a tree, or part of a tree which still retains a vestige of life, is extremely rare. The least flow of sap is sufficient to stop the female in her boring operations, and numbers of commenced but abandoned galleries may be noticed in trees which are practically dead, but in which life still lingers in one or two branches.

For our comparative immunity from successive and serious attacks of caterpillar swarms, we probably have to thank their natural parasites and enemies. Where human beings are at all crowded together, these epidemic diseases occur; and the insects would seem to be affected in like manner, for a year in which a serious plague of these creatures appears is often followed by one in which they are comparatively rare. Bacteria and other forms of parasitic fungi probably play a great part in regulating the numbers of these prolific creatures, and were it otherwise, our trees and shrubs would be deprived of every green leaf. A pair of moths or beetles may become the happy progenitors of about 5000 individuals in the course of a summer, so it may easily be imagined what would happen if this went on unchecked for a few years. As it is, attacks of caterpillars sometimes occur in the Pine and Spruce Fir forests on the Continent, which threaten their very existence, and even affect the prosperity of the district they infest.

As an instance of this, it may be mentioned that the attendance at several German watering-places on the Baltic coast has seriously fallen off owing to the swarms of caterpillars in the neighbouring Scots Pine woods. These caterpillars are furnished with long and poisonous hairs, which, at the periodical

casting of their skins become detached, and poison the very atmosphere over a considerable area. But such cases as these in this country are not among the probabilities, and we may safely confine ourselves to easy and inexpensive measures of preventing, or rather alleviating, the more severe attacks which occasionally occur, trusting to climate and natural laws to do the rest. *A. C. Forbes.*

OLD-TIME ADVERTISEMENTS.

A COLLECTION of last-century newspapers lately came into my possession, and it astonished me to find numbers of advertisements having reference to the seed and nursery trade in their pages. I have called the following quaint announcements, which cannot fail to interest many in the present enlightened days, as they serve to illustrate the desire of traders to use the Press as a means of pushing their wares, even in times when newspapers had but a very limited circulation. *Seedsmen.*

From the *London Journal*, July 15, 1721:—

"Just brought over from Holland, a fine collection of Orange and Lemon trees, both plain and variegated, with the finest cream and yellow colours, of the best sorts, full of fruit and flowers, of all sizes, fit for the Orangery, or to adorn ladies' chambers. To be sold very cheap, by James Letley, at Mr. Frasier's, next to Beaufort House, near the waterside at Chelsea; where all gentlemen and ladies may be furnished with the most curious forms of bulbous roots from Holland, and other parts of Europe, at the lowest prices."

From the *Country Journal*, November 15, 1729:—

"To be sold, a parcel of standard Elms, of about eight years' growth, now standing and growing at Mr. James Norris's, nurseryman, the backside of Lambeth Wells. Enquire of the said Mr. Norris, who is empowered to treat with any person for the same."

"German Dogtail Grass—sweeter than other grass, and makes with seedings as beautiful lawns as the closest shaven bank. To be had in papers done up at 5s. each at Gregg's Coffee House, York Street, Covent Garden."

"Also American Cabbage seed which comes to 80 lb. weight and near to £40 an acre value, price 10s. per pound. Hungarian Clover exceeding Lucerne, price 7s. 6d. per pound."

Here is an announcement of quite another character, which clearly portrays what a jovial time the florists of the day must have made of their exhibitions. It is taken from the *Kentish Gazette*, April 13, 1776:—

"To the florists. On Tuesday next, the 23rd inst., there will be a Polianthus feast at Mr. Richard Pain's, at Waldeshare. The best flower produced will be entitled to a prize of 10s. 6d., the second best to 7s. 6d., and the third to 5s. No person will be admitted to shew a flower, unless he has subscribed 1s. one month before the day of shewing, or 2s. 6d. on that day. No person will be entitled to a prize unless it is rose-eyed, has six pipe, and in the house before one o'clock. Much company expected. Dinner on table at one o'clock."

A curious illustration of a plant in pot accompanies this notice.

From the *Evening Post*, March 29, 1787:—

"FLOWERS.—John Allport, seedman and nurseryman, Hackney Road, begs leave to inform those ladies and gentlemen and the public that he has now in full bloom fine Roses, Pinks, and other curious Forced Flowers in Pots and for Nosegays, and will continue a succession all the season. Likewise Greenhouse and Hardy Plants, Trees, Carnations, Flower Roots, &c., also all kinds of Seeds for the Flower and Kitchen Garden warranted of the best quality."

The *Newcastle Advertiser*, October 30, 1790, contains a lengthy advertisement for—

"Fruit and Forest Trees, Flowering and Evergreen Shrubs, of John Richard & Co., Leith Walk Nur-

series, Edinburgh. Standard Apples are figured at 6d. each, Dwarf, 4d."

The *Leeds Mercury*, November 30, 1793.

"Thomas Barnes, Nursery and Seedman, Brigade, Leeds, begs to announce that he has received a fresh supply of Garden and Bird Seeds. His Nursery Stock is young and healthful, notwithstanding what some evil-disposed persons may have said to the contrary."

The *Middlesex Journal* for February 15 to February 17, 1776, contains the following curious advertisement about a species of grass that is now handled by the ton:—

"American Cock's-foot grass yields larger than any other, lasts for ever on the land, and smothered all weeds."

THE HERBACEOUS BORDER.

TROPEOLUM SPECIOSUM.

THERE are few finer hardy climbing plants than the brilliant-flowered *Tropeolum speciosum*, where it does well. To any one desiring to give it a trial, the present season offers a good time to make preparations by securing fresh and plump roots, which are usually to be obtained in pots, and planting them without delay. One of the chief points to be observed is, to plant the roots 8 or 9 inches deep; there is no necessity to disturb much ground, and it need not be dug deeper than 1 foot. Place a little decayed manure in the bottom of the hole, covering this with soil, and make it firm. Then plant the roots at the depth stated, and make the soil quite firm over them. The plant appears to prefer a firm soil and comparative dryness, seeing that it more frequently succeeds in a hedge-row, or at the foot of a dwelling-house wall or some similar place. It dislikes frequent disturbance. Where it can be established, it is an excellent plant for covering dark-leaved shrubs, and in such positions its profusion of brilliant flowers display themselves to great advantage. *J.*

CHELONE BARBATA.

This is a beautiful hardy herbaceous perennial plant, an abundant bloomer, with spikes of light scarlet-coloured flowers, which grow 2 feet high; it is, in fact, a Pentstemon in miniature. A plant of this species has been in flower at Basing Park for four months, and still keeps up a brilliant show by throwing up constantly new flower-spikes. Ordinary garden mould suits its requirements, and it is so hardy, that without any protection it withstood the rigours of last winter unharmed. Propagation is by division, and seeds sown in the month of April. These seedlings flower at the end of the first summer. *Wm. Smythe, The Gardens, Basing Park, Alton.*

PRUNING FRUIT TREES.

AFTER reading this paper a week ago, I thought the description "most interesting paper," should be altered to "most extraordinary," coming, as it does, from a fruit-grower. I shall say nothing more about Mr. Pearson's description of the different schools of pruners than that it is impossible to identify them by it; but when he descends to practice one can deal with him. He says the first object of pruning fruit trees is to obtain fruit, and further on he adds—speaking of standards—"that all branches must be so disposed as to admit the sunlight and air into the middle of the tree—for without this fertility was impossible." Will any fruit-grower who really knows how an Apple or Pear tree develops itself endorse this statement? A tree can, by much needless mutilation, be made to grow in the shape of a basin, which is the plan of those who admit light "to the middle of the tree;" and I once worked in a noted garden where the standards were all of that shape inside the walls, but where the chief supply of fruit came from an orchard outside, where all the trees were unpruned, and of the shape of umbrellas more

or less, in which no light or air in the sense understood reached the middle of the tree at all, and I have noted thousands of similar examples since. Left to itself, a fruit tree produces a round, or, as Dr. Lindley said, a "hemispherical" head, "towards the outside of which fruit-spurs and leaves are most abundant," and this is the kind of tree (the opposite of Mr. Pearson's) that every casual observer is familiar with, but in which, according to Mr. Pearson, fertility is "impossible." This shape also produces the greatest quantity of fruit in a given time, and exposes the fruit to the sun and air better than any other form, no matter whether the tree be dwarf or tall. This fact is so evident everywhere, that one wonders to hear it questioned.

It is amusing to read Mr. Pearson's contradictory directions on the subject of standards and cordons. In their habit of bearing fruit there is not an iota of difference. According to Mr. P., young standard Apples, Pears, and Plums are to be cut back in their shoots to one-third their length. This is to secure "form," &c., though in what way this secures anything but a smaller tree and less fruit, under equal conditions, is a puzzle. Cutting two-thirds of a healthy tree away for the rubbish-heap is an extraordinary idea, but in his cordons the leading shoots are, we are told, "left as long as possible, bearing in mind the fact that the more one pruned away the stronger would the growth be from the remaining buds, let them err rather on the side of cutting away too little than too much." Exactly! and it is the same with the individual shoots of standards, practically cordons, no shortening being needed except to secure balance and prevent a too straggling habit. About ten years ago I gave one of my men some Apple trees for his garden, on the condition that he never touched them with a knife, which condition has been observed, and the trees are now of the "impossible fertility" shape, but marvels of fruitfulness all the same. But individual examples are superfluous, for no one can help seeing such as I describe, anywhere. If the "little band" of mutilators which Mr. Pearson alludes to still exists, the sooner it follows the "ten little nigger boys" the better for fruit growers, I should say. I am at one with the Rev. W. Wilks of the Royal Horticultural Society, in his paper read at last year's conference, and published in the transactions, in which he "is strongly of opinion" that young standards, half standards, and bush trees "need very little pruning at all, and that you will do less harm to your trees by leaving them all quite unpruned, than to allow ignorant experiments to be made upon them," and Mr. Wilks, like Mr. Pearson, is writing for the "ordinary amateur." *J. Simpson.*

A FIRE-TREE.

FROM the Foreign Office Report for July, 1895, on the agricultural products of Tolima, Colombia, we extract the following particulars relative to the Chaparro tree (*Rhopala obovata*), and its wonderful faculty for surviving under circumstances fatal to other forms of vegetation. Its power of resisting the ravages of fire is particularly remarkable. Thus, we read that, in Tolima, "no conservation of the natural fertility of the land has ever been taken into consideration. On the contrary, the natural grasses, intermixed with scrub or brushwood, have been systematically burned from year to year, and the burnings effected during the most scorching periods of drought. The principal object attained by this process of despoliation is the reproduction of new and tender herbage or pasturage, which, with the advent of the rainy season, forthwith covers the parched surface. . . . This persistent burning of the savannahs and hills for crops of renewed pasturage, plays desperate havoc with all other vegetation, trees, and brushwood. Isolated Palm trees, with their intensely hard trunks and endogenous structure, together with groups of brushwood in sheltered or humid spots, sometimes withstand the fury of the flames. There is, however, one phenomenal exception to this subversive power of the fire. A humble tree, with contorted and rugged trunk and branches,

and scabrous leaves, a tree presenting the most subdued and weird aspect conceivable; this pigmy tree not only resists the fury of the flames, but fire is actually congenial and subservient to its existence, for the tree, instigated by the conflagrations, forms itself into great plantations. The name of this tree is Chaparro (*Rhopala obovata*), indigenous to Colombia and other South American countries. It attains a height of 15 to 20 feet, and its distorted trunks measure from 9 to 12 inches in diameter. It is widely distributed in Colombia, for I have found it at the Sierra Nevada of Santa Marta, and

plantations. There is a popular belief in Tolima, where alluvial gold abounds, that this tree flourishes only on those seductive lands, serving as a guide to searchers after the precious metal.

"The bark of the tree is peculiarly constituted. It consists of a congeries of integuments or semi-detached layers. The outer portion, about $\frac{1}{2}$ inch thick, performs no organic function, and this portion of the bark, in conjunction with its peculiar composition, protects the inner vital integuments from injury by fire.

"The form and structure of the tree may have

slopes and ridges of the hills to the flat savannah, on which it is seldom found in any considerable quantity, though widely dispersed. Fire rages with far greater fury on the slopes and ridges of the hills than on the plains. I, however, attribute this preference of the plant for the hill-sides to the pernicious influence of the accumulations of water on the plains during the rainy season.

"The illustrious Humboldt, during his travels in South America, noted the dispersal of this plant on the vast llanos stretching from the Orinoco, &c. These llanos are, for the most part, destitute of vegetation other than Gramineæ. The only trees that were found on many parts of these dreary wastes were specimens of Chaparro, and in more humid spots a Palm. Thus, referring to the llanos which he traversed, he says, 'For many square miles not a tree to be seen, but where a few solitary trees are found they are, in humid districts, the *Mauritia* Palm, and in arid spots the *Rhopala complicata*.'

"Vast deserts and semi-deserts abound throughout the tropical world, many hundreds of thousands of square miles. It may be that the Chaparro is destined to play an important part in the reclamation of these illimitable wastes, for the decomposed leaves gradually form a crust of vegetable mould."

ODONTOGLOSSUM CORONARIUM.

THE specimen of *Odontoglossum coronarium* in the collection of Wm. W. Groves, Esq., The Larches, Alderley Edge, Cheshire, is a notable one. It is growing in a square teak raft about 2 feet square, in a mixture in which growing sphagnum moss predominates; the whole surface is a living mass of sphagnum, and beautiful it looks with the great coriaceous pseudo-bulbs attached to rhizomes springing from its midst. There are eleven such pseudo-bulbs clad with leaves, and others rid of them, forming feeding auxiliaries. The representation (fig. 84), shows the habit of the species, and indicates in a measure the stiff leathery-like leaves crowning the pseudo-bulbs, which are ovate and entire, and thick and leathery. The flower-spike springs from the matured growth; and even the second from the lead, which is thoroughly matured, must wait its turn for floral development. The spike is carried on a strong footstalk, and the flowers are crowded to, rather not unlike a Hyacinth spike. There are twenty-four such flowers on the stalk, each of which is about the size and form of an ordinary *O. crispum*. The dorsal sepal is ovate; and the two inferior ones rectangular-ovate; the colour is rich sienna with golden crimped edges; the petals are ovate, bluntly acuminate, with golden clouds shining through the sienna-ground. The lip is ensiform, the throat bright, a brown crest, and an orange base; the column is short, almost sessile, with the wings yellowish, tinted with Indian-red. The freckled-coloured column imparts a certain style of beauty to an otherwise distinguished member of the tooth-tongued *Oncid*. It is kept in the cool air of the *Odontoglossum*-house, and is afforded a copious supply of moisture. The plant is now so large, that we may expect to see it flowering year by year. No check in the way of drying, or pushing with extra heat is at any time practised. Mr. Groves' beautiful plant is under the charge of Mr. Edwin Robertshaw, who is cultivating not only the *Orchids*, but all the other departments under his charge, with marked ability. J. A.

OUR POULTRY.

BY HARRISON WEIR.

(Copyright.)

(Continued from p. 238.)

As shown, the introduction of the Shang-hai and Cochin fowl has had the effect of seriously depreciating many of our English breeds for table purposes; the large coarse bones, thick skin, and lack of breast meat, coupled with a considerable amount of fat, and a persistency for incubation, has rendered the

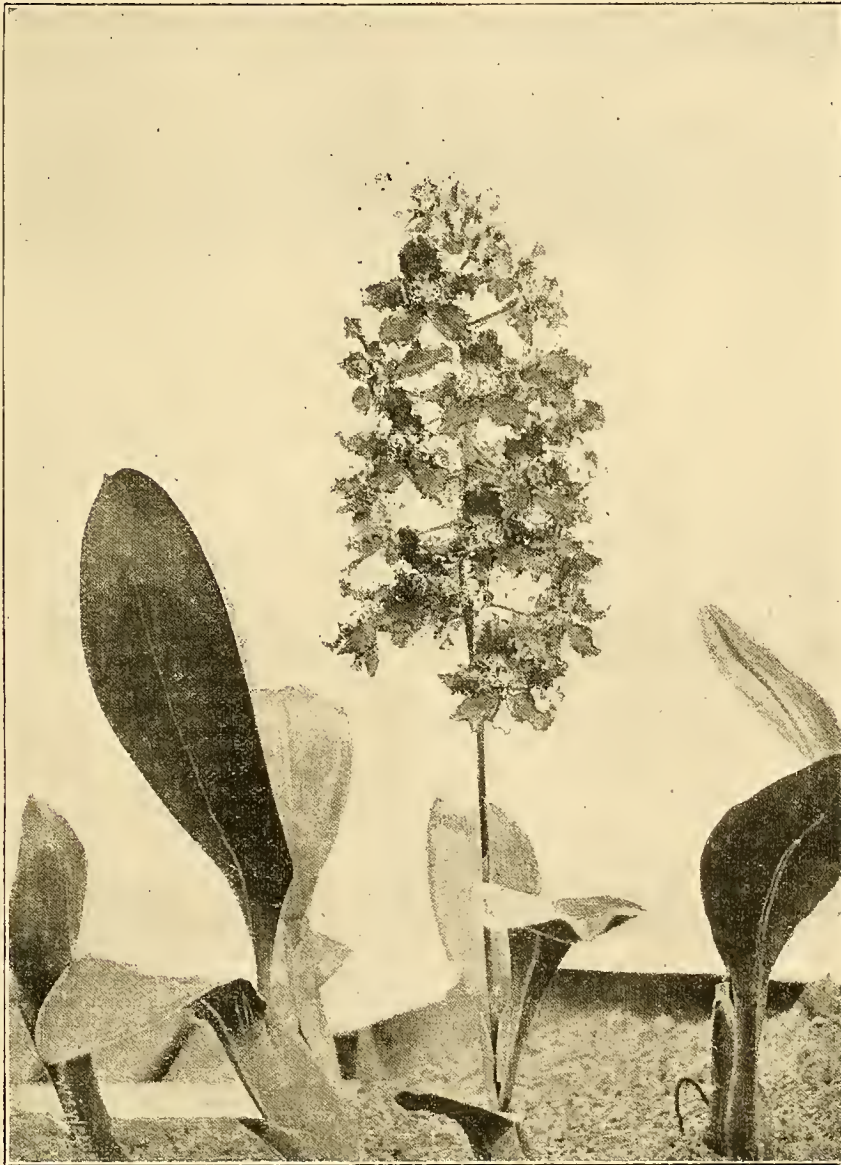


FIG. 84.—ODONTOGLOSSUM CORONARIUM.

(In the Gardens of W. W. Groves, Esq., The Larches, Alderley Edge, Cheshire.)

dispersed inland 1000 miles from the sea. In contact with the great forest, it maintains a precarious existence. But, as already explained, it usurps dominion in places where no other tree can grow. In Tolima it abounds on the slopes and ridges of the hills at elevations from 1000 to 3500 feet. In this department alone hundreds of square miles of the lower hills, which have been reduced to sterility by incessant burnings, are occupied by this diminutive tree, and it assumes the aspect of vast systematically formed and well-kept plantations. This is more than a triumph of the 'survival of the fittest.'

"It is very remarkable that these fire-begotten plantations are nowhere crowded to excess; on the contrary, the trees are so regularly placed that their aspect vies with that of the most carefully-formed

originated from the severe ordeal through which it has survived. For instance, according to the theory of natural selection, some animals when they migrate into a colder climate become covered with thicker fur. As we have seen with regard to this plant, the powers of nature have been encroached upon, i.e., the plant having emerged from a state of nature it has made for itself a law of its own, for it has triumphed over the most disastrous element to all organic life.

"The hundreds of square miles of worn-out land covered by this beneficent tree in Tolima alone are undergoing a slow process of amelioration, which, moreover, could be easily accelerated by the interposition of a few simple devices.

"It is noteworthy that the Chaparro prefers the

crossings with the old English fowl both dark fleshed and strong in flavour, and to most persons' thinking unpalatable. And yet this crossing and re-crossing, and Mongolian goes on, and seemingly with the approval of a public apparently ignorant of what a good, really good, high quality fowl should be.

But another mischief has arisen, and that is, that there is an supposition that a buff or coloured egg possesses greater richness of flavour, and is more nutritive than the old Kent, Sussex, and Surrey fowl's white eggs, forgetful, of course, that not only does much depend on the food, runs, the woods or pastures to which the stock is confined or has access, and also what the one and the other has to maintain in full health, and deliver when hatched the same-sized chick; therefore, the difference, if difference there is, must be very slight indeed, if any, possibly that of the higher class table-fowl, may be more delicate. But the absurd preference by some for a coloured egg-shell goes far to prevent the farmer and raiser of poultry from having any but those of the Asiatic cross, because there is in some localities, though happily not in all, a more ready sale for these than the purely white. For my own part, I prefer the fine-shelled white, such as the Hamburgs and old English game, or the larger Kent, Sussex and Surrey old breeds.

Next, I must call attention to an excellent breed of French origin, called "Houdans." These came into favour some forty years since, and gained at once much notice, and that of a favourable character, as being useful for the table, and layers of an unusual quantity of medium-sized white eggs; they are evidently a cross with what is now termed the "Polish" and the old five-toed fowl, that has been known both in France and England for centuries. They are good foragers, and of a medium size, rather short on the leg than otherwise, with round, full, plump breasts, though longer in the body than our old Kents, the flesh is white and delicate, and they generally fatten well. On their first importation, they showed more clearly their origin, having but small top-knots, and the cavernous nostrils of the Polish or Hamburg, and the large frames of our five-toed fowls, which is also a part of their development. Their colour, when first brought into notice here, was white speckled with black, with mainly, if not sometimes entirely, white legs. Now, so fashion wills it, they are black with white speckles and dark legs freckled with white, and the top-knots are considerably enlarged, to their detriment as a farm-yard or farmer's fowl, inasmuch as it is liable to get clogged with mud, and to render seeing somewhat difficult; still they may yet be considered both useful and ornamental. I have not found them to be good sitters, and some strains are said not to incubate at all. The chickens are very fragile, and if the weather be wet and rainy, they are difficult to rear; and are, I think, very liable to croup or severe colds, unless they have perfect freedom, and are allowed in summer time to "roost out," which they will readily do, being excellent flyers. I may here mention that most poultry is benefited by having as much air as possible. Life in the open, in woods, cart lodges, &c., suits them far better than hen-houses. My own, just built, have no fronts to them, or if it is necessary on account of foxes, wire fronts might be put, with wire-netted doors. Many years ago I adopted this plan, and found it most successful, though even then many of the fowls, both young and old, would roost in the trees or on the faggot-stacks, and this even in winter.

Now that I have written thus far on the subject, I would like to call the attention of my readers to the fact, that if they require any information on the subjects already dealt with, I shall be most ready to give it as far as I am able, and also to receive letters of experience of the various breeds by amateurs, gardeners, &c., which will be most welcome; and for this reason, that it is well to know of the different breeds under certain conditions of both confinement in runs, or of perfect freedom in high, low, damp or dry localities, for be it known that under such varied climates and

surroundings, poultry, like all else, is often materially altered either for the better or the worse, and some breeds more than others.

There are other French breeds besides the Houdan; the best, possibly, is the "Crève-cœur." It is a fine, large, handsome fowl, broad and thick made, and is black, with a top-knot, muffed and bearded. The carriage is upright, and somewhat imposing, the tail large and full, and carried high; the legs are black. But as a table-fowl it stands in high esteem, both here and on the Continent, where, when well fattened, it fetches very high prices, the flesh being remarkably white, short in fibre, rich and delicious, besides which it is well-proportioned, with a large, full breast. It is not quite adapted to our climate, oftentimes suffering from weakness of the legs, and is subject to colds and catarrh. It is not what may be termed a good layer; but in this respect some are better than others. The chickens also are not over-hardy, but generally do well after they have got their "head-feathering." They require keeping warm and dry, and when the land is wet it is almost sure to bring disaster, if not total extinction; and yet when all things are favourable, there are few better fowls for the table, if any, when black legs is not a consideration.

(To be continued.)

THE WEEK'S WORK.

THE FLOWER GARDEN.

By BAILEY WADDS, Gardener, Birdsall Gardens, York.

ROCKERIES AND HARDY FERNERIES.—Careful attention should now be afforded strong-growing trailing plants, thinning, and making them trim, so that they do not overgrow smaller and more delicate plants. Remove decayed foliage and flowers from all plants, pricking over and top-dressing the soil about Ferns and alpine plants. For the latter purpose use loam, mill-stone grit, leaf and peaty soil, pushing it into the crevices, and covering the roots that have become exposed. The planting of Crocus, Tulips, Squills, and other bulbs and spring-flowering plants thinly in vacant places about the rockery affords brightness in the spring months. Fallen leaves should be gathered up frequently, as if allowed to lie about, the plants are rendered tender, and liable to injury by frost. If the formation of a rockery is contemplated, there is usually more time at this season than any other to do the work. The question of introducing rockwork into flower gardens should be carefully considered before it is undertaken, as there are much labour and expense attending its formation, and the results are not always satisfactory. It should always be of a size proportionate to the size of the garden. As a rule, rocks or mounds of roots are not nice in fine gardens, but they may be made interesting and effective when arranged with trees and shrubs as an approach to a kitchen garden or other department. If it is intended to cultivate alpine plants upon the rockery, a knowledge of the requirements of the plants to be grown is very necessary, some species requiring shade, others partial sunshine, and others again full sunshine. The best place for alpinists is the rockery, and the worst the rookery. The soil may consist of loam, leaf-mould, and peat, varying in depth from 3 to 18 inches. Roots and stumps of trees may be used with advantage for the formation of mounds for Ferns, herbaceous, perennial, and trailing plants. In all arrangements of this description a good supply of water is necessary for forming basins, falls, and fountains, and it should not be forgotten that perfect drainage is necessary in a rockery. Limestone, sandstone (millstone grit) are the best sorts of stone to use. Good varieties of alpine plants are obtainable at many good nurseries, so that it is not necessary that I give a long list of names in this article. Many of them are extremely beautiful in spring and throughout the summer, and their cultivation, if sometimes associated with difficulties of various kinds, is a source of great pleasure to lovers of plants. The same may be said of the Ferns cultivated on rockeries and rookeries, of which there are numerous species and varieties, and some are indigenous to Britain. Providing there are shade, moisture, and variety of aspect, Ferns never fail to do well.

THE KITCHEN GARDEN.

By JOHN LAMBERT, Gardener, Powis Castle, Welshpool.

REFUSE HEAPS.—The weather having become wet, the garden workmen will be employed at jobs which do not involve the trampling of the soil, and one of these is the turning over, sifting, and mixing together of the accumulations of various kinds commonly called rubbish heaps. The rougher portions may be thrown into large heaps, long stable litter being mixed with them, mixing it altogether in one large heap. This makes excellent dressing for various crops when well rotted. Common salt or lime may be added as the work proceeds, but not both to the same heap. In two years such a heap of materials will be quite ready for use, if it has been well turned over once or twice. Some refuse can only be dealt with by burning or charring—that is, by an open fire or a covered one. Whichever method is adopted, the remains should be screened, and put by for use. Charred refuse is one of the finest things for a gardener to have a good stock of for other purposes besides those of the kitchen garden.

TOMATOS.—No Tomato fruits should have been kept outside till this date, but all with a faint tinge of colour should be got inside. A good plan where many fruits are yet left on the plants in a quite green state is to cut a good portion of the stem, and put a tie to it, and hang it up in a coolinery or Peach-house, where, if kept dry, they will ripen up, and afford fruits for a long time.

CARDOONS.—All those plants which are unprotected by hay-bands may now be bound round. Soil may be put to the stems when it is in a fit condition for the purpose. This vegetable is not grown so much as it deserves to be, because perhaps it is but little known to cooks or their employers, but once sent into the kitchen it is generally asked for again, making as it does a little variety in the list of vegetables. After blanching, if there is fear of the stems rotting from moisture, take them up, but leave the hay-bands round them, and stand them in some cool dark place, where they will keep for a considerable length of time.

THE HARDY FRUIT GARDEN.

By W. POPE, Gardener, Highclere Castle, Newbury.

PEACHES AND NECTARINES ON WALLS.—These trees may be lightly switched over with a new birch-broom in the direction of the branches, not in the reverse way, or the buds will get injured. By thus detaching those leaves that have done their work and are ready to fall, sunshine will be enabled to mature the present year's shoots. If these were laid in too thickly, it will be well to lessen their numbers even at this late date, rather than leave them until the spring pruning. A distance of 10 to 12 inches apart is close enough for bearing-wood to be laid-in, though it is the more common practice to lay-in the summer shoots very much closer than that, and the result is green, half-ripened wood, and hosts of insects beneath the close canopy of leaves. Half the failures in out-door Peach culture are due to too-close training, and the consequent immaturity of the shoots. When most of the foliage is cleared off, the trees may be unnailed, and the branches loosely buddled up with strips of bast, fastening them to the wall here and there, so as to prevent injury from the wind; this will tend to still further harden the young shoots by allowing a free circulation of air about them, and it will also afford an opportunity for stopping up all nail-holes and pointing the brickwork, a job that is best done before severe weather sets in. If lifting and transplanting operations have to be done, these should be undertaken without delay, taking care in digging up the trees to preserve as many of the fibrous roots as possible, but amputating the larger roots with a sharp knife after the trees are out of the ground. A few wheelbarrow-loads of fresh turfy loam should be worked carefully in amongst and placed over the roots as the planting proceeds, and the staple soil, if fairly good, may be used to finish-off with. In the planting of all fruit trees, the bottom of the hole in which the tree will stand should not be more than 10 inches below the surface when firmly trodden regularly all over, and it is ready for the reception of tree; and some of the roots may be laid at this depth, but the greater number at various depths up to within 2 to 3 inches of the surface of the border. There will inevitably be some amount of sinking; and at the finish the newly-disturbed soil ought to stand 2 inches above

the level of the rest of the border, and the trees be loosely secured to the wall. Finally, mulch the ground with half-decayed manure.

HINTS ON WORK IN GENERAL.—In any open weather, run the hoe through the fruit-quarters, to cut off all small weeds that may have sprung up, and to keep the soil in a healthy condition. Newly-formed Strawberry plantations will be benefited by the same kind of labour. Continue to make preparations for the planting of fruit trees, if such is contemplated, bearing in mind that planting in well-prepared soil at this season is a season gained. As soon as the trees arrive from the nursery, unpack them without delay, and lay them in damp soil till the planting can be done. Suitable permanent labels should be got in readiness for each tree, stout stakes, &c., and whatever else is likely to be required.

THE ORCHID HOUSES.

By W. H. WHITE, *Orchid Grower, Burford, Dorking.*

VANDA TRICOLOR.—Few Orchids have a more stately appearance, in or out of flower, than Vandas of the tricolor section, but unfortunately, from wrong treatment, they often lose a number of their lower leaves during the growing season, and especially after a hot dry summer. Sometimes this is caused by allowing the plants to carry too many flowers, but it is usually the result of high temperature combined with aridity in the atmosphere, or it may be caused by subjecting the plants to a severe drying-off in winter—a process many growers think essential to their free flowering. Give them fair, generous treatment, and no difficulty need be experienced in growing and blooming the plants. All that is necessary is an even intermediate temperature, a constantly moist atmosphere, accompanied by more light (but not direct hot sunshine), and more air than is generally afforded them. If no proper intermediate-house is at command, I would place the plants together at the cooler end of the Cattleya division, keep a decidedly moist atmosphere about them, and use the ventilators freely whenever the external air should be more than 50°. Our plants are now in a similar position, and the bottom ventilators nearest to them are more or less open, even during very cold weather. If any disturbance at the roots is necessary, this is the best season of the year for the work, as less foliage is likely to be lost than when the operation is done in the spring. When repotting, carefully pick out all the old crocks and decayed material, and if any roots are clinging to the sides of the pot, use all the care possible to detach them. As a rule, a number of living roots will be found well up the stem, and the base of the stem may be cut off so far, that when the plant is transferred to the new pot the lowermost leaves will be on a level with the rim. From 2 to 3 inches of large crocks in the bottom of the pot will be sufficient drainage. Lay over these a little sphagnum-moss, and then place the roots, bringing them well up to the surface, and work in amongst them clean picked sphagnum-moss and crocks, at the rate of one-half of each. Fill up to within half an inch of the top, press it down firmly, and finish off with living sphagnum-moss. After potting, tie each stem in an upright position to a strong neat stake, as any swaying about will cause loss of leaves. Any of the large fleshy aerial roots that are long enough may be carefully pegged down on the surface of the moss; these will in time root in the moss, and help the plants to grow vigorously. Large healthy specimens, which have sufficient room for further development, will only need to be re-surfaced with living sphagnum; but if there be any suspicion of the moss low down in the pot having become decomposed, it should be carefully picked out from between the roots, and replaced with fresh material. Those repotted will require shade, and no water need be afforded for several days, after which give them a thorough saturation. The moss on the surface will soon become dry again, when it should be lightly sprinkled over, and kept growing in this way until each plant has re-established itself, when more root-watering may be afforded. If the plants are not strong or well rooted, it is best to remove their flower-spikes for one or two seasons, and give them a generous growing treatment. One of the essential requirements of this class of Vanda is a cool moist stage for them to stand upon, and that their immediate surroundings should be kept humid by syringing between the pots two or three times a day, which is far more beneficial to the plants than affording large quantities of water to the roots through the compost.

INTERMEDIATE ORCHIDS.—The nights are now much colder, and on two or three occasions we have had several degrees of frost, therefore the following Orchids that have been growing in the cool-house during the past summer should be placed in the coolest part of the intermediate-house, where they will get abundance of light and air. *Miltonia vexillaria*, *M. Phalaenopsis*, *M. Warcewiczii*, *Dendrobium Wattianum*, *D. longicornis*, *D. infundibulum*, and its variety, *Jamesianum*, *Masdevallia tovarensis*, *M. Schlimi*, *M. ehippium*, and all those of the *Chimara* section, *Lælia harponophylla*, *L. monophylla*, *Odontoglossum Kramerii*, *Oncidium bifrons*, and *Cryptophoranthus Dayanus*.

PLANTS UNDER GLASS.

By W. H. SMITH, *Gardener, West Dean Park, Chichester.*

FORCING-HOUSE.—Where large quantities of cut flowers are in request throughout the winter and early spring, a proper kind of forcing-house should always be available. Failing a proper forcing-house, a Melon-house is not an unsuitable structure for this purpose, if strong bottom-heat be available. The bed should be filled with clean, fresh leaves of the Oak, Beech, or Chestnut, preferably, and these should be trodden down evenly and firmly, and when heat has risen, the plants may be plunged, or half-plunged, whichever is safer. Take care that violent heating does not occur. A few *Azalea indica* may be put in at once. The varieties *Deutsche Perle*, *indica alba*, and *amazona*, will come on rapidly; also put in a batch of *Richardias*, *Poinsettia pulcherrima*, paper-white *Narcissus*, *Taberoese*, *Roman Hyacinths*, and a few *Lilacs*, of which *Charles X.* will be found to force excellently. Should the whole of the house not be required for forcing purposes, it will be suitable for bringing on plants of *Gardenias* or *Eucharis amazonica* which have been rested for a time. These should be thoroughly cleaned of insects, especially mealy-bug, and plunged up to the rim of the pots in the leaf-bed, receiving a thorough watering at the same time. Keep the plants in the house syringed daily, and afford plenty of moisture on the floors, &c.

FRANCOAS.—These are useful plants for house or conservatory decoration, and as the old plants are now making fresh growth, no time should be lost in dividing each into about three small ones. A compost consisting of good loam, leaf-soil, and sharp sand is excellent for them. After potting the pieces, water them sparingly until well rooted, when more liberal supplies may be afforded. The offsets which come from the base of the plants, if taken off and inserted in small pots, and placed under hand-lights in a heated frame, quickly make nice plants. When rooted, they should be repotted and grown on, and they will flower well next summer. A temperature of about 50° by night to 55° by day, will be quite warm enough during the winter.

IRIS RETICULATA FOR EARLY FORCING.—This species has a very lovely and sweet-scented flower, which may be had quite easily by Christmas, if potted in 6-inch pots in loam, leaf-soil, cow-manure, and sand; when potted, cover the pots with cocoa-nut fibre till an $\frac{1}{2}$ inch of growth has been made, and the pots are filled with roots. Then place them in a cold frame for a week or two, and take in to the greenhouse, or any house or frame where a temperature of 45° by night to 55° by day is maintained. Good varieties are *Iris reticulata*, *I. reticulata major*, and *I. reticulata Krelagei*.

BULBS FOR EARLY FORCING.—*Roman Hyacinths* will now have commenced to grow, and should be removed from the plunging material and placed in cold frames, gradually exposing them to the light, and in a few days a batch may be brought into heat, according to the quantity required. Paper-white *Narcissus* and *Double Roman Narcissus* will also be ready for removing into cold frames. Snowflake is a great improvement on the old paper-white *Narcissus*. Some of the best varieties of early *Tulips* for hard forcing are scarlet, white, yellow, and rose *Duc Van Thol*, white, scarlet, and yellow *Pottebakker*, *Belle Alliance*, *Prosperpine*, and *Canary Bird*. These should be removed to a cold frame, and be brought into the forcing-pit as required. If early named *Hyacinths* have made half-an-inch of growth, they should be removed and subjected to the same treatment as the above, but these must be brought on more gradually or they will not flower satisfactorily. Good varieties for early work are *Norma*, *La Neige*, *Blanchard*, *Albertin*, *Miss Nightingale*, *General Lauristan*, *Baron Van Tuyll*, *Dieraeli*, and *Delicata*.

FRUITS UNDER GLASS.

By RICHARD PARKER, *Gardener, Goodwood, Chichester.*

THE LATE VINERIES.—The vinery containing *Lady Downe's* and other late-keeping *Grapes*, needs close watching, for although the bunches are ripe and properly coloured, gentle artificial warmth will be very necessary at night and during dull weather to ensure their keeping without loss. The air in the vinery should be buoyant and dry, and to that intent no water should be used or spilled in the vinery. The variety *Gros Colmar* will continue to attain colour for some time yet, if a warm brisk temperature be kept up.

PRUNING.—Peach and Nectarine trees may now have all the weak shoots, and those not required for building up the trees, cut out before the leaves fall, as it can then be better seen which shoots should be removed. If the trees were disbudded in the spring, a small amount of pruning will now be required, i.e., if only a sufficient number of shoots were retained to furnish the fruiting shoots for the next season. The object of the grower should be the production of shoots of medium length and of about the thickness of a goose-quill, which, if allowed room for leaf-development, become well matured. When as many shoots are allowed to grow as are produced, there is much loss of strength, and the crop of fruit suffers in consequence. When pruning any tree which has not been properly disbudded, good fruitful shoots should be saved near to the base of each main branch to form the material with which to cover the trellis as these become unfruitful. All weak growths should be shortened, thus strengthening them. It is useless to severely prune any tree which produces great quantities of gross shoots, as this only aggravates the evil, such growths seldom ripening sufficiently to form flower-buds. It is far better to examine the roots, by opening out a trench in front of the tree in the usual manner, and several feet distant from the stem, cutting off all strong roots going down deep into the soil, and preserving all small fibry roots mostly found near the surface. If the soil contains much manure, the trench should be filled in with ordinary garden-mould and lime-rubbish, ramming it firmly. This will cause a less vigorous growth, and bring the tree in a year into a fruitful condition. To order that plenty of sunlight may reach all parts of a tree, the fruiting shoots should not be left closer together than 4 inches.

FIGS.—If the shoots were stopped at the points at different times during the past summer, growth will now have ceased, and Figs be visible at the tips of the shoots. These must therefore not be shortened, except in case of thin and weak shoots. With planted-out trees it may even be necessary to bring up a sucker from the base occasionally, to take the place of or lay in over old bare branches. [Grafting answers well in such a case. Ed.]

CHERRIES are generally spurred-in during the growing season, but all leading shoots should be allowed to extend to the limits of the wall or trellis. Cherries may be managed successfully for years without the use of the knife. Severe pruning often produces gumming and other evils.

PLUMS AND APRICOTS should be managed in much the same manner as Cherries, and in all cases the trees should be so manipulated during the summer, that but very little useless wood will require to be cut out at the present season, not omitting to keep the base of the trees furnished with young shoots.

A NEW COMPETITOR IN THE BUTTER MARKET.—During the last few years dairymen have suffered severely by the increased manufacture of oleo-margarine and butterine, but according to the *American Creamery*, a still cheaper article, and one more calculated to deceive the unwary purchaser, has been discovered in Cocoa-nut butter, which is produced from the oil of the Cocoa-nut. It is stated that a company already engaged in manufacturing Cocoa-nut butter is sending it out at the rate of 5000 lb. daily, and will in a short time increase its output to 10,000 lb. per day. "Elaborate preparations," says the same paper, "are being made for catering to the foreign and domestic trade, and our dairymen must suffer thereby. Another use for the neutral which they make is in the manufacture of filled cheese. It is far superior to lard neutral, and much cheaper, besides harder to detect, and easier to emulsify with the skim-milk. Taken altogether, it is a dangerous competitor, and one to demand immediate consideration."

APPOINTMENTS FOR THE ENSUING WEEK.

MEETING.

TUESDAY, Oct. 29—Royal Horticultural Society's Committees, at the Drill Hall, James Street, Westminster.

SHOWS.

TUESDAY, Oct. 29—Havant Chrysanthemum (two days).
 WEDNESDAY, Oct. 30—Royal Jersey Chrysanthemum (two days).
 THURSDAY, Oct. 31—Kent County Chrysanthemum, at Blackheath (two days).
 THURSDAY, Oct. 31—Highgate Chrysanthemum (two days).
 FRIDAY, Nov. 1—Chrysanthemum Show, at the Crystal Palace.
 FRIDAY, Nov. 1—Swindon Amateur Chrysanthemum and Horticultural Society (two days).

SALES.

MONDAY, Oct. 28—Dutch Bulbs, at Protheroe & Morris Rooms.
 Plants from Belgium, Roses, Ferns, &c., at Protheroe & Morris' Rooms.
 Unreserved Sale of several acres of well-grown Nursery Stock, at the Horsell Nurseries, Woking, by order of Messrs. H. & C. Cobbett, by Protheroe & Morris (three days).
 TUESDAY, Oct. 29—Dutch Bulbs, at Protheroe & Morris' Rooms.
 Important Annual Sale of an immense quantity of Herbaceous Plants: Begonias, Lilies, Hollyhocks, Clematis, Carnations, and many others, at the Hale Farm Nurseries, Tottenham, N., by order of Mr. T. S. Ware, by Protheroe & Morris (two days).
 WEDNESDAY, Oct. 30—Dutch Bulbs, at Protheroe & Morris' Rooms.
 Dutch Bulbs, at Protheroe & Morris' Rooms.
 Plants from Belgium, at Protheroe & Morris' Rooms.
 THURSDAY, Oct. 31—Sale of well-grown Specimen Shrubs and Fruit Trees, Roses and Herbaceous Plants, at the Floral Nurseries, Castle Hill, Maidenhead, by order of Mr. R. Owen, by Protheroe & Morris.
 FRIDAY, Nov. 1—Dutch Bulbs, at Protheroe & Morris' Rooms.
 Orchids at Protheroe & Morris' Rooms.
 SATURDAY, Nov. 2—Dutch Bulbs, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT OHISWICK.—45°.2.

The Institute of France in its Relation to Botany and Horticulture.

THIS week the Institute of France celebrates its centenary, having been founded—or rather reorganised, for a somewhat similar institution dates from the time of RICHELIEU—on October 25, 1795. With the general constitution of this assembly, with its history and position at the present day, it is not the purpose of this article to deal. Our intention is to give a short sketch of some of the most famous botanists who have had a share in the history of the Institute, and to see how botany has fared during the Institute's long and somewhat stormy life. The Institute to-day is divided into five sections, called Academies, and it is with the Académie des Sciences, and especially with the eighth section of this body, viz., the botanical section, that we are chiefly concerned. In this section there are six members, namely, MM. NAUDIN, TRÉCUL, CHATIN, VAN TIEGHEM, BORNET, and GUGNARD; while among the ten correspondents of the botanical section, are to be found the names of Sir JOSEPH HOOKER, M. N. PRINGSHPIM, Dr. MAXWELL T. MASTERS, and Dr. TREUB of the botanical garden at Buitenzorg in Java. There are four prizes at the disposal of this section: the Prix Barbier, to be awarded yearly to him who makes the most important discovery in the surgical, medical, or pharmaceutical sciences, or in botany applied to the art of healing; the Prix Desmazières, awarded to the writer of the most useful work on cryptogamic botany; the Prix de la Fons-

Mélicocq (awarded every three years) for the best work on the botany of the North of France; and lastly, the Prix Montagne.

The Academy of Sciences originated in the seventeenth century, in a private society of scientific men, who had for some thirty years been accustomed to meet at various houses. The idea of giving an official status to this body was due to LOUIS XIV. and his Minister COLBERT. At the outset the members were divided into two sections, the mathematicians and the physicians, and under this latter heading were grouped together naturalists, botanists, physiologists, and those men of science whose province was the study of natural philosophy.

At the time of the Revolution, we find that the members of the National Convention had not much better ideas as to the classification of the sciences than its earlier patrons. They evidently meant to keep a tight hold on the Academy of Sciences, and to assume direct control over the members. They allotted to the same section two sciences so distinct as botany and general physics, and they showed the practical bent of their minds by giving great prominence to the study of practical agriculture. Whilst the Institute was annually to choose twenty persons to travel at the expense of the State for the purpose of collecting observations upon farming, it was decided that six would be sufficient to glean, in every part of the world, the facts which related to all other branches of knowledge, including geography. "It is well known that at a period when by the help of the *maximum*," says a writer on this period of French history, "the horrors of famine had spread over the whole of France, the Convention adopted a language of hypocritical sensibility, borrowed chiefly from agriculture and gardening, and which would sometimes have led a stranger who entered the chamber of the Committee of Public Safety to believe himself transported to happy Arcadia."

In the chronicles of the time we find it written that ROBESPIERRE might often be seen walking with a large bouquet of flowers in the garden of the Tuileries, which had been planted with Potatoes!

Vegetables were then held in great honour, and were introduced everywhere, even into the almanack. Every day of the year had a separate title given it by the National Convention, and these names were as often as not taken from the farm; one was called *Carrot*, another *Cabbage*, a third *Ass*, a fourth *Hog*. But space will not allow us to linger any longer on this stirring period of French history. Our business is with the botanists and the science to which they devote themselves. It is related that the illustrious botanist, ADANSON, a member of the old Academy of Sciences, who endowed science with many novel and pregnant ideas, was reduced, during the reign of terror, to working by the uncertain glimmer of his scanty fire for want of a lamp. When the Academy was re-founded and incorporated as a section of the Institute of France, he was summoned to take his place as one of the new members of this body. He replied to this invitation that he was unable to attend for want of a pair of shoes! NAPOLEON extended his patronage to the Institute, though he made its members feel the power of his sway.

One of the earliest botanists who was a member of the Académie Royale des Sciences was JOSEPH PITON DE TOURNEFORT, and many of his memoirs are to be found in the proceedings of this body, of which he was elected a member in 1692. Sad to relate, he met his death when on his way to take part in one of the meetings of the academy. Somehow or other his breast

was pressed by the axle of a carriage, and he died in 1708. He is universally acknowledged to have been the greatest botanist of his time, and it was by his skill and care that the King of France's gardens, almost quite neglected and abandoned before, were afterwards holden in honour, and thought worthy the attention of all the *virtuosi* in Europe.

Another of its earlier members was A. L. DE JUSSIEU, and his brother, BERNARD, both famous in botanical science. It was the younger JUSSIEU who first attempted to substitute a natural division of the whole vegetable kingdom into larger and gradually subordinate groups, for mere arbitrary enumerations of smaller coordinated groups.

AUGUSTIN DE CANDOLLE, strange to say, never was elected a member of the Institute, though he was certainly the most distinguished botanist of his age. His son, ALPHONSE, equally distinguished, was, however, an associate member of this body.

In recent times, among the more celebrated botanists have been BRONGNIART and MIRBEL; whilst DECAISNE, DUCHARTRE, and NAUDIN, have special claims upon horticulturists for the extent and importance of their labours in the application of scientific knowledge to horticulture.

The Institute of France does not correspond exactly with any institution in this country, for the Royal Society of London is solely connected with those branches of knowledge usually termed sciences, and takes no account of literature, history, archaeology, or painting. Besides, the Institute is distinctly a State-aided affair, and each member of the French Academy, but not those of the others, receives a small *indemnité* of £60 a year.

In conclusion a word may be said as to the *Comptes Rendus* published by the Academy of Sciences every week. Here are to be found brief memoirs of current investigation by the foremost men of science not only in France, but in other countries. It is to be wished that our Royal Society could see its way to publishing some such weekly record of its meetings, for botanists, no less than other men of science, must often regret that the publication of papers in the Royal Society's proceedings takes place so long after the reading of the papers.

WE learn from a circular issued by the National Chrysanthemum Society, that it is intended to celebrate the fiftieth anniversary of the founding of this Society in the month of November next year. From a modest beginning as the Stoke Newington Chrysanthemum Society in 1846, this energetically-conducted Society has grown so rapidly of late years that it now possesses 650 enrolled members, nearly one hundred Fellows, and has affiliated to it more than one hundred Chrysanthemum Societies in the United Kingdom and the colonies. It has Sir EDWIN SAUNDERS for its President, and numbers amongst its Vice-Presidents, Sir TREVOR LAWRENCE, Bart., Sir H. W. PEEK, Bart., Sir JOHN D. LLEWELYN, Bart., M.P., LEOPOLD DE ROTHSCHILD, Esq., and other influential gentlemen. The Society claims to have materially assisted in promoting the cultivation of the Chrysanthemum all over the country; and by awarding good prizes to well-grown plants and fine cut blooms, and recognising by means of its Certificates, novelties in Chrysanthemums, to have helped to popularise the flower to no small extent. No one acquainted with the general advances made in the cultivation of the plant will question the correctness of this asser-

National Chrysanthemum Society's Jubilee Celebration.



VIEW IN THE BLUE MOUNTAINS, JAMAICA.

tion. These are among some of its more notable endeavours and aims, and they have been so generally successful amongst amateurs of all grades and gardeners in general, that it is now extremely rare to see a badly cultivated Chrysanthemum plant or ill-developed flowers, both of which were common enough in gardens twenty-five years ago. Turning with pardonable pride as connoisseurs to the commercial aspect of the plant, we could scarcely name another plant which, in recent times, has so greatly benefited the cultivator and the dealer as has the Chrysanthemum, and more especially the Japanese varieties. There may not be so much "money in it" as there is alleged to be in Orchids, although that assertion seems to be refuted by the numerous small nurseries and florists' establishments which have sprung up everywhere round large towns in which the Chrysanthemum figures largely amongst the different subjects cultivated in them; and it is a fact that cannot be controverted, that the demand for cut flowers of the Japanese varieties has immensely increased in the last few years, the public paying good prices to the florists for well-finished blooms of certain telling shades of colour, or those which come early into the market; so that is a far greater gain all round than the making of two blades of grass grow in the place of one. Good culture in this case implies also an increased demand for suitable soils, for pots, special manures, such as sulphate of ammonia, nitrate of soda, potash, and others, together with a desire on the part of the cultivator for fuller knowledge in the methods of safely employing these useful artificial aids to the cultivation of the plants, and eventually to their use on other garden plants.

We may be inclined to deplore the increase of special societies, and wish to see them brought under one general head as regards those existing in, or of which London is the head-quarters; but seeing the very great ramifications of the National Chrysanthemum Society, and its very conspicuous virility, it will remain a debatable question with many, if affiliated to the Royal Horticultural Society, its progress, and its power for usefulness, would have been what they are at the present time.

The following is the official programme. The Jubilee celebration will take the form of:—

1. An immense exhibition of Chrysanthemums in London in 1896, in which all types of the flower will be fully represented, and which will extend over four days, with an entire reconstruction of the exhibition on the third day.
2. A grand opening ceremony and private view at noon on the first day.
3. A conference of Chrysanthemum growers and raisers from all parts of the world.
4. A Jubilee Banquet at the Hôtel Métropole, and other festive gatherings.
5. The striking of Jubilee Medals of value for competition, and for rewarding such persons as have rendered conspicuous services in promoting the advancement, cultivation, and improvement of the Chrysanthemum.
6. The preparation and publication of an exhaustive Jubilee catalogue of Chrysanthemums, with the most complete classification.

In order to efficiently carry out the Jubilee Celebration, a Special Jubilee Fund has been formed, and it is calculated that the sum of £1000 will be required in order that the Celebration may be accomplished in a manner worthy of the high position occupied by the Society.

Subscribers of ten guineas will receive two banquet tickets, and four special tickets to admit to the opening ceremonial and private view, and during the three following days,

Subscribers of five guineas will receive one banquet ticket and two special tickets to admit to the opening ceremonial and private view, and during the three following days.

Subscribers of one guinea and upwards will receive two tickets to admit to the opening ceremonial and private view, and during the three following days.

BLUE MOUNTAINS, JAMAICA (see Supplementary Illustration).—The finest and wildest scenery in the West Indies is to be found in the heart of the Blue Mountains of Jamaica. There are large forests containing Juniper, Cedar, Tacca (*Podocarpus*) Soapwood and Santa Maria tree, numerous cataracts and waterfalls, and a climate as cool and pleasant as early summer in England. In the illustration is shown a portion of a mountain-torrent in the dry season, with a path above it leading to land cleared for Coffee and Cinchona, or possibly to the provision grounds of the negroes. In the rainy season this gorge would be full of raging, rushing water, carrying everything before it. On its slopes are found numerous Ferns, some of them the choicest species found in English greenhouses. *D. M.* [The view is taken from a copyright photograph by Messrs. Valentine & Sons, Dundee, whose London agents are Messrs. Edmann & Schanz, 4, Salcott Road, Clapham Junction, S.W.]

THE ROYAL HORTICULTURAL SOCIETY.—The next Fruit and Floral Meeting of the Royal Horticultural Society will be held on Tuesday, October 29, in the Drill Hall, James Street, Victoria Street, Westminster. The committee will meet as usual at 12 o'clock; and at 3 P.M. a lantern-slide lecture on Potatoes will be delivered by Mr. A. W. SUTTON.

THE PROMOTION OF FORESTRY IN SCOTLAND.—It is stated in the *Edinburgh Evening Dispatch*, October 18, that the President of the Board of Agriculture is to receive a deputation from the Council of the Royal Scottish Arboricultural Society in the Scottish Office, Parliament Square, Edinburgh, on Wednesday, October 23, when the views of the society will be submitted upon the following points: (1) the advantages of a separate office in Edinburgh under the Agricultural Department, to which an official having a particular knowledge of forestry should be attached; (2) the present condition of forestry in Scotland; (3) the great and increasing importance of forestry in Scotland; (4) the afforestation of waste land in Scotland; (5) the acquisition of a forest area for experimental and educational purposes; and (6) the limited facilities for obtaining forestry education in Scotland, as compared with Germany and other countries.

THE HORTICULTURAL CLUB.—The first dinner and *conversazione* for the session 1895-96, took place on Tuesday evening October 15, and was in every respect a most successful commencement. The chair was occupied by Mr. HARRY J. VEITCH, and there were present the Revs. W. Wilks and J. H. Pemberton, Messrs. Crowley, H. J. Pearson, C. E. Pearson, J. H. Veitch, H. Turner, O. Thomas (Frogmore), and C. E. Shea. A very interesting account was given by Mr. C. E. Pearson of a visit recently paid to Lapland, Nova Zembla, and Kolgouey. The object of the expedition was, in the first instance, ornithology, but Mr. Pearson found time to make a goodly collection of botanical specimens, which had been most carefully and tastefully mounted by his niece, and were submitted to the inspection of the members present. He stated that the flora was more alpine than arctic, as may be inferred from the fact that such alpine gems as *Eritrichium nanum*, perhaps the crowning gem of alpine, is found in large quantities, as were also *Gentiana verna*, *Myosotis alpestris*, *Silene acaulis*, and many other plants which are found in alpine districts; but, curiously enough, in the whole of their rambles they never came upon a single Fern. The curious geological

formation of the country was described, the absence of rocks *in situ* was remarked, as was also the fact that enormous boulders of various formations were to be found in large quantities, which had evidently been carried along by glacier action. The discussion which followed was participated in by most of those present, and a hearty vote of thanks was accorded to Mr. Pearson for his most interesting address.

NATIONAL ROSE SOCIETY.—At the last committee meeting, held on the 15th inst., it was announced that Mr. ALEXANDER HILL GRAY, the distinguished rosarian at Beaulieu, Newbridge, Bath, had offered a prize of five guineas for the best essay on the "Hybridisation of Roses." Particulars and terms will be shortly announced.

RAILWAY COMPANIES AND AGRICULTURAL PRODUCE.—Those of our readers who followed the discussion on railway-rates and market garden produce in these columns in the years 1892, 1893, and 1894, will read with some interest the following letter which appeared in the *Times* of October 22:—

"Sir,—The Directors of the Great Eastern Railway have just taken a step which may have such important results for the agricultural interest that, although the proceedings I am about to refer to were of a semi-private character, I conceive that I commit no breach of confidence in making the public acquainted in your columns with their general scope and purpose.

"An invitation was addressed by Lord CLAUD HAMILTON to a few leading agriculturists representing the district served by the Great Eastern Railway, and to myself, to meet the directors and principal officials of the company with a view to ascertaining, in friendly conference, whether it could do anything to help the agricultural interest. At the meeting, which took place to-day, an excellent feeling was shown, as well as an evident desire to arrive at a business-like conclusion, and several practical proposals were put forward on behalf of the agricultural interest, which Lord CLAUD promised, in the name of his colleagues, should receive careful attention.

"But to my mind, the most interesting and significant thing about the meeting was that the moment we came to discuss quarters with the question of increased facilities and through rates for the carriage of home produce in bulk, it became as obvious to the whole meeting, as it has long been to myself, that a railway company, however willing, cannot extend these advantages to individual producers unless, and until, they on their part combine together to form an association, which will undertake the collection, packing, and regular supply of produce at country depôts, and to whose agents it can be consigned on arriving at its destination.

"Some time ago, at the conclusion of the celebrated Southampton case, you were good enough to insert a letter from me on 'The Moral of Preferential Rates,' in which I argued that the solution of that vexed question was to be found in an association of home producers.

"We hope to establish such an association very early in the new year. The fact that I brought to the meeting to-day a written proposal for dealing with this part of the subject practically identical with the views which Lord CLAUD HAMILTON, before he had seen it and without previous consultation with me, expressed in his opening speech from the chair, is, I think, conclusive evidence that we are on the right track, and justifies me in expressing a hope that all your readers who desire to see British produce regain its ascendancy in the home market will support the new association when the time comes.

"Your obedient servant,
WINCHILSEA.
"6, Bedford Square, London, W.C., Oct. 20."

MEMORIAL TO ROBERT BROWN.—On Friday last an interesting ceremony took place at Montrose, when a memorial was unveiled to Dr. ROBERT BROWN, the distinguished Scotch botanist, in a niche in front of the house in which he was born. The memorial takes the form of a bronze bust considerably over life size, and is the gift of Miss PARON, a kinswoman of Robert Brown. Mr. D. W. Stevenson, R.S.A., is the sculptor. Robert Brown was the son of an Episcopalian clergyman, and was born December 21, 1773. In 1787 he entered at Marischal College, Aberdeen, where he obtained the Ramsay bursary in Philosophy. Two years afterwards he removed to Edinburgh University, where he completed his academic studies. His devotion to botany bore its first fruits during these years in papers on the local flora. In 1795 he obtained the commission of ensign and assistant-surgeon in the newly-embodied Fifeshire Regiment of Fencible Infantry, and he was stationed with it in Ireland until 1798, when he visited England and made the acquaintance of Sir Joseph Banks, and worked in his library. He returned to his regimental duties in Ireland in 1799, and relinquished them in December of the fol-

lowing year, when he was appointed naturalist to Flinders's Expedition to survey the coasts of Australia. On this expedition he was absent four years, returning with some 4000 species of plants, a very large proportion new to science, and many of extraordinary interest as new types of plant structure. Much of this material he classified with minute accuracy during the voyage. On his arrival in England, he was appointed librarian to the Linnean Society, subsequently succeeding Dryander as librarian to Sir Joseph Banks, and eventually becoming the first keeper of the Department of Botany in the British Museum on the transference to it of the Banksian collections. His scientific works gained for him a reputation scarcely equalled by any botanist before or since, and he became a member of nearly every scientific society at home and abroad. He died in 1858. Short speeches were delivered during the course of the proceedings by Mr. Carruthers, formerly librarian of the Botanical Department in the British Museum; Professor Balfour of Edinburgh, Professor Bower of Glasgow; Professor Traill of Aberdeen, and Professor Gadde of Edinburgh, representing Scottish Universities; Mr. Murray, Keeper of the Botanical Department of the British Museum; and Dr. Howden, President of the Montrose Natural History and Antiquarian Society; all the speakers testifying to the great work of the greatest of British botanists. *Daily Graphic, Saturday, October 19.*

MEETING OF THE BRUSSELS ORCHIDÉENNE.—The meetings for the season 1895-6 have begun brilliantly. Fifty fine Orchids were shown at the last meeting, and some of them deserve special mention. M. le Comte de Bonziez showed *Cattleya labiata atrovirens*, of a dark purple colour, hitherto unknown. M. Van Imshoot sent *Miltonia Blunii* Lubbersiana, with two floral racemes, and flowers of uncommon size and colouring. M. Madoux staged *Cattleya gigas*, with a bloom of unusual dimensions, the divisions pale in shade, lilac tinged with rose, the lip very large, dark purple, eyes bright yellow and very pure white; the habit remarkable. *C. maxima marginata*, from M. Linden, had a lip with a bright yellow lamel in the centre, the background and veins were violet-purple, and with a broad white margin; *Zygopetalum intermedium moortebekense* was the happy choice as an exhibit of a new firm—that of MM. Lucien Linden et Cie., who are established on the west side of Brussels, at Moortebek; the flower of the *Zygopetalum* is remarkable for the lip, which has a white ground streaked with lilac-purple, with a very effective rose-coloured margin. M. Coppens exhibited *Cattleya Warocqueana*, the flower was of excellent form, the petals especially are remarkable in size. M. Van Imshoot showed *Phaius × amabilis*, a hybrid raised by Messrs. J. Veitch & Sons, which meets with general approval. I would also mention *Cymbidium giganteum*, from M. Van Imshoot; *Vanda cœrulea*, from M. Flor. Pauwels, and having large flowers; *Cattleya aurea*, from M. Linden; *C. gigas*, from M. De Lombaerde; *Lælia elegans*, from M. Linden; and his group of *Cattleya maxima*; and also the hybrid *Cypripedium* from M. Madoux. A Botanical Certificate was awarded for *Cirrhopetalum Medusa*, *Dendrobium species*, *Eria species*, and *Bulbophyllum rufinum* from M. Linden. *Oncidium ornithorhynchum* and *O. incurvum*, from M. Pauwels; also *Cypripedium cœnotherum superbum*, from M. le Comte de Bonziez, won Certificates for being well-flowered. *Ch. de B.*

NATIONAL TESTIMONIAL TO MR. A. F. BARRON, OF CHISWICK.—The retirement of Mr. A. F. BARRON from the important position of superintendent of the Royal Horticultural Society's gardens and exhibitions is regarded as a fitting occasion for presenting him with a testimonial. Mr. BARRON'S work in various directions has been of no ordinary character; and during the period of thirty-five years that he has been at Chiswick, he has carried out many important trials and experiments in plant and fruit culture; he has penned treatises on the Vine and Apple which are standard works on

these fruits; has officiated as Honorary Secretary of the Royal Gardeners' Orphan Fund, and in a variety of ways he has exercised a most beneficent activity in rendering assistance to gardeners and gardening. The committee therefore confidently appeal for subscriptions towards a fund for presenting Mr. BARRON with some tangible mark of gratitude and esteem. In so doing the committee earnestly desire that all gardeners and lovers of their gardens shall have an opportunity, according to their means, of participating in a suitable acknowledgment of the long public service of one of the most worthy and eminent of British gardeners. The names of the committee were published in the advertisement columns in our issue for October 19.

CORNELL UNIVERSITY.—Amongst the new instruction offered in horticulture in Cornell University during the present year is a seminary upon the literature of horticulture and one upon greenhouse construction and management. These seminaries are really discussions or lectures, for which all members have prepared themselves in advance. One person acts as leader (as set down in the schedules), bringing in his books and specimens, whilst the listeners take notes and spontaneously discuss the various points as they arise. These seminaries are wholly informal, and as they are composed entirely of advanced students, lively debates may be anticipated. Amongst the students enrolled are one or two professors of horticulture, one or two professional gardeners, botanists, and special advanced students in horticulture, some of whom will lead certain meetings. In addition to the seminary work on greenhouses, there will be other hours devoted to drafting and the making of specifications. The seminary in the literature of horticulture will have the advantage of Professor BAILEY'S library, which is the largest private collection of horticultural books, and which is probably the richest in American literature of any extant collection.

SEMINARY ON LITERATURE OF HORTICULTURE.
Course 3. F. 11.

- 1 (Sept. 27). The herbals.—Bailey.
- 2 (Oct. 4). Roman literature.—Lodeman.
- 3 (Oct. 11). Literature of landscape gardening.—Bailey.
- 4 (Oct. 18). European Grapes literature.—Lodeman.
- 5 (Oct. 25). American Grapes literature.—Bailey.
- 6 (Nov. 1). French literature.—Lodeman.
- 7 (Nov. 8). Early American literature.—Bailey.
- 8 (Nov. 15). German literature.—Lodeman.
- 9 (Nov. 22). Current American literature.—Bailey.
- 10 (Nov. 29). English literature.—Lodeman.
- 11 (Dec. 6). Periodical and Experiment Station literature.—Bailey.

SEMINARY ON GREENHOUSES.
Course 4. W. 11.

- 1 (Oct. 2). Evolution of the greenhouse.—Bailey.
- 2 (Oct. 9). Side-walls and foundations.—Mason.
- 3 (Oct. 16). Roofs.—Lodeman.
- 4 (Oct. 23). Interior arrangements.—Bailey.
- 5 (Oct. 30). Heating.—Bailey.
- 6 (Nov. 6). Heating.—Bailey.
- 7 (Nov. 13). Ventilation.—Lodeman.
- 8 (Nov. 20). Glass and glazing.—Blair.
- 9 (Nov. 27). Styles of houses for various purposes.—Lodeman.
- 10 (Dec. 4). Watering.—Walker.
- 11 (Dec. 11). Pots and soils.—Powell.

THE MILDNESS OF THE SEASON.—Mr. J. P. SHELDON, writing to the *Times* of October 20, from the Brund, Sheen, Ashbourne, under date October 19, says:—"As evidence of the abnormal fecundity of the period, I send you, herewith enclosed, bloom of Strawberry, Primrose, and Crocus, and also a Rose-bud, all gathered this morning in my garden. Some little distance off, a neighbour of mine has a Laburnum tree with a second crop of bloom upon it; I saw it this week. Probably I could find further evidence if I looked for it; that which I now give came, as it were, quite casually to hand. This place is 700 feet above sea-level."

CHESHUNT, WORMLEY, AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.—The usual fortnightly meeting of this Society was held on Thursday, October 17, at Turnford. Mr. W. HARRISON presided, and there was a good attendance. Mr. A. J. SIMONS gave an able lecture on "Cyclamena and Cyclamen Growing," dealing with the origin, description, and varieties, propagation, time of germination, and all points connected with the cultivation of the plant. An interesting discussion followed. A hearty vote of thanks was accorded to Mr. SIMONS for his instructive lecture. A further discussion then took place on the question of the most effectual method of eradicating "Mealybug on Vines." This created a good discussion, and after the experience of several members had been given, the meeting terminated. The next meeting will be on Thursday, November 7, when Mr. J. H. DEAN will contribute a lecture on "Pears."

PRUNE CULTURE IN AMERICA.—Although America does not produce sufficient Prunes to meet her own demand, notwithstanding that the quantities grown are very large, opinions are being circulated in that go-ahead country that in a year or two, with an extension of cultivation, and an average crop, "the local product is likely to entirely force the foreign article from the market;" and even further than this, the Americans are beginning to think of a future market for their Prune crops. While the consumption of Prunes in the United States is stated to be now as large as 70,000,000 lb. a year, the total product last year amounted to between 35,000,000 and 37,000,000 lb. Oregon, Washington, Idaho, and Arizona are all producing Prunes to some extent, and in San Francisco large areas of young orchards have yet to come into bearing. When all these contribute their quota to the annual output, California's yield will be doubled. In view of these facts, it is said, "The outlook for Prune growers is not very encouraging, unless something can be done to promote a more general use of the fruit in households in the Eastern States. This last remark applies equally to the British consumption of Prunes, which, with advantage to the consumer, might well be considerably increased."

SHIRLEY AND SURROUNDING DISTRICT GARDENERS' AND AMATEURS' MUTUAL IMPROVEMENT ASSOCIATION.—The monthly meeting was held on the 21st inst. at the Parish Rooms, Shirley, Southampton, and as the subject was an attractive one there was a strong muster of the members, the President being in the chair. The lecture was under the auspices of the Hants County Council, and their lecturer, Mr. E. MOLYNEUX, Swanmore Park Gardens, had chosen for his address "An Epitome of Chrysanthemum Culture," and no one could be found who has a greater mastery of the subject. Every point of interest in the culture of this popular flower was brought fully home to the audience by means of living examples, illustrating the particular matter under discussion, and each little detail was so fully dealt with, that there was at the finish no room for questions or discussion. A hearty vote of thanks was unanimously accorded to Mr. MOLYNEUX, on the proposition of Mr. W. F. MAJOR. There was a competition for a certificate for the best six blooms of Chrysanthemums, which was awarded to Mr. G. BUSHELL, gardener to Mrs. KEATS, Rowham Park, and there was also several exhibits of fruit and various plants.

PUBLICATIONS RECEIVED.—From the U. S. Department of Agriculture (Washington Government Printing Office), *Water as a Factor in the Growth of Plants*, by B. T. GALLOWAY and ALBERT F. WOODS.—*The Grain Smuts: their Cause and Prevention*, by WALTER T. SWINGLE.—*Fertilisation of the Soil as affecting the Orange in Health and Disease*, by H. J. WEBER. Also (*Farmers' Bulletin*, No. 30) *Grass Diseases on the Pacific Coast*, by NEWTON B. PIERCE. Also, from the same Department, Division of Entomology, Vol. VII., No. 5, of *Insect Life*, edited by L. O. HOWARD.

PLANT PORTRAITS.

ANTHURUM SALMONEUM X, *Illustration Horticole*, September 30. A cross between A. Lindenii and A. Andreanum; the colour of the spathe is pale yellow, flushed with salmon.

APPLE "NONPAREILLE DE PEASGOOD," Peasgood's Nonsuch, *Revue Horticole*, September 16.

ERIDES HOULETIANUM, *Revue de l'Horticulture Belge*, September.

CAMPANULA VIDALII, *Gardeners' Magazine*, September 14.

DENDROBIUM DONNÉSIE X D. DALHOUSIANUM, *Garden*, September 21.

GODETIA WHITNEYI, *Revue de l'Horticulture Belge*, September.

HIPPEASTRUM EQUESTRE var. SPLENDENS, *Moniteur de l'Horticulture*, September 10.

HIPPEASTRUM EQUESTRE var. WOTTERI, *Garten Flora*, September 1.

IRIS GERMANICA var. KHARPUT, *Garden*, September 28.

NIDULARIUM CHANTRIERI X, a cross out of N. fulgens by N. innocente; leaves tufted, outer strap-shaped, finely toothed at the margin, inner ones brilliant scarlet, *Revue Horticole*, October 1.

PENTAS CARNEA, *Revue de l'Horticulture Belge*, October.

SARRACENIA FLAVA, *Garden*, September 14.

TRUNIA MARSHALLIANA, *Revue de l'Horticulture Belge*, October.

absent as a separate organ, the flowers were not to lose its beauty altogether, for in some degree it merged into the petals, one of which we here illustrate (fig. 85). Not only does a patch of the crimson colour of the labellum appear in it, but the wavy edge and more ample substance has given the petal a feather-like form, which lends attraction to the flower, abnormal though it be.

ABOUT CHRYSANTHEMUMS.

CROPS of fruit have been so abundant during the present season, and the exhibitions, lectures, and gossip about fruit culture so general and engrossing, that the advent of the Chrysanthemum reign appears to have overtaken us with uncommon suddenness. In the forthcoming week will be held some of the earliest of the exhibitions, and perhaps until these have taken place it would be rash to prophesy

them in their own parks. In each of those we have visited in previous seasons, there are again collections of generally well-grown plants now in full bloom. The only one of the "free" displays in London that has become extinct, is that which for many years has been held on the Thames Embankment, in the gardens belonging to the Benchers of the Inner Temple. Before any of the parks made annual displays, the one at the Inner Temple was in existence, and the late Mr. Daly and, latterly, Mr. Newton have produced many a good exhibition there. Since, however, the growth of Chrysanthemums has become quite an important part of the duties of the superintendents at most of the large parks under the London County Council, the display at the Inner Temple has suffered a little by comparison with collections at places where much greater advantages existed for growing and housing the plants.

There is no evidence of lessened interest or enthusiasm on the part of those responsible for the exhibitions in the parks. The authorities appear to do what they can to ensure a good show of bloom, and the arrangements made for the control and convenience of visitors, and the staging of the plants show improvement, though in the latter respect there is room for much more. There appears also to be a tendency to copy each other, which results in a sameness that might otherwise be avoided. In most cases the visitor will find that the authorities have considered him a little by erecting notice-boards, which indicate the position in the park where the exhibition is made. To strangers this is more than a convenience—it is a necessity. Previously, the experience of the *Gardeners' Chronicle* reporter, when trying to discover the Chrysanthemum-house, has not always been of the happiest nature. As usual, Chrysanthemums, other than Japanese and incurved varieties, are but indifferently represented at all the places, though we are informed that in one park at least this will be reversed next season.

FINSBURY PARK.

Again the Chrysanthemums are housed in the long span-roofed building that was used before the much wider and higher house was built for the purpose. Apparently the newer house is to be reserved for foliage and other plants. The old house is far from unsuitable though; and the collection this year, which is again staged in the form of a two-faced ridge from end to end, is not one of which Mr. Melville, the superintendent, has any cause for dissatisfaction. Usually there are nearly 4000 plants grown here, but the house will not perfectly accommodate more than 2000 at one time. The arrangement of the plants indicates considerable care and taste, although it is the old style again repeated. Many new varieties have been added to the collection, but at present few are worthy of note. Most of them will flower later. Of older sorts we noticed large but poorly-coloured blooms of Chas. Davis, apparently from the crown-bud; J. R. Pearson, a pink or mauve Japanese; capital blooms of Avalanche, and the bright-coloured Gloire du Rocher. Though incurved varieties were not fully developed, there were good blooms of M. R. Bahaant, Baron Hirsch, Golden Beverley, and Barbara. G. W. Childs was only just opening, but promises to be good. Hairy Wonder, nearly developed, had poor colour; but, on the other hand, Sunflower was represented by first-class blooms, which combined size and colour too. The distinct-coloured but well-known Edouard Audiguier was noticed, and buds of the large yellow Philadelphia were fast opening. The excellent large-flowered Anemone Descartes is a fine addition, and should be seen in all collections. Other varieties that may be mentioned as very commendable are Mr. H. Runchman, a flattish bloom of golden yellow, forets slightly recurved, Eynsford White, William Seward, and Florence Davis. Pompons are fairly well represented. The display is only about five minutes' walk from Finsbury Park Station.

VICTORIA PARK.

Mr. J. W. Moorman, who is a member of the Floral Committee of the National Chrysanthemum



FIG. 85.—THE VARIEGATED LIP OF A CATTLEYA LABIATA.

CATTLEYA FLOWERS
ABNORMAL.

FROM time to time we have given illustrations of abnormal flowers of Orchids, and we are always glad of the opportunity to add to them, and give remarks which may tend to throw light on this interesting subject. One thing about such freaks is now tolerably clear, and that is, that in most cases where these abnormal flowers appear, the plant is likely to produce similar flowers, and in some cases, the plant will produce no others. A singular instance of this kind appeared in an inflorescence of *Cattleya labiata* Mendeli sent us some time ago, with the information that it represented the flowers which the plant regularly produced. Very strange they looked, for one expected to see the showy labellum which forms the chief attraction of the flower, but it was wanting in each example; the flower being made up of the three sepals and two petals which were arranged in tolerably regular manner around the column, which was much straighter than usual. But if the labellum was

respecting the prospects of the great show of the National Society. In the meantime, however, we shall give notes upon the condition and features of interest observed in many collections, as we have done heretofore. From glimpses already taken of some collections, the impression given is, that while the season is not likely to be an extraordinary one, at the same time there will be a good general average quality. Some varieties have opened less kindly than might be desired; and the explanation may possibly be, that during the phenomenally hot weather last month the buds became a little too hard. The colour, likewise, in some varieties is hardly satisfactory; and we shall not be surprised if the quality of the flowers of the incurved section is at least equal to that of the Japanese. It may be added, that if any indication of the display the great show will afford may be taken from the October exhibition, then it will be abundantly successful.

THE PARKS.

The metropolitan public have again the opportunity of seeing excellent displays of the Chrysanthemum

Society, and has grown the plant for at least thirty years past, has a capital house at Victoria Park in which to display his Chrysanthemums. The house is a straight span-roof, and as Mr. Moorman has a dislike to straight lines, the plants are staged on either side of a central path, the surface of the plants being made as wavy as possible. In the house there are staged about 2000 plants; but we were shown an excellent reserve batch, which should continue the season for some time. The arrangement of the plants, with a good band of pompon varieties at front, and foliage plants used also as edging, is very satisfactory. The exhibition was opened on the 12th inst., and will be nearly at its best when these notes are printed. Gloire du Rocher is always of good colour here; several of the incurved varieties are also well done by Mr. Large, who has charge of the plants; Louise has been very fine, but is fast passing; E. Molyneux was represented by excellent blooms; and quite a blaze of yellow is made by that fine yellow decorative variety, Rycroft Glory. Mrs. F. Jameson also deserves mention, and some good exhibition blooms of Mademoiselle Melanie Fabre, Vice President Calvat, and Miss Dorothy Shea are among the new ones we noticed, but better blooms of these will be seen later. Visitors should not book to Victoria Park station, which is some distance from the house, but buses run from the City to the park, and Cambridge Heath Station on the Great Eastern Railway will be found convenient.

SOUTHWARK PARK.

Spa Road Station on the S. E. Ry., and South Bermondsey on the L. B. & S. C. Ry., are equally convenient ones for Southwark Park. Between 3000 and 4000 plants have been grown, and Mr. R. Curle, the superintendent here, has been obliged to stage them thickly, as no means are available to shelter a successional batch. The arrangement of the plants is much the same as last year, and could hardly be improved upon in such a house. At one end varieties of the *hirute*, or "whiskered," section have been placed together. Here we noticed good flowers of Hairy Wonder and Louis Böhmer. *Eofant de deux Monde*, or the white Louis Böhmer, was not quite in flower, but King of the *Hirutes* was making a good show with its long-petalled lemon-yellow blooms. This is worthy of recommendation to growers who wish to include good varieties of this section. *Sonvenir de l'Ami Coyer* is white, and is less *hirute* than many of the others, and good blooms are promised by the large buds. *Lady of the Lake* is pale lilac in colour, and quite a good thing; W. A. Mander and Santel had not opened; and the buds were only partly developed on plants of M. Fernand Bertin, a long-petalled flower, very sparsely *hirute*, white, with stripes of rose colour. Among well-grown Japanese varieties worthy of mention were splendid blooms of Elaine, and good ones of Col. W. B. Smith; Wm. Tricker is also well represented, and Madame E. Rey has capital blooms. New ones noticed included Miss Dorothy Shea, which at present is not opening too kindly; Commandant Blussett, Duke of York, bearing large buds, now developing; and Mrs. T. Denne, a good deep wine-coloured Japanese. Rycroft Glory was conspicuous, and the new Anemone-flowered *Descartes* may be observed. Altogether, the collection is better than last season, and there are many fine blooms.

BATTERSEA PARK.

The collection of Chrysanthemums at Battersea is staged in the usual house, a span-roofed one situate in the frame-yard. It may be useful to visitors if we also state that this frame-yard is near the west entrance, and close to the Albert Bridge; for the meagreness of notice-boards to guide the pilgrim has resulted in the writer walking fruitlessly about for some time, when his knowledge of the park was less accurate than it now is. There are about 2500 plants in the collection, and they are staged in one large bank with a path along the side, an alteration from the arrangement adopted on the two last occasions, when two banks were staged to face a central path. The side of the house

running along with the path has been nicely furnished with foliage plants of a more or less ornamental character. The group of Chrysanthemums itself would have been more effective had some efforts been made to screen the large and thickly-placed pots by the use of some dwarf Chrysanthemums or other plants. The flowers will soon be at their best, and a very large number of varieties may be seen. Mr. Coppin, the superintendent, has added many of the new sorts, but few of them were developed when this notice was written. Older varieties that were giving a good account of themselves were *Mdlle. Marie Hoste*, *Mdlle. Thérèse Rey*, *Florence Davis*, *Mons. Tarin*, *Bonquet de Dames*, *Avalanche*, *William Tricker*, *Mons. W. Holmes*, *Hamlet*, *President Borel*, *Gloire du Rocher*, and others. The Park is easily reached from Clapham Junction, or Battersea Park Station on the London Brighton & South Coast Railway.

WATERLOW PARK.

In this little park, at the top of Highgate Hill, the Chrysanthemums are quite as attractive as ever, but poor accommodation exists here for housing the plants. Mr. Pallett has again filled the conservatory and the three small lean-to vineries with very commendable plants, and they are much earlier than some other collections. For instance, *Utopia* was seen in several cases as small plants bearing three large blooms, which had nearly passed. It is a good deep Japanese flower, pale cream in colour, and petals recurved. Good *Graciosa* had not yet opened, though there were good buds. Wm. Tricker, Wm. Seward, Golden Geo. Glenn, and Edwin Molyneux were all very fine. *Old Cullingfordii* is still flowering in this collection, and *Puritan* and G. W. Childs were very nice; *Alice Bird* is a useful yellow decorative variety, and *Source d'Or*, for the same purpose, may be used with advantage. The small incurved flowering varieties promise to make exceedingly pretty blooms in Mr. Pallett's collection.

(To be continued.)

NOTICES OF BOOKS.

GARDENING A LA MODE—VEGETABLES. By Mrs. De Salis. (Longmans.) GARDENING A LA MODE—FRUITS. By Mrs. De Salis. (Longmans.)

These are two little books intended expressly for the benefit of persons who do their own gardening in a small way. The writer relates the result of her own experiences. The cultural directions are mostly clear and good, and the recipes for cooking very appetising. Indeed, we are disposed to think them the best part of the books. The authoress confounds the Aubergine with the Egg-plant. They are very closely allied, but hardly identical. The historical or mythical details might well have been omitted. In such books we do not look to find the opinions on Beans held by Pythagoras, nor the value attributed to Cabbage by Hippocrates. Those to whom such information would be useful would require exact references, which would necessitate careful verification. The authorities quoted by Mrs. De Salis on purely gardening matters are not all of the first rank, a circumstance that would make us doubt the validity of her classical allusions; but, under the circumstances, this is of little import. The books are likely to be useful to those for whom they are specially designed.

SPECIAL MANURES FOR THE GARDEN.

One of the most valuable contributions upon the subject of manures for the garden with which we are acquainted, has just been issued by Dr. A. B. Griffith, F.R.S. (Collingridge, Aldersgate Street, E.C.) The work consists of 123 pages, overflowing with practical manurial information of the very best kind. The work is based mainly on the results of the chemical analyses of seventy-two different garden plants, and never before in this country has such a large number of garden-plant ash-constituents been recorded.

In the introduction the author aptly says, "Our views as to the use of manures has undergone a complete transformation during the past few years. Scientific research has succeeded in solving a number of important problems, and we have consequently been led to adopt new and clear principles relative to the application of manures to plants. We are now in a position to distinguish between merely 'manuring' and 'manuring rationally.' We know what nutrients the soil must contain in order to secure thriving plants and the best crops, and therefore we ought no longer to be content with merely manuring, that is to say, with simply applying fertilisers to soils; but we should manure rationally, that is, put on the soil those fertilising substances which it requires to render it capable of fulfilling the functions required of it."

It must always be borne in mind that the different plants cultivated require for their growth sufficient quantities of different, but quite definite, plant foods, and that they take these chiefly from the soil. If plants are to thrive luxuriantly, these plant-foods must not only be present in the soil in abundance, but also in an assimilable form.

It must also be borne in mind that manuring is always heavier in gardening (especially for vegetable and fruit-growing) than in farming.

In agriculture we have to deal with a comparatively small number of different kinds of plants. We can easily control this number, and without much trouble we can try with each plant whether the accessory constituents of the manures of commerce act injuriously on it or not. In horticulture, on the other hand, this would present far greater difficulties. In this case, we have to deal with a much larger number of species and genera, and we cannot carry out experiments with each of them; moreover, garden plants, various vegetables, the finer kinds of fruits, berries, flowers, &c., are, as a rule, more delicate and sensitive than field plants. Hence it is of the utmost importance that artificial fertilisers or chemical manures should be given in suitable proportions for different plants, and not given at the mere fancy of the grower. Flowers, fruits, and vegetables require manures, but the art of manuring garden crops has been practised in a crude and slipshod fashion. Farmyard-manure, domestic drainage, composts, and occasionally guano, bone-meal, superphosphate, and potash salts are used with ridiculous want of discrimination.

For the benefit of those who are mere tyros in chemistry, it may be stated that, when the chemist burns a plant a greyish-white ash remains. This ash contains the whole of the mineral constituents of the plant; and it teaches the nature of the substances which the plant absorbs from the soil. Mignonette contains 38 per cent. of potash, Beans contain 37 per cent. of phosphoric acid, and Veronicas 36 per cent. of potash, and 30 per cent. of phosphoric acid in their ashes. In other words, Mignonette requires potash, Beans require phosphates, and Veronicas require both potash and phosphates.

But it should not be forgotten that the minor constituents of the ashes play a most important part in the nutrition and growth of all plants; consequently, if a soil be deficient in the minor constituents, or they are not in such a form that they can be readily absorbed by the roots, the plants are bound to suffer from deficient nutrition. Many diseases of plants are due to the want of proper nutrition. It has often been stated that most soils contain a plentiful supply of the minor constituents; and it is therefore unnecessary to add the minor plant-foods to the soil. This the author considers an erroneous idea. Many of the minor constituents may be present in more than a sufficient quantity for a crop's ultimate total requirements, yet the crop does not produce a full and profitable yield, and is often diseased.

In most soils these constituents are present in the form of insoluble compounds, which are only partially rendered soluble during the lives of plants; and those plants which are termed annuals frequently suffer from this cause. It is a policy which

pays the horticulturist to help Nature by adding not only such manures as phosphates, nitrates, and potash, but the minor constituents as well, and in the form of soluble compounds. There is little doubt that many plants are miserable failures because the soil is incapable of properly nourishing them. Soluble manures are readily absorbed by the roots, and they are the principal means of producing healthy, vigorous plants, capable of yielding perfect flowers, fruits, &c. It is very necessary to remember that the object of manuring is to feed the plants, especially during the period of active growth. Fractional top-dressings, and the frequent use of small quantities of manures, dissolved in water, are the best ways of applying manures.

If the cultivator possesses a knowledge of the properties of manures, he understands which particular ingredient should be used to produce beneficial results. He, therefore, applies the special manure wanted, and no other. Many substances which are manures for certain plants, are not manures at all for others; and, in some instances, they may act injuriously. Consequently, the cultivator, be he amateur or professional, who is ignorant of the proper use of manures, subjects himself to double the labour and expense through utilizing any kind of manure to any sort of crop, irrespective of the fact that different plants vary in their constituents, and consequently require furnishing with those ingredients or plant-foods essential to their proper growth. To use the right manures at the right time, and in sufficient quantity, is the correct way to work, and the successful cultivator is now required to pay special attention to the use of manures.

To become acquainted with the food-requirements of plants, we must know their constituents. These constituents fall under three divisions. First, there is water, which forms by far the greater part of all plants; second (which includes the third division), the dry or solid matter may be divided into carbonaceous, organic, or combustible matter, and into mineral matter or ash, or incombustible matter.

The combustible ingredients include woody-fibre, starch, fat, albuminoids, the colouring, flavouring, and odoriferous principles, such as the green colour (chlorophyll) of leaves, the colours of flowers, and the various essential oils of flowers, leaves, fruits, &c.

To illustrate how plants vary in their constituents, we give the following table, being the results of Dr. Griffith's and Mr. R. H. Wilson's analyses:—

Chemical Composition of Various Plants of the Garden. (In parts, per 100)

Composition.	Pea.	Potato.	Cabbage.	Auricula.	Gladiolus.
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
Albuminoids (nitrogenous matters)	22.4	2.2	3.3	6.2	5.3
Carbohydrates (starchy matters)	52.5	21.4	5.1	10.8	12.9
Woody Fibre	6.4	1.0	1.0	1.9	2.2
Fat	2.0	0.2	0.3	0.3	0.3
Ash (mineral matter)	2.4	1.2	1.3	2.6	2.2
Water	14.3	74.0	89.0	78.2	77.1
Total	100.0	100.0	100.0	100.0	100.0
Constituents of the Ashes. Per cent.					
Potash	20.1	53.8	31.0	18.6	18.9
Soda	17.3	0.7	2.6	8.5	9.0
Lime	6.9	3.0	15.7	14.2	13.2
Magnesia	8.9	8.0	5.0	8.9	12.2
Iron Oxide	1.4	5.2	3.3	2.1	3.2
Silica	2.1	5.0	5.0	4.0	4.8
Phosphoric Acid	40.1	15.8	12.9	33.9	28.2
Sulphuric Acid	2.0	5.2	8.8	9.8	8.0
Chlorine	1.2	3.5	8.0	2.0	2.5
Total	100.0	100.0	100.0	100.0	100.0

It will be seen, by carefully studying the above figures, that the constituents of the plants named vary considerably; it is, therefore, necessary that

the manures applied to the soil, in order to nourish these plants, must also vary.

Concerning these constituents, it may be remarked that water is derived from the soil through the roots, that the carbon of the albuminoids, carbohydrates, woody-fibre, and fat is almost entirely derived from the carbonic acid of the air; that the hydrogen and oxygen of the same constituents are derived from the water absorbed by the roots; and that the nitrogen of the albuminoids is obtained from the manure used—except Peas, in which case it is partly derived from the soil or manure, and partly from the air, through the agency of certain microbes which are present in the soil.

It may be stated, that the large number of ash analyses, and the different manurial formulæ given in the work under consideration, are the results of several years' investigations in the garden, field, and laboratory, and we can confidently recommend it to our readers.

SELECT EXTRA-TROPICAL PLANTS.

Baron Ferd. von Mueller's most useful treatise on the plants suitable for culture or naturalisation in extra-tropical regions, has now reached its ninth edition. Its value is attested by its reproduction in India, Germany, the United States, and France. In fact, within its limitations, it forms the most accessible account of the useful plants of the world that has yet been published, and as such is in constant use as a work of reference. Baron von Mueller has not contented himself with writing books, but he has taken a large share in the distribution and introduction of useful plants. The establishment of Eucalypts in various parts of India, California, Algeria, and Southern Europe is largely due to his zeal and energy. It is to be wished that the Baron may be enabled to issue a similar volume devoted to tropical plants. With the aid of the Kew publications, this might readily be accomplished by so indefatigable a worker as the Baron. It may be thought that such books partaking as they do of the nature of compilations, might be entrusted for execution to some clerk, but the necessity for trained judgment and knowledge is evident in every page of the present publication, and freedom from errors could only be ensured by the superintendence of so learned a botanist as Baron von Maeller.

In addition to the alphabetical list of species, lists are given of plants yielding a return in one year, in a few seasons, or not until the lapse of many years—as in the case of timber trees. Catalogues are also given of plants suitable for very cold or for very dry regions; in fact, the practical requirements of cultivators have been carefully studied throughout. A work like this can never be complete, additions and modifications become necessary with the progress of time, and so we find the author already soliciting assistance in the preparation of yet another edition.

We are conscious that our request is somewhat unreasonable, it may be even incapable of fulfilment, but the frequent mention of the opinions and *obiter dicta* of various botanists seems to necessitate fuller reference to the place of publication to enable the reader to see under what circumstances the opinion cited or the fact recorded was given, and the degree of importance to be attached to it. As to the authorities for the names, the New Index happily enables us easily to find the desired references. To show how much still remains to be done, Baron von Mueller instances Mexico. More than three centuries have elapsed since its conquest, but "only the most scanty information is extant on the timber of that empire, even in reference to its numerous kinds of splendid Oaks. Again, of several thousand species of tropical grasses, not many dozens have been tried as yet with rural or chemical exactitude for pasture purposes, not to speak of a multitude of prominently utilitarian trees, shrubs and herbs restricted to temperate mountain regions within the tropics, but never carried to the lowlands of higher latitudes."

THE ROSARY.

BUTTON-HOLE ROSES.

ALTHOUGH the taste for wearing flowers in button-holes has greatly diminished of late years, there are still a few who keep up the custom, a custom which, I think, is much to be admired, even although it is by some carried to excess. One good effect it had so far as the Rose-garden was concerned: it led persons to continue the culture of a class of flowers which, although utterly unsuited for the prize stand, were yet beautiful adjuncts to the garden, and this led to prizes being offered at various exhibitions throughout the country. But still, though the taste for button-holes has decreased, it is a consolation to know that the same class of Roses has come into general use for what are called shoulder-knots for ladies, so that a few notes on them may not be out of place.

The class of Roses most suited for this purpose is that of the smaller Tea-scented, and what are called hybrid Tea-scented Roses, and they must have two or three characteristics; in the first place, the bud ought to be more or less pointed, for it is only in the bud state they can be used, and hence the Polyantha section which, at first sight, seem so well adapted for it, are really unsuitable, and are very rarely used. Then they must have good colour; a white Rose, for instance, would be hardly suitable, and might probably suggest that the wearer was going to a wedding. There is no Rose which more thoroughly fulfils these necessary conditions than—

Ma Capucine, and although raised by Levet now a quarter of a century ago, in some respects it is still not only unsurpassed, but unrivalled; the colour is the deepest in its way of almost any Rose known, being of a rich coppery-orange, recalling in some measure the Austrian Copper and Fortune's Yellow. The bud is pointed, and the petals are very few, and consequently it only remains good for a short time, but when opened is utterly worthless, turning to a poor white; it is, unfortunately, not a good grower, and consequently it has remained difficult to obtain. I was rather surprised to find that my plants of it on a south wall, although somewhat injured by the last severe winter, recovered and bloomed well this season; but there can be no doubt that it is of delicate constitution, and requires a good deal of care.

William Allan Richardson.—This, as far as constitution is concerned, is the very opposite of the preceding, being of the most vigorous constitution, and having probably an affinity to the *Gloire de Dijon* race; the colour of the buds, in which state alone it is of any use, is a rich orange-yellow edged with white, but it is now so well known and popular, that little need be said in its praise. For table decoration, for shoulder-knots, and button-holes, it is extensively used, and very often in large establishments, a house is devoted entirely to it. It has one failing, namely, that in certain positions and in certain seasons, the white edging seems to overpower the orange-yellow ground colour, and the whole flower becomes white, and in this state it is valueless. It has been said by some, that there are different strains of it, and if so, its white one ought to be avoided; its freedom of growth and profuseness of blooming will probably tend to make it hold its position for many years to come.

L'Idéal is one out of the many productions of M. Nabonnaud, and has obtained a permanent place in our gardens. It is vigorous in growth, has a good constitution, and is hardy; its colour it is almost impossible to describe, affording as it does a combination of orange-yellow, metallic red, peach, and gold, making it a most lovely flower, and a general favourite. When exhibited at the Crystal Palace at the National Rose Society exhibition by Messrs. Paul & Sons, it created a great sensation, and is now recognised as one of the most beautiful of its class.

Beauté Inconstante.—A new Rose of novel colour. It has been described as terra cotta with flame-coloured shading, and probably this is as near as we

can get, though it is sometimes abated with cream or white; it seems, so far as one can see, to be of a good habit, and very suitable for a pillar or wall.

Gustave Regis.—This is said to be one of the hybrid Tea class, but I am at a loss to find where the hybrid is in it. All Roses have been more or less either naturally or artificially crossed, so that the term might be applied to every Rose; but by hybrid Tea it is generally intended to indicate a cross between a Tea Rose and a hybrid perpetual, and this I cannot see in this flower—it seems to me a Tea Rose pure and simple. In colour it is a bright canary-yellow, with a very pointed bud; the foliage is good, and the habit of the plant climbing.

Shirley Hibberd.—A comparatively little known but very pretty Rose: was raised twenty years ago by Levet, from Madame Falcot; it is of a bright nankeen colour, with pointed bud, and very sweet. I very rarely see it, and am indebted to my friend, Mr. Cooling, at Bath, for my knowledge of it.

Princesse de Sagan.—The most highly coloured of the Tea Roses. Its unopened buds are very pretty to those who admire these rich colours in Teas, which I confess I do not; but the rich colouring of this variety, which is far brighter than *Souvenir de Thérèse Levet* or *Marie Antoinette*, gives it favour in the eyes of a good many growers.

Madame Chedane Guinoisseau.—A very pleasing and free-flowering Rose, fuller than some of those already mentioned. In colour it is of a bright yellow, and even when more expanded, a not displeasing flower; it is, however, as a button-hole Rose that its chief usefulness consists.

Adeline Viviani Morel.—A comparatively new Rose, raised by Bernaix; in colour somewhat in the way of *W. A. Richardson*, but of prettily combined tints of apricot, orange, and white—likely to become a general favourite.

Alister Stella Gray.—A new flower, raised by Mr. Alexander Hill Gray, somewhat in the style of *W. A. Richardson*; a very free and constant bloomer, so that one rarely goes to the plant without being able to obtain some flowers from it.

Madame Pierre Cochet.—Another of the *W. A. Richardson* style of Rose, raised by Cochet, in 1892; the raiser calls it an improved (for so, I suppose, we must interpret "*perfection de*") *W. A. Richardson*. It is a very pleasing variety, of a very vigorous growth and bright foliage, the colour of the flower is very much like that of its parent, not having so much orange colour, but more primrose-yellow.

Marquise de Vivens.—A very pretty rose-coloured flower, with a yellow centre; it is very sweet-scented, and altogether in its bud state a very pretty Rose. There are probably others that some might wish to include in this list of button-hole Roses, but I do not think that the dozen which I have thus described can be very well exceeded in beauty. They are varied in their colouring, and nearly all very vigorous in habit; many of them partake more of the Noisette than of the Tea character, and indeed occupy the border land between those two sections. Many of them are now, in September, flowering profusely; indeed, in the late glorious autumn weather there was a wonderful abundance of Tea and Noisette Roses of all kinds. Hybrid Perpetuals were not wanting, although the hot sun very soon deprived them of their bright colouring, which only tends more and more to develop the beauties of the Tea Rose; and those who have not already grown the sort that I have described will, I think, do well to add them to their collection even where the space is limited.

Wild Rose.

CHRYSANTHEMUM BOULE D'OR '95.

This is a new incurved Japanese Chrysanthemum raised by Mons. E. Calvat. Those who appreciate the fine early-flowering *Louise*, will find this variety a good companion for same. *Boule d'Or '95*, so named to distinguish it from an earlier variety of that designation, bears resemblance to *Louise* in form and build, beside—if we may judge from its habit this

season—which, its flowers open about the same period. The flower is undoubtedly a very fine one, and generally rather deeper and more compact than shown by fig. 86, p. 499. In colour it is a lovely light-brown or amber on the surface, with a pale yellow reverse. The variety was awarded a First-class Certificate by the National Chrysanthemum Society on October 8, and an Award of Merit by the Royal Horticultural Society on October 15, the blooms in both cases being exhibited by Mr. W. Wells, Earlewood, Redhill, Surrey.

HOME CORRESPONDENCE.

MARKET SALE OF FRUIT.—It does seem as if there was a potent truth in what was recently said during a discussion on fruit culture for market, that it was much less difficult to grow fruit than to sell it profitably. If those now growing fruit for marketing, or proposing to embark in that industry, do not know the best sorts, the best methods of culture, and the best manner to prepare fruit for market, then have they greatly wasted their opportunities. The country has been saturated with advice on these matters, and so much has the subject been ventilated, that even the ablest advocates of reform have nothing fresh to say, but can only repeat what has previously been stated. Our fruit exhibitions certainly show that a knowledge of high-class culture has spread very generally in the country, and such being the case, further knowledge is needed to make fruit culture profitable; for unless it can be rendered profitable as a commercial industry, there is little prospect that such culture will increase. The first thing to clear up is the results of high-class culture with best varieties as compared with ordinary culture, which is often non-culture, with ordinary or inferior varieties. If the cry of starved market returns comes from the high-class growers, then is the outlook dark indeed. If, on the other hand, they have, considering the immense crops of this year, been fairly well content, and do not complain, then is it evident that high-class fruit pays, and that it is the inferior fruit which fails to do so. It is, however, a matter which the high-class fruit grower only can fairly determine. But may not contiguity to a good market, such as a popular centre affords, have much to do with profitable results, assuming that there are sometimes found. Thus the grower who has his ground within some twenty miles of the market, and can send in his own vans and go himself to sell, saving something of the ordinary cost of railway transit and salesmen's commission, enjoys a great advantage over the grower whose land is beyond the distance that a wagon can profitably cover, and who has to pay rail charges, cartage at both ends, and salesmen's commission. Then the grower who is thus in close touch with the market, learns to understand its requirements and movements, and regulates his sendings accordingly. The more distant grower knows less of these matters, and does not see much of other methods in the matter of home and foreign products. Indeed, it is a fact, that marketing is of itself a vocation for which a certain amount of training is required. Then there generally can be found between the fruit grower, whose land is adjacent to the town and the town shopkeeper, an intimate business connection, and where that exists, prices are always rather better than in the open market, and there are no incidental charges to meet. If, too, the grower has adopted the more advanced methods of packing fruit in shallow boxes, baskets, &c., so as to induce the grocer to become a customer, he opens up a way of trade which so far has been chiefly restricted to the foreign importer, whose methods of packing have beaten our old-fashioned ones hollow. I have heard of growers of fruit near to London, whose prices have been low—so low, indeed, as from 1s. to 3s. per bushel for good-sized Apples, according to quality—who have done very well, simply because the crop was so heavy. But if distant growers of even fairly good samples cannot sell locally at a remunerative price, how can they hope to do so in distant markets after paying rail charges, market fees, and salesmen's commission? If there be no demand relative to the enormous supply, it is not possible to create it artificially; and although we may deplore the undoubted fact that not more than a third of the fruit is consumed as food that should be according to the population, and yet it is not possible in any way to force that consumption, then the most

we can do is to tempt to greater consumption by offering the best of fruit in the most attractive guise. We have had various aspects of the market question presented to us from time to time, but they have largely come from the more interested or successful side. When we have heard the other aspect, it has usually been in the form of a lament without any practical suggestions accompanying it. Naturally, the misfortunes of the cultivator of inferior varieties do not command much attention from practical men, because they perceive largely why these misfortunes and failures come. The difficulty presented is to make these growers who are the bane of fruit cultivation and marketing, realise the weakness of their practice. If we could eliminate from market competition all inferior fruit, we should immensely enhance the prospects of higher culture. That we are still passing through the transition stage in relation both to culture and to marketing methods, there can be no doubt. The process is a slow one, but the ultimate result can hardly be doubtful. Surely, the fine fruit presented in the best way, must eventually win in the end, and thus render in Great Britain, high-class fruit culture assuredly profitable. A. D.

A FINE SPECIMEN OF WISTARIA SINENSIS IN BURY ST. EDMUND'S.—In writing to the *Gardeners' Chronicle* two or three weeks' since, of especially fine specimens of this matchless climber, I had two fine specimens in Bury specially in view, the one at the corner of Sparhawk Street, and the other in Northgate Street, near the railway station. The latter is considerably the larger of the two, and is one of the finest I have seen, with the exception of some noble specimens clothing the flower-garden wall at Easton Park, the seat of His Grace the Duke of Grafton. H. R. Barker, Esq., of Northgate Street, kindly sends me the dimensions of his plant, which covers three sides of his large house. The plant is 101 feet 4 inches in length, 23 feet 6 inches high; thus, in round numbers, covering 2,323 square feet. The stem, at the ground, measures 3 feet 10½ inches, and at 2 feet from the ground it is 2 feet and ½-inch round. It was this plant that specially distinguished itself by the profusion and delicacy of its autumn blossoms this season. The zero frosts of last February did it no harm. D. T. F.

VEGETABLE FOODS AND DRINKS.—The past season will long be remembered for great heat and drought, and the abundance of Apples and Plums. In accordance with the ancient notions, sickness, cholera, and other ills would be sure to follow, but this does not appear to have been the case. During this abundant fruit season, with so high a temperature and so small an amount of rain, is it not rather remarkable that we have been unusually healthy as a nation? I think so. The question arises, is there a cause or reason to account for this highly satisfactory state of things? I think there is. Plums at ½d. per lb., and Apples at 3 lb. for 1d. [?] in nearly all large towns and cities, at once make it plain that an enormous quantity must have been partaken of everywhere with excellent physical results. The question is, have we not gained greatly by all this fruit-eating, and if so, what and how much? If any of your correspondents could throw any light on the very important advantages of eating fruit to make us safer from epidemics it would be solving a great question indeed for our future guidance. I have certainly eaten considerably more than usual, and required as a result less to drink; nor have I in the least felt a desire for the usual kinds of drink, and during the hottest weather I never felt better. In my opinion, this general partaking of fruit has caused people to feel more satisfied—the young in particular, they have suffered less acutely from thirst and the craving for drink; and is it not a fact that the free use of popular drinks disagrees with many persons. These drinks apparently contain ingredients which rather increase the parched feeling than allay it, and many persons over-indulge innocently. So it goes on until the stomach can bear the injurious matter no longer, and at last throws it off; but when thirst is satisfied with fruit there are no chemical substances to disagree—on the contrary, an agreeable and pleasing refreshment is taken. Again, by eating good ripe fruit the body is stimulated and invigorated in a more natural manner, and the mind is more cheerful. I have noticed stewed fruit of some kind or other is served on nearly every table, and its use is becoming more general every year. Many persons are great consumers of meat, and these

would find it difficult to alter their diet; yet the question is, if we are wise and wish to keep in good health and fit at all times, whether it would not be advisable to consume more fruit and less meat, and live more in accordance with natural requirements, particularly during seasons of high temperature like the past season. I rejoice to see fruit and vegetables becoming more and more used as food. *Henry Cannell, Swanley.*

PACKING COMPETITION AT THE CRYSTAL PALACE SHOW—The arrangements for the judging in this very important competition need a little

innately obliged to market a great deal, had to send every box separate, what a great addition to their labour of packing would be caused, besides greater cost in transit. *Frank Harris, Eastnor Castle Gardens, Ledbury.*

PRICES OF APPLES.—In the able prize essay on fruit reported in the *Gardeners' Chronicle*, p. 432, the following quotations are given, Ecklinville, which headed the list, fetching from £12 to £22 per ton; Lane's Prince Albert, ditto; Golden Scire, £15; Worcester Pearmain, from £14 to £26 per ton; Warner's King, £16 per ton; Cox's Pomona, Cox's Orange Pippin, King of the Pippins, Lord Suffield,

main £26, that Cox's Orange Pippins, the next best to the Ribston, only made £16 per ton. Can it also be still true that, notwithstanding the numbers of Ribston Pippins grown and shown, and the robust health of the trees generally on Paradise stocks, English-grown Ribstons are still so scarce as not to have their value in bulk assessed in our latest prize-essays? This is the more surprising, as we are all agreed that the Ribston remains still the Queen of all our English or any other dessert Apples. Neither are proofs wanting that it will thrive under good treatment on the Crab or free stocks on good soils, with judicious root-pruning. I have recently seen some Ribston trees in Sussex, over a hundred years



FIG. 86.—CHRYSANTHEMUM BOULE D'OR '95. (SEE P. 498.)

revision. In the first place, I think a leading salesman or two would make very competent judges, instead of the gardeners who judge in this competition. Then, I think, the distance which fruit has to travel should be taken into consideration; otherwise, an exhibitor who has to send a long distance, and very likely over more than one company's lines, is placed at a great disadvantage as compared with a less distant competitor; and to make sure of the fact, the different samples should travel as ordinary parcels, and bear the company's label to that effect. I myself, with others who sent samples for competition, found our cards marked, "two boxes tied together." Is that a fault? and if so, why? If all gardeners who, like myself, are unfor-

Pott's Seedling, Yorkshire Beauty, Stirling Castle, Tower of Glamis, and Dumelow's Seedling. The statement as it stands would be more valuable with a little further explanation. It can hardly mean that the last nine sorts named were sold at the same price as Warner's King, viz., £16 per ton. Neither can it mean that such valuable dessert Apples as Cox's Orange Pippin and King of the Pippins are not worth more than such kitchen varieties as Ecklinville and Lord Suffield. The colour, doubtless, sells Winter Pearmain, though £26 per ton is a high price for such a decidedly inferior Apple. And it seems impossible for the able essayist to have wished to convey the impression that while Ecklinville made £22, Worcester Pear-

old, in fair health and full bearing, that had never had any other food or manure within the memory of the oldest inhabitant but the drainage of a small yard, in which about half-a-dozen bullocks were "moot" fatted every winter; and we have plenty of samples everywhere of the wonderful tenacity with which the Ribston Pippins cling to life, when not crippled with canker, and smothered with American blight. Query: Are these weaknesses the natural results of our modes of culture, or of our climate or the constitution of the variety? *D. T. F.*

THE CRAB FOR THE GARDEN AND ON THE TABLE.—I am very glad to see Mr. Harrison Weir's rousing article about Crabs. It would be almost

impossible to read it without setting to work at once to plant Crabs in greater variety. There is no fear of overdoing Crabs in our gardens or landscapes for many years. There are many of them very much overdone with evergreens; and now is the time, or it will soon be here, to take out and nroot some of the latter for Christmas decorations, and plant Crabs in their stead, if no other places can be found for them. For grace, beauty, brilliancy of flower, fruit, foliage, we have nothing to rival, and few to equal, Crabs. Then as a sweet on the table, they are ever welcome, as jelly, jam, or whole in syrup, with at least a third of the stalk left intact to hold them by. Artists in conserving Crabs vary much in their views of the most orthodox length of the stalk for procuring artistic effect and convenience. Well, it is not of vital moment, and here the charm of variety may be indulged to the full without injury to the artistic effect or eating qualities of sweet Crabs. *D. T. F.*

CRAB APPLES FOR GARDEN DECORATION.—Why should not some of the handsome free-fruited forms of *Pyrus malus*, which are denominated Crab Apples, find a place among the ornamental trees in the shrubby border, where they are but rarely seen? They have two periods of service—when they flower, and when they bear fruit. *P. malus floribunda* is sometimes planted, and is most attractive in spring, being very free-flowering; the young shoots of the previous year assume a naturally pendent growth, and become wreaths of blossom, to be followed by numerous small fruits. The red and yellow Siberian Crabs, forms of *P. prunifolia*, are both highly attractive, both in flower and fruit, the fruit of the former taking on a lively bright reddish tint, the latter pale yellow; both are very free in fruiting, and highly ornamental. Messrs. J. Cheal & Son, of the Lowfield Nurseries, Crawley, who have a very interesting collection of Crabs, have a distinct form of the Siberian, which, it is probable, originated as a seedling, and they have named it the Scarlet Siberian, on account of its brilliant colour. In several particulars, it differs from the Red Siberian, not only notably in the colour of its fruit, in the absence of the cavity in the eye which is peculiar to the common form, and in the presence of calyx-segments, or snuff, which are retained, and do not disappear, as in the case of the two types of the Siberian. John Downie, which takes on a very fine red colour, and is quite distinct in appearance, may be described as a long form of the Siberian, its brilliant orange-red colour is very attractive, and it fruits very freely. This is a striking type to plant among shrubs in the form of standard trees. An extremely handsome form is also found in Transcendent, from America, which produces its fruit in large bunches, which when ripened in the sun are highly attractive. It is very distinct in character, and the fruit takes on a remarkable bloom. Then there is the black-fruited Crab, which is very dark in the colour of its fruit, and in striking contrast to some of the others. What is grown at the Lowfield Nurseries under the name of *edulis* is a small-fruited sort, and valuable as a shrubby plant. Then there is the Dartmouth Crab, the fruit large in size, and distinctly plum-coloured, taking on a beautiful bloom; it is also a free bearer. To suit the requirements of planters, Crabs are "worked"—to use a nursery phrase—both as bushes and standards, the former being best adapted for isolation, unless the position is better suited for a standard tree. In either form they make handsome objects; and while a sunny position is probably necessary to cause a fine colour to appear on the fruit, it was yet noticeable at the Lowfield Nurseries that bush plants partly hidden from view by the growth of others about them, and partly by overhanging foliage, yet bore crops of richly-tinted fruit. *R. D.*

JUDGING AT METROPOLITAN AND LARGE PROVINCIAL HORTICULTURAL EXHIBITIONS.—The suggestion made by "P. M." at p. 336, surely cannot have been made in earnest. The idea is too ridiculous to be entertained for a moment, and thoroughly unpractical to a degree. "P. M." suggests that an expert—say from the Royal Horticultural Society—should be in attendance at all important horticultural exhibitions as a scrutineer. Scrutineer, indeed!—to see that no points of merit in the exhibits are overlooked, and if any error occur, that it may be pointed out before the adjudicators leave their work. Adding, "generally men of notable positions are selected as judges, and rightly so, but after all, they are liable to mistakes, and a scrutineer would materially assist in securing justice in each award." Mark the words, the judges "selected from notable positions, and

rightly so, are liable to mistakes," but the suggested expert is infallible, and readers of the *Gardeners' Chronicle*, especially the committees and secretaries of large provincial horticultural societies, are asked to accept this highly illogical suggestion of "P. M.," which carries its own condemnation with it, and goes to show the exceedingly high, though delusive, opinion which "P. M." has of his ideal expert, and the poor opinion which he entertains of the capacity of men selected to make the awards. Supposing that any committee of horticultural societies were to act upon "P. M.'s" suggestion, the judges selected from "notable positions" to make the awards under the conditions indicated above would assuredly not be forthcoming, and the infallible expert would alone have to award the prizes. The united judgment of two or more practical men "P. M." thinks might be wrong, and that of one man—the expert—must necessarily be right! Why does not "P. M." holdly say to which high-class provincial show recently held, his remarks apply, and also mention the one subsequently held at which the "nonplussed competitor found a peg to hang his 'quibbles' upon," and thereby do that which is right to those judges, exhibitors, and committeemen who have not, in his opinion, transgressed his ideal way of judging, exhibiting, and managing horticultural shows? *Fiat justitia, ruat cælum.*

EARLY FIGS IN POTS.

The cultivation of pot-grown Figs, I am glad to remark, on the increase in this country, and those who have seen the excellent examples at the Royal Horticultural Society's Gardens at Chiswick would be able to note the value of the Fig when so grown. My present concern is, however, with forced Figs for gathering in March and onwards, which is earlier in the year than the Chiswick Figs bear fruit, and, being early, they cannot be compared with those as regards fine flavour. Many of the varieties grown at Chiswick are not suitable for hard forcing, though excellent at a later season. There is the great advantage in pot Figs that their fruits can be obtained at a time when other choice fruits are not too plentiful; moreover, the forcing is easily managed, and the permanent Fig trees, if any, are kept for later fruiting. When pot-grown Fig trees are forced year by year, they force freely, and bear good crops. It is objected to pot trees that the fruits often drop before maturing, but the same objection holds good of the large permanent trees which are hard forced; and my experience is, that there is less dropping with pot-grown Fig trees if the treatment afforded is the proper one. Again, as regards dropping, much depends upon the variety, some being more liable to it than others, and these should be avoided, as when the first crop is lost another early crop is out of the question.

Mr. Barron, in his excellent report on the Figs at Chiswick a few years ago, gave a list of some sixty-six distinct varieties, many of which are not sufficiently known as yet in gardens for me to advise their employment as early forcere. The list of varieties which I now give is a short one. An early forcing Fig should be capable of making sturdy, short-jointed shoots, so as to fruit freely in a small space, and that involves compactness of growth, so that the forcing can be carried out in low pits or houses. Such plants are less subject to fruit dropping than strong growers. It is surprising what a nice lot of fruit a well-managed plant growing in a 10 or 12-inch pot will produce if the preparation of the wood has been good, and due supplies of nutriment and water have been afforded at the right time, any excess of either causing badly-flavoured fruit and fruit-dropping. The regularly-forced pot trees fruit so readily, that I look upon them as being the most reliable of early supplies. During the last few years there have been some valuable additions to early varieties, viz., St. John's, Pingo de Mel, and Violette Sepor. Many other varieties bear forcing well, but they do not fruit in a short space of time; as, take for instance, the first and second named, there is no difficulty in having ripe fruits in March if the plants are started in the middle of November, which allows of slow forcing from the

start. Both varieties are noted for good habit, and not shedding the earliest fruits in the dull season.

With regard to these varieties, I have not much experience with them as permanent trees planted out for summer fruiting, but for pot-work they will supersede some of the older varieties for early forcing, and when of small size. That well-known Fig, Negro Largo, one of the best grown, is not a good early forcere, but there is none like it for late autumn cropping, and where specially grown for fruiting at this season and later it proves a most valuable Fig; and no variety is more amenable to pot-culture. Planted out it runs wild, and refuses to fruit unless one is always pruning its roots, or these are confined to a small space. I am of the opinion that the best use is made of Negro Largo in growing it specially for late fruiting, although it is a valuable Fig for very early forcing, if given plenty of space in which to grow at top. At Syon it is not free enough as an early variety, though later on it is all that one could wish. The best all-round Fig is the favourite Brown Turkey, a grand pot Fig, whose second crop is often better than the first. For growing in a restricted space and for fruiting from May to September, it is a valuable variety; but it will not stand hard forcing like St. John and Pingo de Mel. The small white and black Lechias force well, but the white variety is the more delicious. The White Mareilles is a well-known variety, good for permanent trees, or for growing in restricted borders; and there are some others equally good, but with me none is so reliable as those I have named. The system pursued at Syon is to place the pot-plants indoors in November on a mild hot-bed of fresh leaves, in low pits, close to the glass, and to force slowly. We obtain from these trees fruits in the month of March. I do not advise the hard forcing of Figs, and if fruit be not wanted till April, the month of December will be early enough to begin, as the crop of fruit will then be better and the fruit larger, and of finer quality. A great point with early-forced Figs is the thorough ripening of the wood, and not allowing them to carry late crops, as they will do if the trees be not lightened of the fruits that set. The forced trees here are placed in a cool house after the forcing is over till September, when they are turned out of their pots and denuded of a portion of the old roots, repotted, and sheltered from heavy rains, but stood in the open till placed in the forcing-pit. The potting compost consists of sound loam, old mortar or plaster, and bone-meal. A few Fig cuttings are struck yearly, and the plants grown on to take the place of those which have to be discarded, because too large for the purpose. During their early forcing stages but little moisture at the roots is required; and pinching at the fourth joint is important as growth proceeds, to assist the fruit in settling. *G. Wythes.*

NURSERY NOTES.

CANNAS AT PAUL & SON'S, CHESHUNT.

Canna indica the botanists is now a very popular plant in our gardens, and we need not value it the less because it is an old plant. John Gerard says, 1596, "that he had planted it in his garden divers times, but it never came to flowering; and that it must be set or sown in a pot with fine earth, or in a bed made of horse-dung, in such manner as Cucumbers and Musk-Melons are." Parkinson was more successful later, and flowered it "in some kindly years," but it never bore seed, nor would it "abide the extremities of our winters, unless it meet with a stove or hothouse such as are used in Germany, for neither house nor cellar will preserve it." In Miller's time it bore seeds freely, and he recommended that the old plants be thrown away after they had borne good seeds, as the young plants always flowered better than the old roots; but neither Miller nor the older botanists were very successful in improving the plant, for Mr. W. T. Aiton, in the *Hortus Kewensis*, 1810, enumerates but six varieties—*C. indica rubra*, *C. i. coccolnea*, *C. i. patens*, *C. i. lutea*, *C. glauca*, and *C. flaccida*. Cannas are

among the easiest exotic plants to cultivate. They are excellent in pots for late autumn and winter culture, and they are valuable as semi-tropical plants in the flower garden. *Crozy*, of Lyons, has been very successful in raising richly-coloured varieties from seed; and in England, Messrs. Paul & Son, of the Old Nurseries, Cheshunt, have made considerable progress in producing a new feathered strain of undoubted merit, which combine a fine dwarf habit in the plants. Mr. Geo. Paul, senior, the genial rosarian, is quite an enthusiast amongst Cannas. One of the best varieties is Dr. Masters, the petals of which are bright yellow, very distinctly feathered with bright red, lip deeply spotted and marked with crimson. Mrs. Fandel Phillips has yellow petals feathered red, lip yellow, densely spotted red, and is fine. George Nicholson is a plant of dwarf habit; the flowers are clear yellow, richly flaked with crimson, lip deeply spotted with the same colour. Miss Elsie Perkins is a lovely clear yellow self; *Phœbus* is a very pretty orange-red variety, with large flowers. *Bacchus* is a showy variety, with flowers of large size, deep reddish-crimson in colour. Mrs. Tasker is an excellent dwarf plant for pot culture in the spring; the petals are yellow, with buff centre. *Amphion*, cinnabar red flowers of good form, and a compact spike; *Cheshunt Yellow* has flowers of a distinct clear yellow, the lip reddish-brown. T. B. Haywood is one of the best for autumn flowering; the colour is a distinct deep rosy-crimson. *Crozy's* varieties, though distinct from the Cheshunt strain, are also of great merit. *Papa Crozy* is perhaps the best; the flowers are of a reddish-velvet, and are well-formed. *Gloire Lyonnaise* is yellow, heavily blotched orange-red; *Souvenir de Antoine Crozy*, scarlet, with yellow margin, is very distinct; *Comte de Bonchard* is yellow, evenly spotted with red, very good and large; *Van der Berg* is reddish-orange, with clear yellow margin, and very dwarf in habit. *Emil Rodeck* is a dwarf plant; the flower a clear golden-yellow self, with maroon-red lip. The above are the best of the Cheshunt collection, and they are grown both planted out in the open garden and in pots.

Most gardeners have grown the *Canna* in pots, and few plants are better adapted to furnish the greenhouse or conservatory during the autumn, whilst with a little heat they can be had in flower all through the winter. The plants may be grown to immense size if they are given good loam and decayed manure to grow in, and plenty of pot-room. I have had splendid specimens in 12 and 13 inch pots. The plants also like a light and airy position when making their growth. At Cheshunt smaller pots are used, and quite as good results are obtained in respect to the quality of the flowers. They were also flowering very nicely in the open borders in good deep soil; in masses of one colour, they would have a fine effect in any garden. I have used them in the form of large specimens with good effect in the centres of large beds which are planted with *Pelargoniums* and other things. Not only are the flowers of these *Cannas* richly and brilliantly coloured, but the effect of the foliage at a distance is very striking, and it is easy to obtain colour by using *Phloxes*, *Pentstemons*, *Antirrhinums*, or *Pelargoniums* of the zonal type, *J. Douglas*.

PLANT NOTES.

APIOS TUBEROSA.

This is a pretty Pea-like, deciduous climber, which succeeds in ordinary garden soil, covering a trellis in a short space of time. When well planted, it will take care of itself.

EUCOMIS PUNCTATA.

This useful plant should be found in every collection. The bulbs should be grown in a mixture of porous soil in the open, about 1 foot deep, mulching them during the early winter months. I prefer to grow the plant in clumps of eight bulbs. Our plants were grand objects when in bloom,

CLEMATIS DAVIDIANA AND C. GRAVEOLENS.

The first is a plant of recent introduction, which I can recommend as being hardy, of a distinct character, erect in habit, and bearing a profusion of lavender-coloured flowers, quite different from those of the ordinary type of *Clematis*. It attained a height of 3½ feet this season, and it will doubtless grow taller. It is a suitable plant for a border or rockery, and its hardiness is such that it has stood the test of last winter unprotected; still, I mean to take extra care of it for the future, as it is well worth it. The blooms begin to appear in the month of August, continuing to expand till the end of the following month. *Clematis graveolens* is a pretty pale yellow-coloured species, suitable for covering a fence or trellis, and it forms a fine effective contrast to *C. Jackmani*. *H. May, Markree Castle, Sligo.*

NEW INVENTION.

A NEW TURF-CUTTER.

In fig. 87 is presented a new implement for paring or cutting turf for the purpose of laying down lawns, which is likely to effect an immense economy over hand-labour. The machine has a paring-blade supported by one vertical cutting-blade, and ensures a clean and level cut bottom, and a turve or sod of equal thickness. A heavy roller runs in front of the blade to level the surface and regulate the thickness

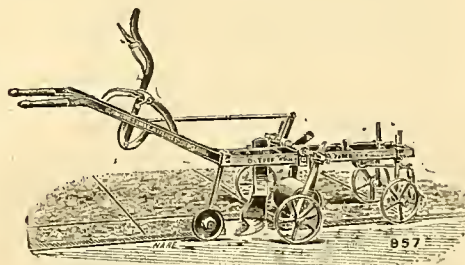


FIG. 87.—A TURF-CUTTING IMPLEMENT.

of the cut. The cutter is furnished with guide-wheels to keep it level, and to ensure the turves being cut to a uniform width of 12 inches. Lifting-wheels to raise the implement are provided at each end.

To cross-cut the turves to a uniform length of 3 feet, there is an extra vertical cutting-blade which runs in front of the roller at A, and a marker attached to the implement marks a line on the grass parallel to the cut, showing where the cutting-blade is to run the next bout. The machine has been brought out by Messrs. Ransomes, Sims, & Jefferies, Ltd., Orwell Works, Ipswich.

SOCIETY.

THE UNITED HORTICULTURAL BENEFIT AND PROVIDENT.

OCTOBER 17.—The ninth anniversary dinner of this Society was held at the Cannon Street Hotel on the above date, when James Herbert Veitch, Esq., presided, he being supported by Messrs. Nutting, H. J. Veitch, A. Moss, W. Y. Baker, H. B. May, H. Cutbush, W. Icton, H. Cannell, and other gentlemen. A larger number than usual were present (110), and the greatest enthusiasm pervaded the meeting.

The CHAIRMAN, in his after-dinner speech, when proposing the toast of the evening, placed before his audience a most concise and forcible statement respecting the benefits offered to its members by the Society. More convincing facts could not possibly be given than the quotations from its rules with regard to the many advantages offered. The chairman announced that the Society had now invested funds in Trustee's stocks to the amount of £10,503, the investments for the past three years having been at the rate of £1000 per annum, whilst this year they will, in all probability, exceed that sum. When the Society came of age it had only, after twenty-one years of hard work by its secretaries and officers,

177 members. A new era then commenced with these anniversary dinners, the ultimate object of which was to bring the Society into more prominent notice. This has been fully justified by the results, and there are now 541 members scattered over all parts of the United Kingdom, and a few outside of its boundaries. Then the invested funds stood at £355, as against the present sum given above. Then there were twelve honorary members, now there are fifty; the increase, therefore, has been an all-round one. The Chairman alluded to the alterations in the rules, whereby the amount payable in sickness has been increased from July 1 last. This is especially noteworthy, the alteration having, without the slightest demur, received the sanction of the Registrar of Friendly Societies. The increase thus given is from 10s. 6d. to 12s. per week for those who contribute 6d. per week, and from 16s. to 18s. for those who pay 8d. Speaking of the Convalescent Fund, the Chairman said:—"Peculiar to this Society, and undoubtedly of great value is the Convalescent Fund, a fund which owes its existence to the foresight and generosity of Mr. Sherwood. This fund is purely a voluntary one, and it is at the disposal of the committee, that they may send away for a time any member who may have been so prostrated by illness as to render a change essential, but who may not have the necessary means. To generous friends and to those who are enjoying a larger share of the good things of this world than falls to many of us, I would venture to ask something more than a kindly thought for this fund when the United Horticultural Benefit and Provident Society next comes uppermost in their minds." Remarks worthy of thought by all gardeners were those made also by the Chairman on thrift:—"On the necessity of thrift in general, and the strong advisability of joining such a benefit and provident society as this when young, it would be easy to dwell, and much might be said in particular on the necessity of thrift for the young men and foremen in the botches of the large gardens of this country, more especially as the occupation they have chosen has suffered so much, and is still suffering, through recent years of depression, and through the very large number who are continually entering its ranks. Travelling lately in various parts of this country, I could not help being struck by the number of foremen capable in every way of taking head places, and who, even with strong influence to assist them, fail to obtain the much coveted post. Some have been waiting for years, and are apparently as far off to-day as ever from attaining their wish. To such would I especially recommend the Benefit and Provident Society. The younger a man joins, the sooner a large deposit is acquired, and the sooner one will find oneself in the position of certain members at present, whose interest on their deposit is greater than the amount annually paid in subscriptions." No more weighty arguments than these should be necessary to convince young gardeners of the desirability of joining the society. During the evening it was announced that Mrs. Sherwood would contribute £5 ss. to the Convalescent Fund, a fund largely augmented by the generosity of Mr. and Mrs. Harry J. Veitch, on the occasion of their silver wedding, £100 being then given. Other sums were promised to various purposes, including Mr. A. Moss, £2 2s.; Mr. Icton, who becomes a life member, £10 10s.; Mr. Mott, the sum of £10 10s. Mr. Arthur W. Sutton, Reading; Mr. Jones, Lewisham; and Mr. Wythes, Syon, hon. members of 21s. each annually, with donations of the same amount from Mr. Geo. Munro and Mr. A. F. Harroo. The tables and the room were profusely decorated with flowers and plants, supplied chiefly by Messrs. J. S. Veitch & Sons, Messrs. B. S. Williams & Son, Messrs. Laing & Son, Messrs. Cannell & Son, and others. A plentiful and excellent dessert added to the pleasure of the evening, as did the musical arrangements.

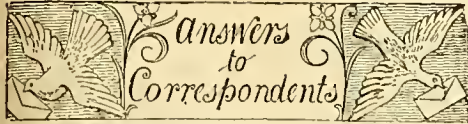
The Chairman, when responding to the toast of his health, stated that W. J. Nutting, Esq., had kindly consented to preside at the next annual meeting in 1895. The Secretary is Mr. Collicie, and his address 9, Martindale Road, Braham, S.W.

LAW NOTES.

WRONGFUL DISMISSAL OF A GARDENER AT ILKLEY.

HEATON F. COURTENAY.—Mr. W. Robinson appeared for the plaintiff, 11y. Edward Heaton, gardener, of Ilkley; and Mr. Child represented the defendant, Jas. W. Courtenay, who resides at Netherwood, Ilkley. The claim was for £4 10s. for wrongful dismissal, or in the alternative, four weeks' wages.

This was a recent case, in which a gardener of experience, who had been employed by Sir Isaac Holden, Mr. Clement Holdsworth, and other gentlemen, was dismissed by his employer with what was practically a fortnight's notice, after having worked for him about eleven weeks. The gardener had received a wage of 22s. per week, with house and coal. He found the garden, and especially the vines, greatly neglected, and in a very bad state; and on many days he had worked from 4 or 5 o'clock in the morning till 9 and 10 o'clock at night. He had one man under him, and he had also extra assistance for a few weeks. On August 19 Mr. Courtenay introduced a jobbing gardener for the purpose of



Answers to Correspondents

•• Owing to the large increase in our circulation, we are under the necessity of going to press some hours earlier. Our contributors will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.

A PLAN FOR ICE-HOUSE: Z. The plan for a good ice-house must depend upon the locality for which the particular one is required. If the soil is very porous the well would perhaps be best above ground with double walls. The figure given is of one

CORRECTION.—We regret that in the list of subscribers to the Testimonial to Mr. A. F. Barron given in our last issue, the name of the Rev. W. Wilks was spelled Weeks.

DENDROBIUMS: C. S. It is most likely that the *Dendrobium nobile* are making growths on the pseudo-bulbs, in place of flowers, through the plants not having had a sufficiently long rest in a cool house. Or water may have been afforded too soon. Sometimes, when all other necessary conditions are observed, the plants will grow as indicated, if the house in which they are kept is not sufficiently ventilated.

IN A FRENCH BEAN HOUSE: *Enquirer.* Tomatoes would succeed with the Beans, but both must be kept free from weeds.

LILIUM CHALCEDONICUM: W. J. N. The old bulb produced two flower shoots, which is in excess of what is usual, and when this is the case two bulbs form, and the mother bulb as a consequence becomes so much weakened that it is not likely to be of any more use.

LARGE PEARS: R. H. B. Twenty-eight ounces is a good weight for Pitmaison Duchesse, but much heavier examples have been seen of Uvedale's St. Germain, Grosse Dillon, Chaumontelle, Beurré Diel, and Catillac.

MISS JOLIFFE CARNATIONS DYING: *Thos. Simmonds.* The plants are probably infested with eelworms at the roots. If you will send a specimen or two we shall be glad to inform you of the cause of their loss.

•• PLANTS, FRUITS, ETC., TO BE NAMED.—The applications to name flowers, and especially fruit, are so numerous at this season as severely to tax our resources. They entail an expenditure of time, labour, and money, of which our readers have no idea. We are always willing to oblige our correspondents as far as we can, but the editing of the *Gardeners' Chronicle* is our business, to which everything else must give way. Correspondents are respectfully requested to observe the rule that not more than six specimens can be dealt with at a time. If more are sent, it would be a graceful act on the part of the sender, to send also a small contribution to the *Gardeners' Orphan Fund.* Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered. Leaves only, or florists' varieties cannot, as a rule, be named.

NAMES OF FRUITS: J. P. 1, Ecklinville Seedling; 2, Scarlet Golden Pippin; 3, Cox's Orange Pippin; 4, Fearn's Pippin; 5, New Hawthornden; 6, Emperor Alexander.—R. Botting. Apple, good specimen, Gloria Mundi.—J. Twitcheam. 1, Napoléon Pear; 2, Rymer; 3, Emperor Alexander; 4, Alfriston; 5, Lady Henniker; 6, not certain.—Bob. 1, Duchesse d'Angoulême; 2, Uvedale's St. Germain; 3, not known; 4, Beurré Diel; 5, not known; 6, Bramley's Pippin.—*Answers.* Apples, 1, Braddick's Nonpareil; 2, Grange's Pearmain; 3, not known; 4, Claygate Pearmain; 5, Kerry Pippin; 6, Blenheim Orange; Pears, 1, Vernalam; 3, Ballisème d'Hiver; 6, Bergamot d'Esperen; others not known.—T. J. 1, Manks' Codlin; 2, Kirke's Lord Nelson; 3, Schoolmaster; 4, Hambleton D'aux-ans; 5, Pear, Jersey Gratoli; 7, Cox's Orange Pippin; 6, Beurré Hardy.—G. D. 1, Beurré de Capiaumont; 2, not determined.—Geo. Abbey. Pear, Gansell's Bergamot.—A. C. G. 1, Besspool; 2, Forge. The varieties you mention are better exhibition fruits.—E. J. 1, Pear, Noveau; 2, Beurré d'Asain; 3, Beurré d'Aremberg; 4, Scarlet Russet; 5, White Nonpareil; 6, Old Nonpareil.—G. B. 1, Cox's Orange Pippin; 2, Scourer Pippin; 3, Clarke's Seedling; 4, Stirling Castle; 5, Tower of Glamis; 6, not recognised.—C. B. Apple not known to us, probably not yet introduced; a handsome fruit.—F. K. & Co. We do not recognise your Apple; it seems to belong to the Sturmer section.—W. Jones. 1, Pear, General Todtleben; 2, Beurré Superfin; 4, Maréchal de la Cour; 5, Apple, Heary Morning; 6, Fearn's Pippin.—W. E. H. 1, Fearn's Pippin; 2, Cox's Orange Pippin; 3, not known; 4, Cellini; 5, not known.—F. K. & Co. 1, King of the Pippins; 2, not known; 3, Rymer; Pear, Josephine de Malines.—*Claud Lonsdale.* 1, Pear, Bergamot d'Esperen; 2, Beurré Diel, large specimen; Apple, 1, Scarlet Nonpareil; 2, Grange's Pearmain; 4, Kerry Pippin.—H. D. H. Apple, Scarlet Nonpareil.—W. W. 1, Duchesse d'Angoulême; 2, Beurré Diel; 3, Northern Greening; 4, not recognised; 5, Grosvenstein; 6, Court Pendu Plat.—F. H. Pear, Duchesse d'Angoulême.

NAMES OF PLANTS: Correspondents not answered in this issue are requested to consult the next number.—A. R. Phaeolus Caracalla.—A. S. 1, Matricaria

inodora flore-pleno; 2, *Pyrethrum Parthenium flore-pleno*.—E. M. C., *Kingstown.* *Globba escaiff-lora*, *Bot. Mag.*, t. 1428.—R. M. 1, *Maranta Makoyana*; 2, *Zingiber officinalis* (Ginger-plant). You may grow it as an evergreen, or rest it for a time when all the growths are matured, and no more leaves coming.—A. B. The flower of *Cypripedium* was crushed. Tain card-board boxes are of no use for sending flowers through the post. If the leaves are somewhat like those of *C. barbatum* it is *C. siamense*.

NERINES: J. D. The Nerines, owing to their having been loosely packed, were quite destroyed. Send more flowers properly packed.

ODONTOGLOSSUM CRISPUM: *Devoniensis.* It is a very unusual occurrence for a plant of this species to produce a flower-spike from the apex of the bulb, and in your case it is still more extraordinary, seeing that another spike is being produced from the base concurrently.

OMISSION FROM THE GARDEN DIRECTORIES: *J. Coomber.* The garden not finding a place in these publications, the publishers will be only too glad to insert it if you will communicate with them.

ONCIDIUM TIGRINUM: *Devoniensis.* It is not an uncommon thing for this plant to have two spikes to the bulb, but with it, and also the *Odontoglossum*, there is strong evidence that you get a good show of flowers from your plants, and that in the culture of them you will be successful.

PEBBLESTONE PIPPIN: *Hibernia.* We know of no variety of this name. The other question next week.

PLEIONE: R. M. The Orchid is *Pleione lageneria*. After flowering it should be freely watered until the leaves turn yellow and fall off next year, when it should be kept dry until the flower-buds appear.

RASPBERRIES: T. P. Very fine fruits for this or any season.

STRAWBERRIES IN POTS NOW IN BLOOM: W. H. A. We should fear the plants are ruined for forcing purposes, unless you can put a stop to the flowering. Do not expose them to the rain, but place them in frames or in stacks in layers, with half-rotten leaves between the pots. These may stand against a wall facing north, or they may stand free, the plants then, therefore, facing two ways.

VIOLET CZAR: E. A. C. It is late for transplanting Violets into pits or houses; moreover, the old plants would not bloom so satisfactorily, at least, at any early part of the winter, as young plants which have been suitably prepared for this kind of culture. A greenhouse is not a suitable place either, the plants being too far from the glass if planted out, and artificial heat is inimical to their well-being. You may cultivate Violets in pots on a greenhouse shelf. Large ones should be employed for them, so as to put up the mother and half-a-dozen of the strongest runners, but this must be done in September.

COMMUNICATIONS RECEIVED.—C. P. N.—G. W.—H. W. W.—N. E. B.—T. C.—H. M.—Harrison Weir.—W. H. S.—R. L. H.—A. D.—R. D.—R. Y.—A. H.—R. Vitch & Son.—B. Wadds.—J. H.—R. S. & Co.—D. M.—H. G. H.—Houston.—B. R. S.—H. T.—M. P. R.—K. & B.—W. B.—Camdens.—W. H.—J. H.—A. M.—H. J. C.—M. T. M.—W. K.—R. V. & Sons (with thanks).—C. J. W.—B. C.—A. B. & C.—O. C.—G. S.—M. T.—W. W.—E. C.—Dicksons—East Anglia.—Mells Park—S., next week (thanks for donation of 3s. to *Gardeners' Orphan Fund*).

DIED.—CHRISTIAN FREDERICK BAUSE, of Morland Nursery, South Norwood, London, S.E., aged fifty-six years, passed away October 23, 1895.

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—The Publisher has the satisfaction of announcing that the circulation of the "*Gardeners' Chronicle*" has, since the reduction in the price of the paper increased to the extent of more than 80 per cent., and that it continues to increase weekly.

Advertisers are reminded that the "*Chronicle*" circulates among COUNTRY GENTLEMEN, and ALL CLASSES OF GARDENERS AND GARDEN-LOVERS at home, that it has a specially large FOREIGN AND COLONIAL CIRCULATION, and that it is prepared for reference in all the principal Libraries.

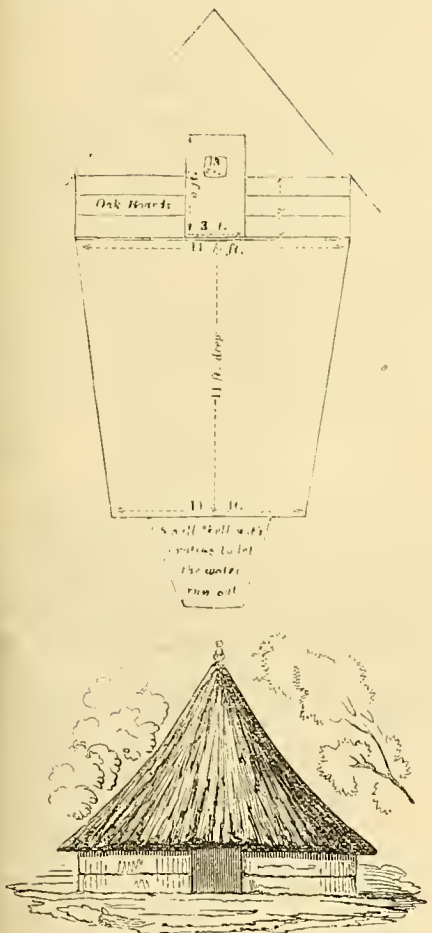


FIG 88 - PLAN OF ICE-HOUSE.

partially underground, and explains itself. The dimensions of a good house should not in any case be less than those in this case.

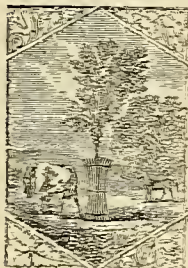
Books: J. D. *Fruit Farming for Profit*, by G. Bunyard, published by F. Bunyard, 29, Week Street, Maidstone. *Fruit Culture for Small Holdings*, by J. Cranston, published by Jakeman & Carver, printers, Hereford. *Market Garden Husbandry*, by W. Ablett, published by Chapman & Hall, London.—A. Lafort, *Graville St. Honore*. *The Rosarian's Year Book*, published by B. Mrose & Sons, 23, Old Bailey, London, E.C.

CARNATION: H. J. Ross. A monstrosity, known as the Wheat-ear Carnation. It is not very uncommon.

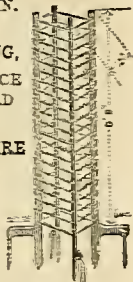
Cauliflowers and Broccoli: V. A. G. The season for the first has been a most favourable one, and the produce is finer and better than usual. Broccoli, on the contrary, are still growing, and should hard weather be experienced, many of the plants will suffer. We should advise the lifting of all exuberant plants and replanting them, their heads inclining to the north. This is readily done by two men, one of whom should use the spade, and the other handle the plant, and in such a tender manner that the leaves be not injured in any way.

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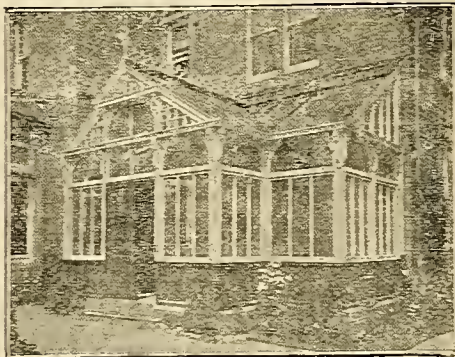
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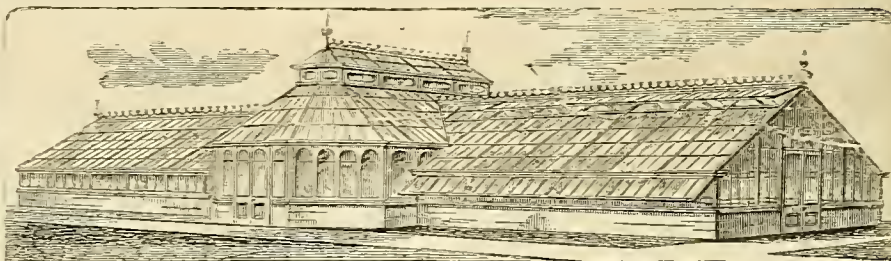
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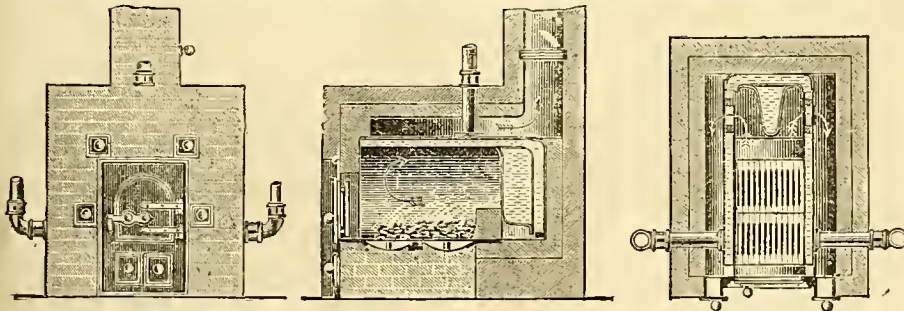
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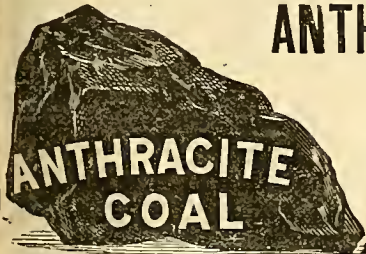
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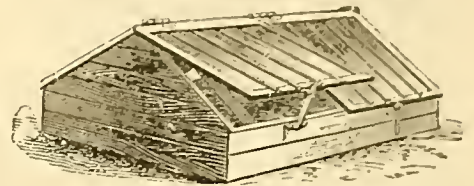
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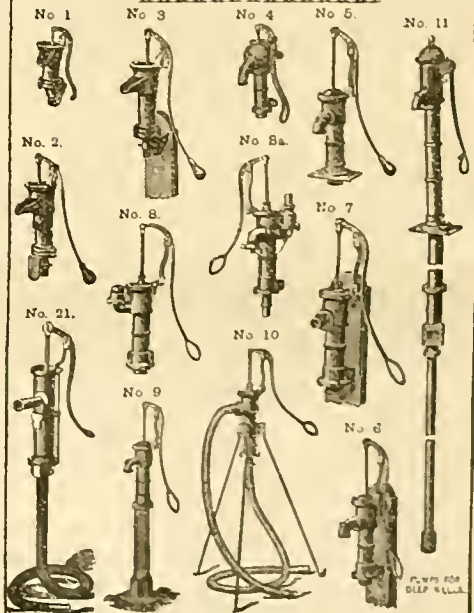
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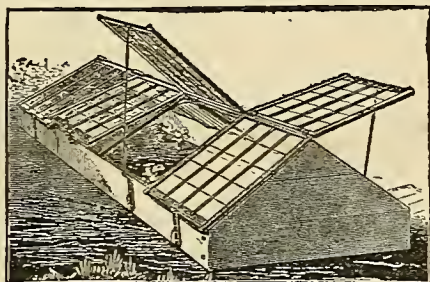
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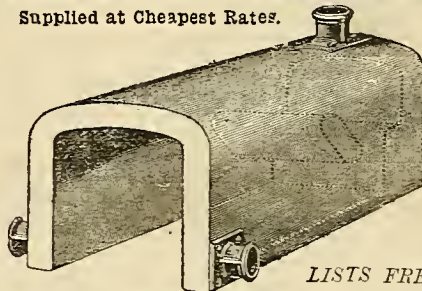
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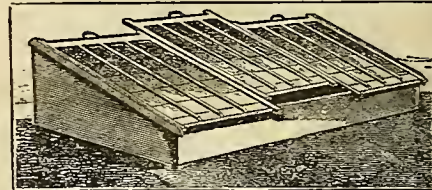
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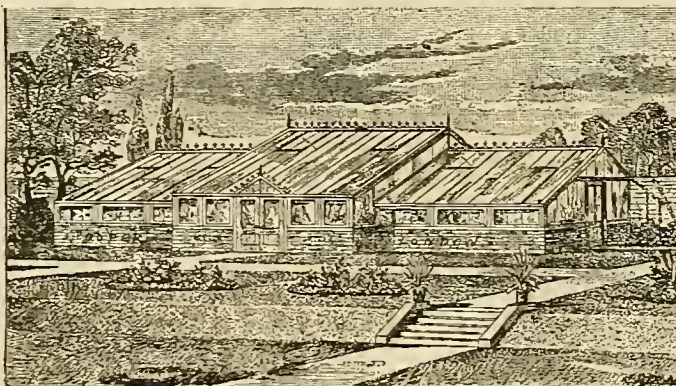
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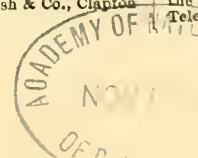
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14. Fruit and Building Lands... ..	0	0	10
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MESSRS. PROTHEROE AND MORRIS respectfully announce that they have received the Bills of Lading for the above, consigned to them for absolute SALE. As soon as the steamer arrives, the date will be advertised, and Messrs. P. & M. will in the meantime be glad to receive applications for Catalogues. The whole of the Bulbs will be offered on one day.

Toddington, near Winchcombe, Gloucestershire. Great SALE OF FRUIT TREES, by order of the Toddington Orchard Company, Limited, in Liquidation.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION on the Premises, The Nurseries, Toddington, Winchcombe, Gloucestershire, seven miles from Ashchurch Station (Midland Railway, and eight from Evesham Station (Midland and G. W. R.), on WEDNESDAY NEXT, November 6, at 12 o'Clock precisely, in consequence of the large number of lots, an immense quantity of FRUIT TREES, including 5000 Standard and feathered PLUMS, consisting of Victorias, La Delieuse, Early Prolific, Pond's Seedling, and other leading sorts; 300 Pyramid Pears on Quince, 1000 Farleigh Damsons; Apples: 40,000 Black CURRANTS, Baldwins, Naples, Prince of Wales, and Lee's Prolific; 30,000 Red CURRANTS, Ruby Castle, Red Dutch, Red Grape, and Red Scotch; 4000 GOOSEBERRIES, Crowe Bob, Laacashire Lad, Warrington, and others; 4000 Cob Nuts,

40,000 FOREST TREES,

including Ash, Larch, Scotch and Spruce Firs, Horse-Chestnuts; 300 Limes; 250 ARUM LILIES, in pots, &c.

The Stock may be viewed any day (Sundays excepted) prior to the Sale. Catalogues may be had on the Premises, of Messrs. HARVEY, PREEN, AND CO., Chartered Accountants, Basing House, Basinghall Street, London, E.C., and Kiddeminster; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Farnham, Surrey.

Highly Attractive and Extensive SALE OF NURSERY STOCK.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. S. Bide to SELL by AUCTION, without reserve, on the Premises, the Rhododendron Nursery, Badshot Lea (the lease of this Nursery having expired), and at the Home Nurseries, both at Farnham, Surrey, on MONDAY, November 18, and FOUR FOLLOWING DAYS, at 12 o'Clock precisely each day, about 30,000 RHODODENDRON PONTI-CUM, 1½ to 4 feet, fine bushy plants, remarkably well set with flower buds; 40,000 FRUIT TREES, including 6,000 2-year Apples, a wonderfully fine lot, grown on old hedges; many thousands of other Fruit Trees; 10,000 Standard and Dwarf Roses; 100,000 FOREST and ORNAMENTAL TREES, consisting of thousands of Spruce, Austrian and other Firs, Larch, Ash, Quick, Birch, Chestnuts, &c.; 10,000 Border Shrubs, in rich assortment, planted in specimen borders half-a-mile long, and all in fine condition for removal; and also many thousands of Evergreen, Conifers and Deciduous Shrubs.

May be viewed any day prior to the Sale. Catalogues may be had of Mr. S. Bide at the Alma Nurseries, Farnham, Surrey, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Monday and Thursday Next.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., as follows, at 12 o'Clock.

MONDAY NEXT, November 4.—A consignment from Belgium, consisting of Azaleas, Palms, Dracenas, &c., Hardy Perennials, and other plants and bulbs; English-grown Lilacs, 400 standard, half-standard, and Dwarf Roses; 50 lots of Greenhouse Ferns, Tuberoses, Narcissus, &c.

THURSDAY NEXT, November 7.—300 Azalea mollis, 100 A. indica, 100 Camellias, 30 Laurestinus, and 30 Rhododendrons from Belgium; 50 lots of Specimen Exhibition Plants in grand condition, including Palms, Cycas, Crotons and Ferns, Narcissus; 400 standard, half-standard and Dwarf Roses, hardy plants and bulbs, &c.

On view morning of Sale, and Catalogues had.

Friday next.

1000 SOPHRONITIS GRANDIFLORA, 500 ONCIDIUM VARICOSUM ROGERSON, and ODONTOGLOSSUM CRISPUM (Pacha type), from Messrs. FRED. HORSMAN & Co.

Also 100 lots special CYPRIPEDIUMS, from the collection of R. I. Measures, Esq., 100 lots of ODONTOGLOSSUM GRANDE, 100 lots of IMPORTED and 200 lots of ESTABLISHED ORCHIDS.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, November 8, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next.

By order of W. L. LEWIS AND Co., Southgate.

LÆLIA ELEGANS,

Specially selected by our collector from a native Fazenda on Verandas.

CATLEYA SCHOFIELDIANA (true), in fine condition.

CATLEYA VELUTINA

and

CATLEYA SCHILLERIANA, All in the best possible health and condition.

MESSRS. PROTHEROE AND MORRIS will include the above in their ORCHID SALE on FRIDAY, November 8, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

SALES BY AUCTION.

DUTCH BULBS—DUTCH BULBS.

Sales nearly every day, in Large and Small Lots, to suit all Buyers.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 33, King Street, Covent Garden, nearly every day, at half-past 12 o'clock, first-class consignments of Choice HYACINTHS, TULIPS, CROCUSES, NARCISSUS, and other BULBS arriving daily from well-known farms in Holland, in the finest possible condition.

On view morning of Sale, and Catalogues had.

WEDNESDAY NEXT.

PLANTS, BULBS, LILIUMS.

A Consignment of 500 Azalea indica and mollis, well furnished with Flower-buds. A variety of DRACENAS, LATANIA BORSONICA, CORYPHAS and other PALMS, and various small DECORATIVE PLANTS, just received from Ghent.

An Importation from Holland, including a Choice ASSORTMENT of small, well-grown ORNAMENTAL SHRUBS, for in or out-door cultivation.

A Small Surplus Stock of well-grown English PALMS, and other PLANTS.

1,000 Choice named Standards, Half-Standards, DWARF CLIMBING, and other ROSES, from a successful German grower, comprising a fine variety of well-known sorts.

7500 Best Berlin Lily of the Valley Crowns, just received.

5000 Spiræas of sorts, Dielytra spectabile, Liliams, in variety.

200 Dwarf Roses from an English Nursery. 300 CURRANT and GOOSEBERRY TREES.

Several thousand Early Forcing BULBS from France. LILIUM HARRIS L. CANDIDUM, L. UMBELLATUM, and others; FERREA REFRACTA ALBA ANEMONES, &c.

A SPECIAL COLLECTION OF EXTRA FINE HYACINTHS, comprising most of the best sorts, specially selected for Glass and Pot Culture. Great variety of TULIPS, CROCUSES, rare NARCISSUS, SNOWDROPS, &c.

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

On view morning of Sale, and Catalogues had.

Dorking Nurseries.

Close to the Stations on L.B. & S.C. and S.E. Railways. UNRESERVED CLEARANCE SALE.

MESSRS. WHITE AND SONS will SELL by AUCTION, on the Premises as above, by order of the Trustees under a Deed of Assignment, on MONDAY, TUESDAY and WEDNESDAY, Nov. 4, 5, and 6, 1895, at half-past 11 o'clock on each day, the whole of the NURSERY STOCK:

Specimen Variegated Hollies, Piceas, Golden and Irish Yews, Erecta Viridis, Retinosporas, Thujas and Cupressus, Aucararias, Junipers, Laburnums, Silver Elms, Scarlet Chestnuts, Double Pink and White Thorns, Almonds, Variegated Maples, &c., Pair of Large Specimen Magnolia Soulangiana, 2500 Standard, Dwarf and Bush Roses, 500 Rhododendrons, 400 Aucubas, 100 selected Border Shrubs, 100 Golden Kidneys, 1400 Thujas, 1400 Green and Variegated Hollies, Retinosporas, Arbor-Vitæ, Cedar Decidua, Berberis of Sorts, Cryptomeria elegans, 60 Pinus Austriaca, Cembra and Excelsa; 850 Golden and Common Yews, Abies Douglasi, Spruce and Scotch Firs, Piceas of Sorts, 4000 Larch, 2000 Quick, 4500 Laurel and Portugal Laurels, 4000 Handsworth and Variegated Box, 4000 Privet Ovalifolium; 850 Dwarf trained Standard and Pyramid APPLES, PEARS, PLUMS, and CHERRIES, 250 young Mulberries, Quinces and Medlars, Cob Nuts, Filberts, Raspberries, Gooseberries, Red, White and Black Currants; also a large quantity of Drumhead and Garden Cabbage Plants, Strawberry, Asparagus, Sea-kale and Rhubarb Plants and Celery, Brooms, Virginian Creepers, Ampelopsis Vetchii, Pæonies, Iris, Ivies, Wistaria, Marie Louise Violets, Carnations.

The Forest Trees, Limes, Abies, Canadian, Balsam, and Italian Poplars, Silver Birch, Maple, Oak, Ash, &c., &c.; 5 Span Roof Hot and Cold Houses, 2 Lean-to Greenhouses, 3 Dwarf Span Houses, 4 Ranges of Hot and Cold Pits, Box-frames, Hand-lights, Garden Tools, and Flower Pots; also a large collection of Hothouse and Greenhouse Plants, Heaths, Azaleas, Chrysanthemums, Bouvardias, Pteris, Maidenhair Ferns, Lilies, Camellias, Solanums, Primulas, Begonias, Geraniums, Pelargoniums, Palms, Dracenas, Cyperus and Ferns, Cœlogyna cristata, Dendrobiums, Cypripedium, Fine Lycopodium alba, Passiflora, and a pair of fine Palms.

Catalogues may now be obtained at the place of Sale, at the Hotels in the neighbouring Towns; and of the Auctioneers, 18, High Street, Dorking, and on Fridays at Leatherhead.

Sale of Monuments, Architectural and Garden Ornaments, &c.

MESSRS. HORNE, SON, AND EVERSFIELD have received instructions from M. W. Johnson, retiring from business, to SELL by AUCTION on the premises, Nos. 333 and 379, Euston Road, N.W., on THURSDAY, Nov. 21, at Twelve o'clock precisely, the Extensive Stock, comprising Marble, Stone, and Granite Monuments, Crosses, Granite Obelisk 22 feet 6 inches high, two Marble Chimney-pieces, quantity of Ornamental Vases, Fountains, Mortars, Models, Moulds, sundry pieces of marble and stone, Working Plant, Endless Pulley (to carry 4 tons), set of Sheer Legs, also Drawings, Photographs, &c.

May be viewed two days previous, and Catalogues had (when ready) on the premises, and of HORNE, SON, AND EVERSFIELD, 17, Great George Street, S.W., and 85, Gresham Street, E.C.

WANTED to Rent, on Lease, a NURSERY, with 800 to 1200 feet run of Glass, suitable for Cucumber Growing near London.—A. B., Mr. Clarke, Church-side, Market Place, Romford.

THURSDAY NEXT.

MESSRS. LINDENS'

GREAT

Sale of Orchids

MR. J. C. STEVENS

Will Sell by Auction,

AT HIS GREAT ROOMS

38, KING STREET, COVENT GARDEN,

ON THURSDAY NEXT, NOV. 7,

At Half-past Twelve precisely,

AN IMPORTATION OF

VANDA SANDERIANA,

Collected by the discoverer. In very fine order.

PHALÆNOPSIS SCHILLERIANA.

An Importation just received in the grandest possible condition.

The rare and beautiful new hybrid

LÆLIO-CATTLEYA VARJENEWSKYANA.

The rare and choice

MAXILLARIA LINDENI, M. MIRABILIS, M. CALLICHROMA, and the chaste, pure white MAXILLARIA LINDENIÆ.

A plant of the beautiful white and chaste

CATTLEYA LABIATA VAR. CANDIDULA.

A Selection of LINDEN'S choicest Varieties of

DENDROBIUM NOBILE,

including D. n. LINDENI, GLORIOSUM, MAXIMUM, GRANDIFLORUM SUPERBUM, BELLATULUM, and other grand forms,

A NEW HYBRID CATTLEYA

probably a natural Hybrid between Cattleya aurea and gigas or Hardyana.

Linden's famous strain of

CATTLEYA MENDELI,

fine established plants, all unflowered.

VANDA SPECIES.

Probably new. Superb established plants, unflowered.

CYPRIPEDIUM INSIGNE.

Linden's Chinese wonderful varieties.

Together with Selected Plants of ODONTOGLOSSUM NEBULOSUM ALBUM, CATTLEYA MAXIMA FLORIBUNDA, C. MAXIMA GIGANTEA, PHAIUS HUMBLDTI, the New ZYGOPETALUM JORISIANUM, COCLIODA NOETALIANA, WARSCEWICZELLA WENDLANDI, ZYGOPETALUM ROSTRATUM, ONCIDIUM VARICUM ROGERSI, SCHOMBURGKIA TIBICINIS, several fine Plants and grand varieties of CATTLEYA REX, and many others.

On view morning of Sale, and Catalogues had.

WANTED, to Rent on Lease, a NURSERY, with 200 feet or more of Glass, and not less than 5 Acres of Land, with House and Outbuildings preferred.—Apply by letter, B. L., Alpha Place, Yiewsley.

To Nurserymen and Florists commencing business.

HAMPTON-ON-THAMES, on THE MARLING PARK ESTATE, free from London fogs, a deep rich loam, the favourite neighbourhood for Growers, FREEHOLD LAND for SALE, on easy system of payment. Excellent sites for residences.—For full particulars apply to Mr. FREDK. G. HUGHES (Surveyor), the Estate Office, Hampton-on-Thames.

FOR SALE, a small valuable long leasehold NURSERY, 6 miles from Covent Garden. Seven large Greenhouses, well stocked; two Vineries, Cucumber-house, Plant-houses, five-roomed Cottage, Low Ground Kent. Lease eighty-six years to expire. Eighty-five feet Glass. Facing main road. All particulars of FLORIST, 11, Dafforne Road, Tooting, Surrey.

To Market Gardeners, Florists, and Others.

THE GREAT LODGE GARDEN S.

(Within a mile of a Railway Station and Tautbridge Wells.) **TO BE SOLD, as a Going Concern, the BENEFICIAL INTEREST in LEASE** in large WALLED and KITCHEN GARDENS of about 2 acres; good house, very low rent; together with hothouses, hot-beds, van, and other valuable plant, and sea-oastie growing crops, with right of usage to any amount of sewage. Ill health sole reason for disposal, as this is a most genuine concern. It is open to the strictest investigation to bona fide applicants with a capital of £300.—Full particulars given by JAMES M. RICHARDSON, Sole Agent, 33, Dudley Road, Tautbridge Wells.

TO BE SOLD or LET, a small, old-established FREEHOLD NURSERY, with a good connection, within easy distance of four Market Towns. If sold, part of the purchase-money might be left as mortgage at 4 per cent. The reason of retiring is through ill-health. The business is an all-round one, including Cut Flowers, Jubbing, &c., also a good In and Outdoor Trade. This is a good opening for a man of energy, and a good living can be made. Address—HORFUS, 41, Wellington Street, Strand, W.C.

TO WATERCRESS GROWERS.—Plough Lane, Wimbledou, About 5 acres of Land adjoining the river Wandle, suitable for Watercress beds, TO BE LET.—Apply to BOTTON & CO., 3, Temple Gardens, E.C.

GENUINE FLORIST'S for DISPOSAL, an exceptional chance to secure a good paying concern in fashionable town. Premises and position second to none. Scope for doing any amount of trade; doing £120 monthly. Price, £300; Stock at Valuation. No agents.—VENNOR, Gardeners' Chronicle Office, 41, Wellington Street, Strand, London, W.C.

FOR SALE.—Small NURSERYMAN and FLORIST'S BUSINESS. No Goodwill, Glass, Sheds, Palms, and Nursery Stock. Would suit intelligent, pushing young man, with good all-round trade experience. Well situated, London, S.W. No agents.—Write W. H., 41, Wellington Street, Strand, W.C.

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

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

PAUL & SON'S ROSE CATALOGUES.

THE OLD NURSERIES, CHESHUNT.

THIS LIST will be found most useful to Planters. It contains also a careful epitome of the

MAGNIFICENT STOCK OF ROSES

READY FOR SALE AT

THE OLD NURSERIES, CHESHUNT.

Winter-flowering Cannas.

PAUL AND SON have a fine house full of these in full flower, at THE OLD NURSERIES, CHESHUNT.

Standard Fruit Trees.

PAUL & SONS, The Old Nurseries, Cheshunt, is the great entrepôt for these. Some 50,000 of fine, 6-foot stemmed trees to select from, £7 10s. to £12 per 100. LISTS post-free, from The Old Nurseries, Cheshunt.

ELMS—ELMS—ELMS.

All worked Trees. Vastly superior to Seedlings.

CHICHESTER, 4 to 5 feet, 8s. doz., 35s. p-r 100.
" 6 to 8 feet, 7s. doz., 50s. per 100.
" 14 to 16 feet, 21s. doz.
ENGLISH, 4 to 5 feet, 8s. doz., 30s. per 100.
" 6 to 8 feet, 9s. doz., 65s. per 100.
" 12 to 14 feet, 21s. per doz.
MONTANA SUPERBA, 7 to 8 feet, 8s. doz., 61s. per 100.
" 10 to 12 feet, 15s. doz., 100s. per 100.

CATALOGUES FREE.

JNO. JEFFERIES & SON,

ROYAL NURSERIES, CIRENCESTER.

ANTHONY WATERER

Invites an inspection from intending Planters to the following well-grown TREES, having stout, clean stems, with handsomely-furnished, well-balanced heads, and from frequently transplanting are splendidly rooted:—

- ACER DASYCARPUM, 14 to 20 feet.
 .. WIERII LACINIATUM, 10 to 14 feet.
 .. NEGUNDO VARIEGATA, Standards, 8 to 10 feet.
 .. REITENBACHII, 12 to 14 feet.
 .. SCHWEDLERII, 12 to 18 feet.
 .. WORLEYII, 12 to 14 feet.
 .. LEOPOLDII, 12 feet.
 BEECH, Purple, Pyramids, and Standards, 10 to 20 feet.
 BIRCH, Silver, 12 to 14 feet.
 CERASUS SEROTINA (American Bird Cherry), 12 to 16 feet.
 CHESTNUTS, Horse, 14 to 20 feet.
 .. Double White, 14 to 16 feet.
 .. Scarlet, 12 to 18 feet.
 .. Briotii, 10 to 16 feet.
 ELMS, English, 10 to 12 feet.
 LIMES, 12, 16 to 20 feet.
 All our Limes are the best red-twigged variety.
 .. BUCHLORA or DASYSTILA, 12 to 14 feet.
 .. Silver-leaved (Tilia argentea), 12 to 14 feet.
 LIQUIDAMBAR, 6 to 10 feet.
 OAK, English, 12 to 14 feet.
 .. Scarlet American, 12 to 14 feet.
 POPLAR CANADENSIS NOVA (the true variety), 12 to 16 ft.
 SYCAMORE, Common, 12 to 17 feet.
 .. Purple, 14 to 16 feet.
 THORNS, Double Pink, 8 to 10 feet.
 .. Paul's Double Scarlet, 8 to 10 feet.
 .. Double White, 8 to 10 feet.

WEeping TREES.

- BEECH, Weeping, Pyramids, and Standards, 8 to 12 feet.
 .. Weeping, Purple, Pyramids, and Standards, 7 to 12 feet.
 BIRCH, Young's Weeping, Pyramids, and Standards, 8 to 14 feet.
 .. Cut-leaf Weeping, Pyramids, and Standards, 10 to 12 ft.
 ELMS, Weeping, Pyramids, and Standards, 7 to 14 feet.
 LARCH, Weeping, Pyramids, 8 to 10 feet.

KNAP HILL NURSERY, WOKING, SURREY.

FRUIT TREES A SPECIALTY.**STRAWBERRIES.**

ROYAL SOVEREIGN.—The best Strawberry grown. Special quotations for large quantities. Also all the best of the New and Old Varieties, including Competitor, Sensation, A 1, Allan's New Ones, &c.

FRUIT TREES of all sorts, in all forms. Send for Descriptive Catalogue.

JOHN WATKINS,

POMONA FARM NURSERIES, WITHINGTON, HEREFORD.

ROSES, RHODODENDRONS, & C.

INTENDING PLANTERS cannot do better than inspect the Windlesham Nurseries, Bagshot. The Stock is in splendid condition for removal, chiefly transplanted this Spring. A Conveyance will meet visitors at Bagshot or Sunningdale Stations by arrangement.

- STANDARD ROSES, fine collection, 15s. to 21s. per doz.
 BUSH ROSES, splendid stuff, 9s. per doz.
 CLIMBING ROSES, leading sorts, 12s. per doz.
 RHODODENDRONS, Hybrid, named, best sorts, from 18s. per dozen.
 .. Hybrid Seedling, from 9s. per dozen.
 .. Ponticum, from 4s. per dozen. } beautifully budded.
 KALMIAS, ANDROMEDAS, AZALEAS, 12s. per dozen.
 SEAKALE, for forcing, cannot be surpassed, 10s. & 12s. p. 100. for planting, very good, 6s. and 8s. per 100.
 FRUIT TREES of all kinds, at low prices.
 ORNAMENTAL and FOREST TREES, CONIFEROUS, EVER-GREEN, and DECIDUOUS SHRUBS, in fine condition.
 IRISH IVIES, in pots, splendid foliage, 3 feet to 12 feet, for many years a specialty of our Nurseries.
 CLIMBERS of all kinds.
 HERBACEOUS PLANTS.—All leading varieties.
 STOVE, GREENHOUSE, and CONSERVATORY PLANTS.—Every class.
 BULBS of all kinds, in splendid condition, at low prices.
 GARDEN TOOLS and REQUISITES of best makers.
 Descriptive CATALOGUES post-free on application.
 W. FROMOW AND SONS, Mason's Nurseries, Windlesham, Surrey; or, Sutton Court Nurseries, Chiswick, London, W.

IF YOU WANT

FRUIT TREES

That will bear regularly, purchase Apples worked upon our Paradise Stock.

We have 70,000 to select from, and shall be pleased to show them to visitors.

TRAINED TREES A SPECIALTY.
 CATALOGUE FREE UPON APPLICATION.

J. R. PEARSON & SONS,
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Established 1782.

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GREENHOUSE and WINDOW PLANTS.—A Primer

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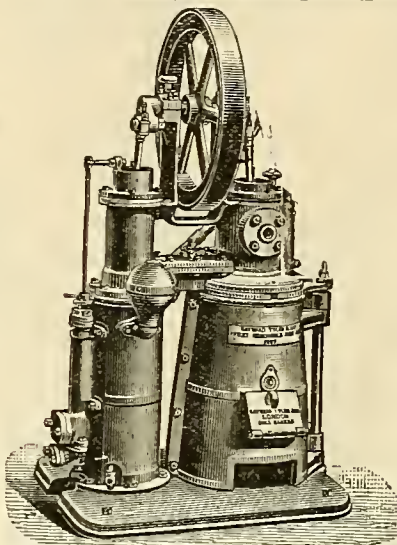
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Ten Lectures delivered for the Surrey County Council. By J. WRIGHT, F.R.H.S. Pott 8vo. 1s.

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EXHIBITIONS.

READING CHRYSANTHEMUM SOCIETY. ANNUAL SHOW, Town Hall, Reading, WEDNESDAY, November 6, 1895. Entries close November 2.

ROYAL BOTANIC SOCIETY GARDENS, REGENT'S PARK. EXHIBITION OF CHRYSANTHEMUMS. November 11 to 16. Admission 1s., or by Fellow's Order.

KINGSTON AND SURBITON CHRYSANTHEMUM SOCIETY. President: G. C. SIERRARD, Esq., J.P. The NINETEENTH ANNUAL GRAND SHOW OF CHRYSANTHEMUMS, FLORAL DECORATIONS, FRUITS, VEGETABLES, &c., will be held in the Drill Hall, Kingston-on-Thames, on TUESDAY and WEDNESDAY, November 12 and 13, 1895, when the Seventh Champion Challenge Vase, value 25 guineas, open to all subscribers of 21s., will be offered for competition, in addition to £160 in prizes.

FARNHAM CHRYSANTHEMUM SOCIETY. A SHOW will be held at the CORN EXCHANGE, Farnham, on NOVEMBER 12 and 13, 1895. PRIZES to the value of £33 for Chrysanthemums, Fruit, Flowers, and Vegetables will be offered in the Open Classes. Schedules and Entry Forms from F. WELLER-POLEY, Hon. Sec. Waverley Abbey, Farnham.

EDINBURGH CHRYSANTHEMUM SHOW (held under the auspices of the Scottish Horticultural Association). November 14, 15, and 16. Entries close November 7. Schedules on application to—17, South Frederick Street. ROBERT LAIRD.

SHEFFIELD CHRYSANTHEMUM SOCIETY. EIGHTEENTH ANNUAL SHOW, Corn Exchange, Sheffield. £200 in Prizes. Schedules on application to—177, Cemetery Road, Sheffield. WM. HOUSLEY.

LEEDS PAXTON SOCIETY'S CHRYSANTHEMUM SHOW. The SEVENTH ANNUAL EXHIBITION will be held in the Second West York Royal Engineer's Drill Hall, Clay Pits Lane, (off Coberg Street, top of Cookridge Street), Leeds, Nov. 19 and 20, when upwards of £170 will be offered in prizes. Schedule of prizes may be had from JAMES CAMPBELL, Hon. Sec. The Gardens, Methley Park, Leeds.

YORK CHRYSANTHEMUM SHOW. The SIXTEENTH ANNUAL SHOW will be held Nov. 20, 21, and 22, 1895. Upwards of £200 offered in Prizes, in liberal proportions, for Plants, Cut Flowers, Fruit and Vegetables. Schedules, &c., to be had from J. LAZENBY, 13, Feasegate, York. Challenge Prize, value £20, added to 1st Prize (£10) for 36 Cut Blooms. Cup (£10) and £4 cash for Group.

GREAT YARMOUTH CHRYSANTHEMUM SOCIETY. The SEVENTH ANNUAL SHOW will take place at the Town Hall on WEDNESDAY and THURSDAY, November 13 and 14. Silver Cup, value £5 5s. for 36 Japanese Blooms. Entries close November 9. Full particulars and Schedule may be obtained from O. W. HORNE, Hon. Sec., Royal Naval Hospital, Great Yarmouth.

To Nurserymen, Seed Merchants, and Florists. J. BLACKBURN and SONS are offering J. ARCHANGEL MATS lower than any other house in the Trade; also Petersburg Mats and Mat Bags, Raffia Fibre, Tobacco Paper, and Shading. Prices free. 4 and 5, Wormwood Street, E.C.

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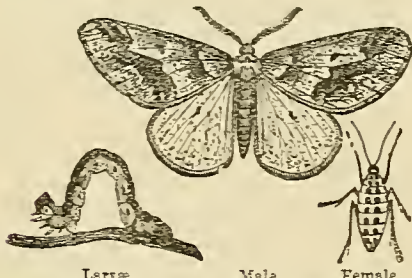
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THE

Gardeners' Chronicle.

SATURDAY, NOVEMBER 2, 1895.

TURVEY.

PROBABLY only a very few readers of the *Gardeners' Chronicle* have heard of the delightful village of Turvey. It is one mile from a station on the Midland line between the towns of Bedford and Northampton. My intention is to say something of the gardens of Turvey House, but I venture to preface my remarks by a brief sketch of the village, one of the most picturesque in England; and yet the greater part of it is not half a century old. The road to the village, about 1 mile and a quarter, is chequered with the shadows of noble trees. On the left, separated from the road by a low stone wall, stretches a beautifully undulating park, studded with Elms, Chestnuts, Walnuts, Oaks, and clumps of Hawthorns. Footpaths cross the park in several directions, and the further side is bounded by belts of woodland. The visitor cannot fail to notice that almost every tree is surrounded by coils of Ivy, some of enormous thickness, and singularly varied aspects, which doubtless are doing great injury to the trees. But the grand old man who lived all his life, with the exception of a few days, at the fine old house known as Turvey Abbey, the residence of Major Higgins, delighted to see the rugged boles of his trees wreathed about in such fantastic fashion with Ivy; and, perhaps, the protection thus afforded to birds, both in shelter and food, accounts for the number and variety to be seen and heard in the neighbourhood.

Little of the garden proper can be seen from the high road or the park, but from either, one may get charming views of the old house and its surroundings. There is not much on the north front, except the fine porch and mullioned windows, the smooth and perfectly-kept lawn and carriage drive; and, level with the top of the balustraded stone wall, a level green plateau of trimmed Box. Box seems to have been a favourite of the old squire's. To break the monotony of a range of stabling, a dozen green, closely-trimmed cones stand sentinel. Perhaps, of all shrubs, the Box lends itself most readily to the topiary art, presenting all the year round a more cheerful greenery than Laurel or Yew. On the opposite side is a terrace of cottages, standing well back from the road, each with its cheerful garden-plot. Here, too, on each side of a path leading to the cottages, the great cones of green Box stand in martial array.

Now, taking a turning to the left, down a narrow lane, we find ourselves in the park itself. A notice-board confronts us, saying that there is no road, but that the stranger, nevertheless, may pass; and above this a typical yeoman, who is tenant of the park, bids us "Beware of the bull." It is quite excusable, seeing that it is an imaginary bull, and that his sometimes scanty grass crops have suffered from the wilful mischief of visitors of the "Arny"

tribe—"visitors" only, for, so far as I am aware, Turvey having no "Arries."

The views from the park afford a charming bit of English scenery. The fine old gabled house, with its great windows, porches, and balustraded walls, with here and there a flower-laden urn, stands back some 200 to 300 yards, and is seen through three vistas of tall trees, engirdled with clipped Yew hedges. The extensive lawn, smooth as velvet, is traversed by broad gravel paths; while to right and left these lead beneath the trees in delightfully cool, shady walks. Here is a capital lesson for the landscape gardener, showing how much may be done by the judicious planting of flowering shrubs and trees on grass. There is scarcely a glimpse of colour except some vases of Pelargoniums near the windows, and Roses and other climbers on the walls. Among the latter we noticed the charming white Clematis montana, one of the most effective of climbers.

The outlook from the south front has a view of the park with its noble trees, its grove of Chestnuts, Elms, and Walnuts. An architect of excellent taste was the old squire. The sea of greenery in which his old house stands, however, might be greatly beautified and cheered by the addition of the bright colours and fragrance of flowers. There is much to admire as we pass along the village street. Here there is a house covered entirely with Ampelopsis, Roses, and Vines, while every window-sill is gay with bright colours, and the lawn in front with bedding-plants. The visitor will perhaps notice the number of Walnut trees, and may imagine the scramble of the youngsters, just let loose from school, when the ripe fruit patters on the ground, as the equinoctial gales shake the branches. One then passes the handsome school buildings and library. What a relief it would be to see them encircled with flower-beds, and embellished with climbing Roses, Jasmines, Clematis, or even the humble Ivy. In the courtyard of Turvey House there is a grand old Exmouth Magnolia—why not have one where the villagers could see it? I knew a school-house, years ago, at Harrow, thus encircled and embellished; the boys, under charge of their teacher, mowed the grass, trimmed the edges, weeded the beds and watered the plants. Many a Londoner raised perforce at that garden-gate, to gladden the heart and feast the eye on the flowers.

But at last we arrive at the grand old church, with its Yews and rugged Elms. One must not stay, however, to describe its ancient tombs, with their recumbent barons, knights and ladies. Village communities, however, might follow the example set here, of planting Roses, and putting a border of flowering shrubs round the quiet God's acre.

A wicket-gate leads us at once into the grounds of Turvey House, a stately structure of the Grecian order, with terrace garden, rich with colour. In front is a well-wooded park stretching down to the winding Ouse—Cooper's lyrical Ouse. The poet, it may be remembered, lived at Olney, about four miles distant; the house is standing in which he spent some of his happiest years. Turvey House has two separate walled gardens, one near the stables, devoted to early vegetables and fruit; the larger one adjoining the house, has a range of glasshouses, consisting of conservatory, vinery, and greenhouse. A separate enclosure contains the forcing-houses, pits, and frames. The principal walk is approached from the house by handsome iron gates. On either side of it is a clipped Yew hedge. Between this and the wide smooth gravel paths there existed, until last season, a border of flowers, but the roots of the Yews so impoverished the soil that nothing would thrive, and it was laid down in turf. The good old-fashioned custom prevails here of surrounding the beds of vegetables with borders of Roses and herbaceous flowers; and among the latter are large beds of the white Pink, Mrs. Sinkins. After the Roses, however, of which there is a capital collection, are the seedling Briars. A most useful and graceful plant for cutting is the Aquilegia; Mr. Pullen, the able and experienced head-gardener, has some capital hybrids from glandulosa, chrysantha, canadensis, cœrulea, and others. With a few fronds of Adiantum or some

grasses, Aquilegia makes a light and graceful embellishment to the table. The single-flowered Pyrethrum roseum is another favourite; it is of delightful shades of colour. It is succeeded by Cactus and other Dahlias, and then by Asters and Chrysanthemums. In a mixed border in front of the glass structures the brightest bits of colour at present come from the Shirley and Iceland Poppies. There is one kind of the latter, as is well known, of a brilliant orange-red, peculiar, so far as I remember, to this flower only.

Most herbaceous plants, owing to the long drought, are stunted and backward in their growth, Delphiniums and Phloxes especially so. The flower garden, and more especially the herbaceous section, suffers from lack of blue colour; there is nothing, it seems, of permanence to take the place of the Delphinium and Salvia patens. It is in summer, moreover, that blues are wanting. Just at the time when the cooler tints of the blues are most acceptable, we are sweltered with scarlets

round its stem some charming alpines grow, and among them Anemone apennina. Spread as a delicate flagree of silver and pale green, the feathery variegated Acer Negundo added an indescribable charm. Now it is Guelder Roses and Syringas, with here and there a Clematis or Honeysuckle. Through this wilderness of sweets one may refresh the eye with glimpses of green turf and stately trees, and the silvery ribbon of the Ouse. T. W., H.

NEW OR NOTEWORTHY PLANTS.

A HYBRID MUSA.

A HYBRID Musa has flowered this year at Kew, which has been raised by Mr. Watson by crossing *M. Mannii* and *M. rosacea*. As it presents a decidedly distinct type, he proposes to call it *Musa kewensis*. This is, so far as I know, the first instance in which the hybrid origin of any species of the genus has been properly certified, so that it is important that

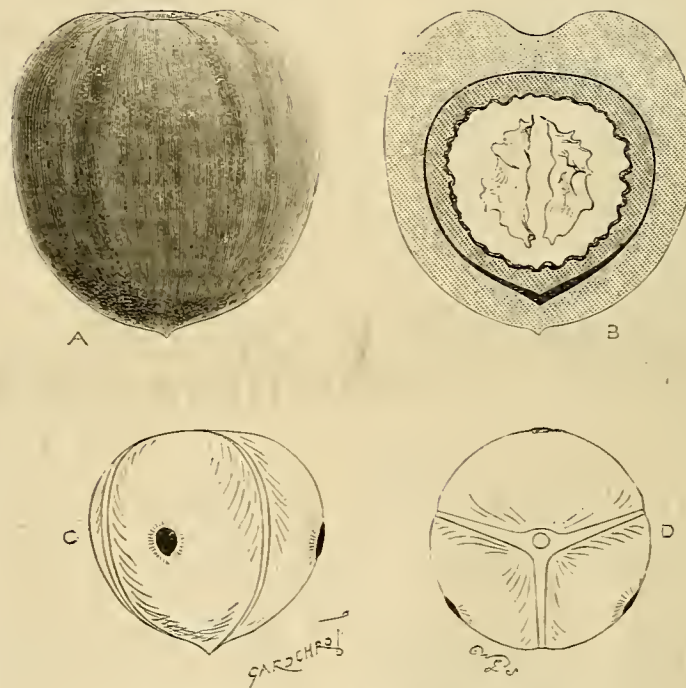


FIG. 89.—FRUIT AND STONE OF *JUREA SPECTABILIS*.

A, the fruit; B, section of the same; C, the stone; D, section of the same. (See p. 518.)

and yellows! Why not utilise the Clematis of the Jackmani type? What a relief it is to rest the eye on grand masses of Jackmani when the garden is aglow with the fiery tones of colour! By the way, Mr. Pullen has a Lobelia, of a richer colour, and more telling than the last-mentioned Clematis. It is of a deep blue, deep as *Salvia patens*, and with a clear large white eye. It is a bright and effective edging-plant, and a profuse bloomer. Dame Nature is sparing of her ultramarine. She puts one vivid spot in the throat of the Gentian. But ay! I had forgotten that bell of the Gloxinia! which in some inexplicable way has acquired many delightful hues. Then, again, one can think her nowise niggardly while gazing on those stretches of Hyacinth in the spring woodlands, or the long fringes of *Myosotis* by the river, or banks of Speedwell on wayside banks.

At a furlong's distance from the wicket by the churchyard, as was said, one enters this beautiful demesne, and then through a shrubbery by a winding walk, finds one's way to the garden. But in this shrubbery—it may not be more than a dozen yards in width in some parts—here and there are little green bays in which is a Robinia or a Fir, and

it should be placed on record. Its two parents are nearly allied, both belonging to my section Rhodochlamys, in which the flowers are few in number, the bracts bright coloured, usually red, and the fruits not edible. The following description is drawn up from two plants that flowered at Kew, one in June, and the other in October, 1895. Stem cylindrical, 3 feet long, above 1 inch in diameter. Leaves fine, crenated towards the apex of the stem; petiole deeply channelled, 6 to 15 inches long; blade oblong obtuse, 2 to 2½ feet long, 6 to 10 inches broad, thin in texture, bright green above, paler green beneath, cuneate or rather rounded at the unequal base. Spike short, erect, shortly peduncled; bracts oblong, 4 to 6 inches long, crimson, with a tinge of mauve. Female flowers in four clusters of three flowers each; ovary finally 1 inch long. Male flowers also in threes. Calyx yellowish, 1½ inch long, truncate, and obscurely toothed at the tip. Petal oblong, obtuse, white, nearly as long as the calyx. Stamens five, protruding beyond the reflexed tip of the calyx; anthers linear, ½ an inch long. A drawing of it has been made by Miss Smith for the Kew collection. J. G. Baker, Herbarium, Kew.



FIG. 90.—*JUBAEA SPECTABILIS*, IN THE KING OF PORTUGAL'S GARDEN, LISBON. (SEE P. 518.)

JUBÆA SPECTABILIS.

THE Coquito Nut or Wine Palm of Chili is one of the most interesting of sub-tropical Palms. It has a very stout stem which attains a height of from 40 to 60 ft., and bears a large spreading head of pinnate leaves. The fruit is borne in pendent racemes which look like gigantic bunches of very large Grapes. Each fruit (fig. 89, p. 516) contains a single seed which is nearly round, has a hard brown bony shell, and the albumen is white, harder than in the Coconut and sweet to the taste. The stems contain a large quantity of saccharine juice, which, when boiled, becomes a sort of treacle, and is much esteemed as an article of food, known as Miel de Palma—Palm-honey. A full-sized trunk yields about ninety gallons of this sap, to obtain which the trunks are felled, the leaves lopped off, and the juice is caught as it runs from the upper end.

There is some danger that this Palm will soon be extirpated from Chili, through the wholesale felling of the trunks for the Palm-honey. When Darwin visited Chili in 1832, as recorded in his *Voyage of the Beagle*, it was very abundant in the country round Valparaiso, he having counted several hundred thousand trees on one estate alone. The late Mr. John Ball was there in 1882, and although he devotes a considerable portion of his book (*Notes of a Naturalist in South America*) to the flora of Chili, he does not even mention the Jubæa. Miss North visited Chili in 1884, and painted a picture of the Jubæa, which is in the Kew collection. "In a place called Salto, one of the most attractive coast suburbs of Valparaiso, there is a valley full of the native Palm, Jubæa spectabilis, which used to cover the country forty years ago, but now scarcely a hundred trees remain. They are mis-shapen things, but seem quite in character with the rocky valley they grow in" (*Recollections of a Happy Life*).

According to Siemann, the Jubæa is cultivated in Colombia and other parts of South America. The seeds are sometimes imported into this country, and are known commercially as Monkey's Coconuts. They are eaten by boys, but I know of no other use to which they are put in this country.

There is a large healthy specimen of this Palm in the temperate-house at Kew. It has a trunk $8\frac{1}{2}$ feet in circumference at the base, and 7 feet at a distance of 5 feet from the ground. It bears a grand head of feather-like leaves, each 17 feet long and $4\frac{1}{2}$ feet wide, and certainly is not a mis-shapen thing, as described by Miss North. The accompanying figure represents a specimen of the Jubæa in the King of Portugal's garden at Lisbon, which was published in the *Gardeners' Chronicle* in 1882 [and which we now reproduce (fig. 90, p. 517). Ed.]. At that time the trunk was $13\frac{1}{2}$ feet in circumference. In 1886, this identical specimen flowered and ripened fruits. It was then thirty-five years old, and had a trunk over 16 feet high, and 14 feet in circumference at the base. The flowers were produced in January, and the fruits ripened the following August. I believe this is the only recorded instance of this Palm flowering and fruiting in Europe.

I have seen it thriving in the open air in gardens on the Riviera, a specimen in Mon. Naudin's garden at Antibes having a trunk nearly as large as that at Kew, but the leaves were much shorter and less handsome. [This tree, as M. Naudin kindly informed us, when he sent the fruit figured, is 16 feet high, the girth of the trunk at a yard high is more than 12 feet, and the age of the tree is thirty-six years. Ed.] I believe there is a plant out of doors in the garden of Mr. Smith-Barry at Fota, near Cork, which requires only slight protection in winter. A plant was tried in the Bamboo Garden at Kew two years ago, but it succumbed to the first severe frost. W. W., Kew.

NOTES FROM CAMBRIDGE BOTANIC GARDENS.

SAGITTARIA MONTEVIDENSIS.—There was a fine group of this plant at one end of the Nymphaea-house, in which several of the latter were blooming freely in October. These Arrow-heads deserve more general cultivation, and this Montevidean species especially

would furnish some valuable material for cutting at this season of the year, for though most of the Arrow-heads flower in the summer, this fine species was in flower in October. Again, though they love the water and are most at home in a marsh, they will thrive well in loamy soil in pots if freely supplied with water. The Arrow-heads are almost equally accommodating in regard to temperature. We have several North American species, and at least one native species, *S. sagittifolia*; and this fine species, *S. montevidensis*, all of which thrive almost as well in the greenhouse as the stove. Though I have it covered with its striking white panicles of bloom throughout the winter, the plants will require, as they have at Cambridge, the stimulus of the stove. When water-plants and semi-aquatics get more in demand in our gardens, as well as in vases and glasses in our homes, more Arrow-heads will be grown, alike for their foliage and flowers. Mr. Lynch deserves hearty thanks for his strong and persistent lead in this direction.

ARISTOLOCHIA GIGAS STURTEVANTI.

I do not remember to have seen this particular variety of the giant Dutchman's Pipe before. The magnificent flower in full bloom at the time of my visit must have been 15 inches long and 9 inches broad, with a drooping tail about 2 feet long in addition. Such flowers must be seen to be appreciated, for they are so extraordinary as to pass the bounds of a popular description. They suggest, on first sight, an enormous *Stapelia* or a star-fish suspended by a stem, and embellished by a tail alike so small as to be out of all proportion to the apparently massive solidity, unique colouring and spotting, and extraordinary forms of the flowers. This fine plant seems just at home on a rafter in one of the fine new plant-stoves recently erected here—one of the handsome groups of glass so admirably linked together by the magnificent corridor into which the whole of the houses open. The plant is blooming with great profusion, and is in the most robust health, though, Mr. Lynch says, many of the blooms drop off during different stages of their development, a result surely not to be wondered at as we reflect how much raw material and vital force must be expended in the formation and finishing of one of these curious blossoms. I have seen some fine samples of *A. gigas* and other species in several botanic gardens, but never one of such gigantic dimensions before; and lovers of the curious in horticulture could hardly do better than secure and grow this splendid variety. It is grown and bloomed at Cambridge in the highest perfection on the lower side of a by-no-means long rafter; and though it is looked upon as a summer bloomer, the plant was thickly studded with buds and blooms in all stages of development in the middle of last month. D. T. F.

HARDY FRUITS AT SUNDORNE CASTLE GARDENS.

HAVING an opportunity early in last month of calling upon the head-gardener, Mr. Phillips, I noticed in walking round the garden some splendid fruits of Apple. The following varieties were exceptionally good:—Ribstone Pippin, the trees are bearing good crops of fine clean fruits, good size, and the trees comparatively free from canker; a disease that has prevented this variety from being much planted of late years. The fruits of Cox's Orange Pippin are of medium size, but clean. To get size in this variety the roots of the tree must be fed with manure at the final swelling period, about the first week in August, with water applied weekly for a time, and only one fruit allowed to swell on each bunch of blossom or fruit spur; the variety would pay well to be highly cultivated, as it is one of the best-flavoured dessert Apples. Blenheim Orange Pippin, grown upon a wall tree, was very fine and of good colour. King of the Pippins, Sturmer Pippin, Lord Suffield, Cellini Pippin, and Stirling Castle, were good. Golden Noble and Lord Derby also good; as was Warner's King, or as there named D. T. Fish. These trees, as well as a few others, were bearing

excellent crops of fruit. The trees are bush-trained, a form so useful for gardens, as they do not shade other crops much when kept pruned annually as there. These trees are top-dressed annually with farmyard manure, and otherwise well managed. The bush Pear trees were not satisfactory, and I advised heading them over for grafting next spring, and grafting the following varieties upon them, namely, Doyenné du Comice (the best-flavoured Pear grown), Marie Benoist, Souvenir du Congrès, Beurré Hardy, Magnate, Olivier des Serres, Darondeau, Triumphe de Vienne, Clapp's Favourite, Fondante d'Automne, Doyenné d'Alençon. These varieties would, undoubtedly, strengthen any collection of Pears, ripening between the months of September and March, and they are found to succeed as bushes in the open. The following varieties were found to be very satisfactory, growing against south and west walls, and horizontally trained:—Jargonnelle (the crop had been gathered), Williams' Bon Chrétien, Louise Bonne of Jersey, Marie Louise (both of these had splendid fruits upon them, clean and handsome), Pitmaston Duchess (the largest Pears in the garden, but only a few fruits), Beurré Superfin, Beurré Diel, Winter Nelis (splendid fruit and crop), Beurré Rance and Glou Morcean were good in size and crop. The soil in these gardens seems to be well suited for hardy fruit culture. The Apricots, Peaches, and Nectarines upon the south walls were in excellent health, and good fruit was and had been grown upon them with one exception—Apricots, the crop of which had been poor. Many useful young trees had been planted of late years between the old ones; the latter taken away, as the space was required by the young ones. These promised well for the future. The following varieties will be found suitable for open walls, south and south-west aspects, in the order of ripening in this district:—Peaches: Alexandra, Hale's Early, Grosse Mignonne, Nobleess, and Walbrton Admirable. Nectarines: Early Rivers, Lord Napier, Pitmaston Orange, Pine-apple, and Elruge. Apricots: Breda, Hemekirk, and Moor Park.

The ordinary varieties of Plums I found doing well, as also Damsons. I learnt that no protection was given to the wall trees last spring against frosts, thereby testifying that wall fruit, however choice, may be grown on open walls when good cultivation is adopted, as here. I have proved for many years past that frost protection to wall-fruit trees when in blossom is often a hindrance rather than a help to fruitfulness. The best help I found was in using a board at the top of the wall, 11 inches wide, in the spring months, removing it early in June. In this way I was enabled to get crops of choice fruit annually for fifteen years in succession. Many people in Shropshire think that the county is not suited to the growth of choice fruit against open walls; such is, in my opinion, a fallacy. To be successful, however, there is need for care in the selection of varieties, planting the trees properly, in the autumn, care in pruning in the spring, and of keeping the summer shoots free from insects—the most important point of all in the cultivation, early thinning of the fruits when young and before the stoning period, regulating the number of fruits to each tree according to age and size. Given attention to these matters, choice fruit can be grown as well in Shropshire as elsewhere, as proved this year in a few districts. Robert Smith, *F.R.H.S.*, in "*Shrewsbury Chronicle*."

ORCHID NOTES AND GLEANINGS.

ORCHIDS AT ROSSLYN, STAMFORD HILL.

THAT few plants cultivated in the neighbourhood of London thrive so satisfactorily as Orchids when properly tended is a well-known fact, and an excellent example in support of it is always to be seen in the collection of H. T. Pitt, Esq., at Stamford Hill. Begun a few years ago with a few Orchids in one of the houses, it has gradually extended until at the present time, several important ranges

of houses are entirely devoted to these plants, and admirably do they thrive under the care of Mr. Aldous, and the no less careful supervision of Mr. Pitt himself. At the present time, the two most showy plants contributing the largest number of handsome flowers here as in most other collections, are the varieties of *Dendrobium Phalaenopsis Schroderianum* and of *Cattleya labiata*, which may be regarded as two of the most useful plants ever introduced to gardens. Both are free-growing and profuse-flowering, and seem to adapt themselves to almost any quarters. The *D. Phalaenopsis* have been flowering here for months, but still they are embellished with graceful sprays of bloom; and with them in flower are *D. P. Statterianum*, *D. Hildebrandii*, and other species.

In the adjoining house, suspended over a bed of fruiting Pines, and taking full sunshine at all seasons, is a fine batch of varieties of *Laelia anceps*, so thickly set with flower-spikes that more could scarcely be got from plants of their size. Taking one 12-inch basket as an example, we counted on it twenty-seven flower-spikes, which on maturing their flowers will give a specimen of extraordinary

CATTELEYA LABIATA.

Amongst the numerous kinds of Orchids which have been so plentifully imported during the past few years, I am of opinion that, taking all points into consideration, the above-named *Cattleya* is decidedly the most useful. Its natural period of flowering during the months of October and November, when choice flowering-plants are not at all plentiful, is a very strong point in its favour. It is also what may be termed a general gardener's plant, seeing that anyone with a stove may, with ordinary culture, have it in perfection. In this respect it may be compared to *Dendrobium nobile*. I know of plants which have been in the possession of their owners nearly forty years, grown under the conditions named above. One more interesting point in its favour is the wonderful variety of forms there are in, say, a dozen plants. I saw ten distinct varieties in that number of plants the other day; and they had been just purchased in bud as unflowered plants from the nursery. The price, too, at which good plants can be purchased is quite moderate. For the decoration of the dinner-table or other indoor purpose they are invaluable as cut-blooms at

places. This year the crop is a plentiful one, but prices are not so high as one might wish; still, good fruit always finds a ready sale, and fetches fair prices. In almost every direction mere encumbrances of the ground are to be met with, the produce of which is in many instances of a rubbishy description, and yet these trees are allowed to remain from year to year. All this might be altered by planting healthy, sound young trees in new situations, which, if carefully planted and consist of suitable varieties, soon begin to come into bearing, and the fruit is of good size, colour, and general quality leaving nothing to be desired. If we are to keep pace with the times, which means supplying our own country people with good sound fruit, and thereby rendering the import of fruit much less profitable to the foreigner and colonial, more trees must be planted, and trees in good bearing kept in first-rate fruiting condition by annual top-dressings and careful pruning. Any kind of soil that is capable of producing other good crops, such as corn and vegetables, is suitable for Apple culture. The essential thing to be aimed at is good drainage and a fair depth of soil, also a suitable site.

Trenching land for newly-planted orchards entails a great deal of laborious work, and is not very necessary—at least, not in all parts; but there should be no lack of care in the due preparation of each tree station. On large plots of pasture land, if the trees are to stand at not less than 40 feet apart, holes should be dug out and prepared fully 7 or 8 feet in diameter, and well broken up to a depth of 2½ feet, and for several years after planting the grass should not be allowed to grow on the soil over the roots, and a mulching of well-rotted manure applied, which will be found of great benefit to the trees in promoting a free growth.

It is very seldom, after trees have been well planted on a somewhat firm soil, and where space to grow is practically unlimited, that root-pruning is required, as with a fair proportion of branch extension, and a moderate use of the knife, the trees quickly come into good bearing. It is of far the better method to let the crown become well developed before allowing the trees to bear fruit in any quantity; for if once they are rendered stunted in growth through heavy early cropping, it is many years before the trees recover their former healthiness and vigour.

When in first-rate condition, young Apple trees, planted in lines at a good distance apart, and allowed to make a fair proportion of wood, produce crops which far outweigh both in size, quality, and bulk, that produced by trees crowded together. Probably the best course to adopt, if fresh ground cannot be obtained, and the best must be made of the old Apple-sick soil, is to mark out the places for each tree to be planted, avoiding, if possible, spots on which trees have stood, digging out the old soil to a depth of from 2 to 3 feet, and breaking up the subsoil. The holes should not be less than 8 feet in diameter, and it is good practice to leave them open for several weeks. This will allow the frost to pulverise the stiffer subsoil usually found in old orchards. Advantage should be taken of frosty weather to get as much fresh soil and road-parings carted to the spots as may be required, planting the trees at any mild time during February and March. Good varieties are numerous enough, and the goodness of Apples seems now to be more looked to by consumers than was the case formerly; but, unfortunately, the yield of some favourite varieties is not very abundant. A good early kitchen Apple is found in Lord Derby; the tree grows strong, and it is one of the best for general early cropping, the fruit of capital size. In my locality it is considerably better than Lord Saffield. Yorkshire Beauty is another variety that rarely fails to bear; in fact, we have no kind so trustworthy in that respect. Waltham Abbey Seedling is a large clear yellow Apple, and very useful as a kitchen cooking fruit, and the tree is hardy, and not liable to canker. Stone's, New Hawthornden, Bramley's Seedling, Annie Elizabeth, all fruit well. Tower of Glamis, Ecklinville Seedling, Golden Spire, Golden Noble,



FIG. 91.—FLOWER, AND SECTION OF FLOWER, OF YUCCA GUATEMALENSIS. (SEE P. 524)

beauty; and there will be many others equally worthy. On a shelf on the back wall of the same house and also in full sunshine, plants of *Laelia cinnabarina* and others of that class are well furnished with flower-sheaths, and *Laelia monophylla* is in flower. In the *Cypripedium*-house, which contains many choice varieties and hybrids, there is a good show of *Cypripedium Spicerianum*, *C. Charlesworthii*, as well as varieties of *C. insigne*.

In the *Cattleya*-house, facing the door is a fine group of *Cattleya labiata*, together with a few other Orchids in flower, and in the warm-house range in several divisions, some surprisingly good results in the culture of plants not generally found to be easily managed are to be found. Foremost of these may be noted a collection of the different species of *Bollea* and *Pescatorea*, which few succeed in growing even passably well, but which here are most luxuriant, and flower continuously for a great part of the year. The large specimens of *Miltonia Roezlii* are also remarkable examples of good culture, and the *Phalaenopsis* and many other difficult subjects are in good condition.

The *Odontoglossum*-houses contain a large number of remarkably well-grown plants, and among them some splendid varieties. Some few *Odontoglossums* are in flower, as well as some *Sophranitis*, *Brassia longissima*, *Zygopetalum intermedium*, *Oncidium tigrinum*, &c.

this dull season of the year. I was reminded of the above qualities of this excellent *Cattleya* when recently looking through the extensive Orchid-houses of Messrs. Charlesworth & Co., Heaton Nursery, Bradford, Yorkshire. One side of a large span-roofed house was a complete mass of flowers of *C. labiata*, almost reminding one of the *Pelargonium* tent at York Gala in the month of June. Doubtless other large growers of Orchids will also have a more or less similar display. To my mind, all lovers of choice flowers are indebted to those who have so plentifully introduced *Cattleya labiata*—autumn-flowering variety. *Yorkshire Gardener*.

APPLE CULTURE.

By this date most of the fruit will have been cleared off the trees, and the produce either marketed or put into store for future use. That being so, the present season is the best for deciding whether any trees of worthless varieties, and old worn-out trees should be replaced, and for the preparation of the land for planting, whether in orchard or garden. Within the past few years immense numbers of Apple trees have been planted, and old plantations cleared away, and being replaced by new and more extensive ones. Moreover, a better class of fruit has been planted, with the result that much finer fruit is sent to market and grown in private

Deux Ans, and Lady Henniker are all good market fruits; also Wellington, Gooseberry-Apple (not Pippin, the two being quite distinct), and Northern Greening are excellent for late use. There are many other good culinary varieties, but I find those mentioned are very suitable hereabouts. Dessert varieties consist of Cox's Orange, Kerry, Ribston Pippins, and King of the Pippins; this year the latter has grown out very fine and clear—all points considered, this Apple is still one of the best. Blenheim, either for dessert or cooking, is probably the best all-round Apple grown, and full-sized trees fruit abundantly; this last always sells readily at good prices. Worcester Pearmain, although not of first-rate quality, puts on a high colour, and comes into use at a time when Apples of the best quality are unfit. The tree bears well, and it is a variety well worth growing.

Claygate's Pearmain is of fine quality; Cornish Gilliflower, although not a pretty-shaped fruit and fruiter, is certainly, in my opinion, one of the first quality; Starmer Pippin is one of the best late dessert varieties if the fruits are allowed to hang on the trees till very late in the year; Yellow Ingestre is small and useful, and it is doubtful if there is a more profitable Apple grown from a market point of view. Mabbott's Pearmain, Brownlee's Rasset, and Calville Rouge Précoce are all good.

PRUNING STANDARD TREES.

This is usually done after the leaves are down, but it may safely be performed at any time after the fruits are gathered, as by removing some of the old limbs early, and before the leaves fall, decaying branches are better seen; keeping the tops moderately thin is the most important item, but if the heads are kept too open and the branches far apart, they are more apt to sway during high winds when heavily cropped, and the fruits get damaged—so that some judgment is required, and the habit of the variety studied in branch thinning. The finest lot of Blenheim Orange Pippins I ever saw were growing in a large fruit garden this year, where it was evident that the pruning-saw is not spared, the long limbs being completely loaded with fruits from top to bottom, and fortunately no rough high winds were experienced this season to bring down the crop and bruise those that remained on the trees. *H. Markham, Mereworth Castle, Maidstone.*

THE BULB GARDEN.

IRIS KEMPFERI.

THE rarity of these beautiful Japanese Iris in private gardens is scarcely to be accounted for, unless it be thought that a pond or stream or lake are absolutely needed for their successful cultivation. It is almost impossible to realise the beauty of a fine group of these hardy flowers, and were they grown in proportion to their merit, they would certainly be seen in abundance in all private gardens. Even in such gardens in which the plants may be found, it is rarely that a full measure of success is obtained. That they are moisture-loving plants is not questioned, but this does not mean that they will succeed in or near to stagnant water. I have, indeed, grown them better in richly-manured ground in the neighbourhood of Hampton than others have at the water's edge. Moisture is necessary, and so is an open vegetable soil, or a soil largely consisting of leaf-soil and peat, with a good quantity of decayed manure. Any amateur who feels so inclined may grow these delightful subjects in the most satisfactory manner by adopting the following simple means:—In gardens with a heavy retentive soil, a special bed should be made by digging out the soil to the depth of 2 feet, and in the form of an oval, oblong, or other desirable figure, and replacing it with rough peat, half-decayed leaf-mould, and very short manure, the first two in equal ratio, and the manure about one-fourth, to which may be added about one-fourth of the staple, making at the least a bed $1\frac{1}{2}$ or 2 feet deep. It should be well mixed together, and left in

a comparatively loose state. In finishing off the bed, allow the surface to be 3 or 4 inches lower than the surrounding level of the soil, so that it can be deluged with water in dry weather in the growing season. In gardens where the soil is strong, and the subsoil is gravelly or sandy, a similar excavation will be needed; but in this case I would advise lining the bottom with clayey soil, so as to retain the moisture. What these delight in is an unlimited supply of vegetable mould below, and plenty of moisture afforded from April to September. What they dislike is stagnant moisture throughout the winter, which must be avoided if success is to be insured; and they are safer, and stand better chances of flowering in any ordinary damp, shady border; but where abundance of vegetable soil can be afforded the roots, a marked difference will soon be observed. If only a dozen plants be obtained, they will repay proper care. This Iris is by no means fastidious as to the season to plant; but preference should be given to the autumn, as this enables them to make fresh roots by the time growth commences in the spring. *J.*

THE WEEK'S WORK.

FRUITS UNDER GLASS.

By RICHARD PARKER, Gardener, Goodwood, Chichester.

PREPARING FOR FORCING.—The houses or pits in which the earliest forcing will be done should now be got in readiness by cleaning the wood-work and glass, and lime-washing the walls. If a small quantity of petroleum be used in the lime-wash, it will prove a good kind of insecticide. When the work of house-cleaning is thoroughly done at this season, much labour in cleaning the plants later is avoided. A large heap of stable-litter and Oak or Beech leaves should be prepared in some sheltered corner where the wind will not reach it, and be well mixed and turned over several times, so as to fit it for bringing into the vinerie, &c., as may be required. It forms an admirable mild hotbed for hastening the flowering of plants, and adding warmth to the house. A compost consisting of fresh turfy loam, crushed bones, wood-ashes, and old mortar-rubble or plaster, should also be prepared, and placed under cover, in readiness for top-dressing purposes.

STRAWBERRIES IN POTS, ETC.—Sharp frosts having set in, the plants in pots should forthwith be placed in winter quarters as previously advised. A bad drainage is more injurious to the Strawberry than frost, no water should be allowed to collect about the pots. I do not advocate placing the plants on their sides under walls, &c., as the soil is apt to become too dry, causing the roots and crown to lose their plumpness. Frames and pits form a better shelter if the pots can be plunged closely together up to their rims in beds of fine coal-ashes or tree leaves. The frames should have a southerly aspect by preference. Foliage which has become brown should be retained, as it forms a protection for the crowns. As was before stated, those plants which are to be forced early should be plunged in leaves, &c., in pits, and the lights should be only placed on them during frosty weather. All kinds of fruit trees in pots should by this time be plunged in beds of coal-ashes, or have their roots protected in some other manner from frost.

THE OTHER FRUIT-HOUSES.—Continue to freely ventilate all the Peach-houses and vinerie, excepting those containing Grapes, care being, of course, taken to prevent the water in the heating-apparatus from being frozen.

PINE-APPLES.—Queen Pines, to ripen in May and onwards, should now have the amount of water afforded at the roots somewhat reduced, a slightly lower temperature maintained, as well as a drier atmosphere, and thus afford the plants a two months' rest, which is especially desirable if the plants are to show fruit at a given time. The pinery may be carefully ventilated for a few hours daily during mild weather, when the inside temperature has risen to more than 68°. The night temperature should not exceed 65°, and the bottom-heat should be steady from 70°. It is very desirable to cover Pine-stoves at night, especially in frosty weather, the retention of the desired degree of heat by this means being preferable to the excessive use of the hot-water pipes. Thick blinds answer the purpose very

satisfactorily, although Frigi Domo and mats are also of use. In the fruiting-house, a brisk moist heat should be kept up, to encourage the swelling of the fruits, and no overhead syringing be performed during the winter months, but the surface of the plunging material moistened instead, by syringing it slightly between the plants about 9 A.M. and 2 P.M. Very little ventilation should be afforded, unless the sun be very warm, as draughts of cold air are injurious. A day temperature of 70° to 75° in this division, and one at night of about 68°, should be maintained. The rooted Pine suckers should be afforded much the same kind of treatment as that recommended for the Queen Pine plants until the turn of the year, and by keeping the plunging material well up to the rim of the pots, and keeping this in a fairly moist condition, less water will be required at the roots. In each department see that there are no drips from the roof, as water falling constantly into the pots sours the soil, and causes the roots to decay. Ripe fruit should not be allowed to remain in the stove, as it keeps much better in a dry room.

PLANTS UNDER GLASS.

By W. H. SMITH, Gardener, West Dean Park, Chichester.

TUBEROUS-ROOTED BEGONIAS.—These plants will, in most gardens, be past their heat, and should be gradually dried off, for which purpose the pots containing them may be placed beneath the greenhouse stage. When they are completely dried down, shake all of the old soil from them, and keep them in the winter in shallow boxes filled with cocoa-nut fibre refuse, placed in a dry place, from which frost is excluded. All double-flowered and unusually fine single-flowered varieties should be in some way designated, in case it should be desirable to propagate from them next spring. If cuttings of double-flowered varieties were struck at the time advised in a previous calendar, the plants should be kept actively growing for some time longer, in order to obtain as large a tuber as possible. For this purpose a mild hotbed-frame, and the plants placed close to the glass, will suit them admirably. All flowers should be picked off these young plants as fast as they appear on them.

ACHIMENES.—The latest batch of these tuberous-rooted stove-plants may be gradually dried off, and then placed beneath the greenhouse stage or in the potting-shed if it is frost-proof. Those grown in baskets may be shaken out and placed in boxes of dry peaty soil or silver sand, and similarly stored. Achimenes should not be kept in too dry a place, as the tubers are then liable to shrivel.

DEUTZIA GRACILIS.—Plants which have grown in pots all the summer may now be examined as to the drainage of the pots, and removed to cold frames, in readiness for being forced, and placed close together if frame accommodation be limited. The plants will require little or no water until they are taken into the forcing-house. Those planted out should be lifted and potted up, these latter being taken last into the forcing-house, as the pot-grown plants stand hard forcing better than they.

HINTS ON SEASONABLE OPERATIONS.—No time should now be lost in getting all plants which have been standing outside into the greenhouses, conservatory, cold frames, or brick-pits, although such species as Montan (Tree) Pæonia, Hydrangeas, Campanulas, Fuchsias, Richardias, Carnations, Agapanthus, &c., are able to stand a little frost. The Hybrid Perpetual Roses for forcing purposes, if no room be available in pits and frames, or the Rose-house, should be plunged in beds of cocoanut-fibre or fine coal-ashes, to a depth of an inch below the rim.

VIOLETS IN FRAMES should have regular attention in airing, keeping free from weeds and runners, and in watering and protecting from frost. At this place, on October 26, the thermometer registered 10° of frost, and the protection of the frames with mats was very necessary. Air should be admitted to the frames as soon as the rime is off the glass.

THE ORCHID HOUSES.

By W. H. WHITE, Orchid Grower, Burford, Dorset.

HABENARIAS.—The species, *Habenaria militaris*, *H. rhodochila*, *H. Susanæ*, *H. carnea*, and its pure white variety *nivosa*, are well worthy of attention, their flower-spikes presenting a gay appearance at a time when there is a comparative absence of flowers in the Orchid-houses. Where convenience for their culture exists, they are plants which deserve to

be well represented. Now that their requirements are better understood than formerly, but little difficulty is experienced in the management of them. At the present time a large number are in bloom at Barford, and already the leaves of the earliest-flowering species are beginning to show discoloration; water must be therefore gradually withheld from them so as to induce the dying down of the stems and foliage. The stem should not be cut off when decaying, but left to fall naturally away. It is not advisable to withhold water altogether when growth ceases, as over-dryness at the root causes the tubers to shrivel, and it is doubtful if they ever regain their plump condition; and they invariably start weakly the following spring. The plants should be kept intact in their pots, and be carefully examined once a week. Those which are found to be dust-dry should be stood by themselves and afforded a good sprinkling of water from a fine rose watering-can. *Habenaria militaris*, *H. carnea*, and *H. c. nivea*, should be rested on a shelf near the glass in the warm-house alongside the deciduous *Calanthes*; while *H. Sasanæ* and *H. rhodochila* should occupy a similar position in the Cattleya-house.

DENDROBIUM PHALÆNOPSIS.—Many collections are now gay with flowers of this beautiful Dendrobe, showing as it does, a great range of colour in the different plants. The dark richly-coloured varieties appear to be the more common, although there are many lighter forms which are always much admired. The white variety is very rare. If the atmosphere about the plants be kept a trifle drier than usual, the blooms will remain fresh for a long time—a matter of importance where cut flowers are much in request. As soon as the bloom is over, the plants should be placed in the cooler part of the East India-house, and kept rather dry at the root, water being afforded just as often as will prevent undue shrivelling. Other species of *Dendrobiums*, viz., *D. bigibbum*, *D. superbiens*, *D. Goldei*, and *D. Statterianum* plants of which are now in bloom, will require a similar kind of treatment when they are resting.

CATTELYAS.—The best varieties of Cattleya eldorado are very desirable plants, and their fragrant flowers remain in beauty for a period of four or five weeks. At the present time these plants are freely making roots, and when the temperature of the Cattleya-house falls below 60°, it will be advisable to remove them to the warmer East India division, and keep them there whilst the roots are active. They should not be watered unless actually dry, and then it should be thorough. To keep the potting materials constantly moist certainly causes the pseudo-bulbs to decay.

THE HARDY FRUIT GARDEN.

By W. POPE, Gardener, Highclere Castle, Newbury.

THINNING AND DRESSING STANDARD TREES.—The present is a very suitable season for the thinning of the crowns of orchard and other standard fruit trees. Pruning, as it is generally understood, is rarely necessary in this department, but thinning is beneficial to the trees, and should be taken in hand, always before the leaves fall if time can be spared. It is so much easier to determine whether a branch may be taken away with advantage, when the foliage is on the trees, regardless of the known benefits of early pruning. In the case of old or neglected trees, large branches should not be cut away at once with the view of thinning once and for all, as the effects would be worse than those which accompany neglect; but commence by taking out a few of the smaller branches, and overgrown spurs here and there—an operation which may be repeated year by year, and which together with manual aids to the roots in the shape of wood-ashes, soot, or farmyard drainage applied during the winter will lead to a great improvement in the health of the trees and the quality of the fruit. As soon as all the leaves have fallen, the rough bark of the trunk and larger branches should be scraped with some blunt instrument to free it from moss and lichens, which form a hiding place for various injurious insects and their eggs. These scrapings should be allowed to fall on to a sheet, so that they may be easily collected and burned, as well as the leaves and small prunings. It would be well, if the trees have been infested with insects, to shovel up surface-soil under them, and char it, fresh soil from land not under fruit taking its place. When insects give much trouble in orchards under grass, it is sometimes advisable to pare off and char the turf, afterwards lightly pricking over and pulverising the ground, which is best done with a digging-fork or

Kentish hoe, and applying a light top-dressing of gas-lime or gas-water, the latter being used on the branches as well. Gas-water should be diluted with three times its bulk of clear water. For the destruction of moss on the trunks and branches, freshly-slaked lime is an effective, and easily-applied means. It should be scattered over the trees, when they are wet with rain or dew.

PRUNING AND DRESSING APRICOTS.—The unripened shoots may now be shortened to a firm wood bud usually found at the base of the shoots, and if the summer pinching was properly attended to, not much pruning will now be required. As soon as the leaves have fallen, unfasten the trees, and wash the branches with warm soap-suds, made by dissolving 4 oz. of soft-soap in one gallon of water; a soft brush should be used generally, but when the brown-scale is present, it may have to be dislodged by other means before washing the trees. If the walls have many nail-holes, and the pointing has fallen out, some good mortar or cement should be used to stop the holes and make good the pointing. When nailing the trees, be careful not to bruise the shoots with the hammer, or have ties that will cut into the rind, as injuries of this kind cause canker and gumming. Having finished the training of the trees, afford a dressing of short dung, after lightly pricking up the surface of the border and pulverising the clods.

THE KITCHEN GARDEN.

By JOHN LAMBERT, Gardener, Powis Castle, Welshpool.

LATE CAULIFLOWERS AND AUTUMN BROCCOLI.—In my earlier note on these crops I mentioned that all those intended for lifting should have the roots cut round with the spade so as to check growth and prepare them for lifting. From now onwards, these crops are very important ones in most country establishments. Owing to the mild weather hitherto enjoyed, we ought not now to be caught unprepared. If no light brick or turf pits are at command, some short, pointed, stout stakes should be driven into the ground in a warm sheltered spot, and to these slating-laths should be nailed across at the top; in this simple manner protection may be found for a great number of plants. Leave standing all those with the more forward heads, which may be covered up where they are, or lifted when sharp frosts threaten; but lift the bulk of the crop, and transplant them under the temporary protection made, giving them as much room as the space at command renders possible, keeping the plants erect, which is easily done by sinking them a little deeper than they were before. They should be just clear of each other. All decaying leaves should be removed, and care taken to keep them free of these afterwards, or the heads will become ill-flavoured. Do not cover the plants with mats, &c., unless it be quite necessary; and when the frosts get more severe, dry fern or straw may be used as an extra protection. In this manner, Broccoli may be cut to the end of the year, and sometimes later. Cauliflowers and Broccoli intended for exhibiting in November, should be left in the ground, and some means taken to protect them from frost, but dig them up before there is any sign of the curd opening. Endeavour to keep them white and fresh; the leaves also must be green, nothing looking worse than Cauliflower heads stripped of all their leaves.

CHICORY AND SALSIFY.—The first-named tender roots should be the first removed from the ground, and stored in fine coal-ashes or damp sand, the leaves to be used later in the blanched state in salads. Salsify I prefer to leave in the ground as one does Parsnips, covering the ground slightly with litter as protection against frost.

ASPARAGUS BEDS.—The tops of the plants being quite ripe, they may be removed with a sharp knife or scythe, and all weeds pulled out or hoed and raked off. If some of the tops with seeds were saved, these should now be gathered, choosing the finest berries only. Spread the berries out to dry in a cool vinery, rubbing out the seeds when time permits.

THE FLOWER GARDEN.

By BAILEY WADDS, Gardener, Birdsall Gardens, York.

WINTERING BEDDING PLANTS.—The severe frosts of the past week having cut down Dahlias, the tubers should be lifted and stowed away in a shed from which the frost can be excluded. Cut the stems to within 6 inches of the tubers, which should be placed on shelves or on the floor for a week in order to dry the soil that is about them. After that

time they may be put closely together in boxes on the floor, or on broad shelves in dry places. Cover the roots about 1 inch deep with dry sandy soil, and then, if the shed is dry and cool, and frost is excluded, they will keep well until February or March. Hollyhocks, if of scarce varieties, should be lifted from open borders and potted into good sandy loam and leaf-soil, and the pots plunged in old Mushroom-bed or other dry material that will not heat. A cold frame, or preferably pits from which the frost can be excluded, will answer for them. Cuttings that were struck in August may be plunged in the same place. Admit abundance of air during mild weather, keeping them plump and fresh; but not over-watering them. If mildew or other fungoid growth occur, dust the plants over with sulphur. Gladioli bulbs should be lifted and dried in a cool airy shed, keeping them from frost. The Breckleyensis varieties are hardy in dry well-drained borders, but the surface should be well mulched to keep the frost from them. I prefer to lift them every year, and plant afresh in the spring. Tuberosus Begonias and Cannas should be lifted and dried a little, and the tubers afterwards stored away in dry sandy soil in shallow boxes or on shelves in a dry shed. If the temperature of the place is not allowed to fall below 40°, they will keep very well.

CALCEOLARIAS.—Good early cuttings of these were very scarce this season, owing to the drought. They should be kept well shaded and watered, that they may keep plump and fresh until they have made roots, then affording them abundance of air, except during sharp frosts, when they should be well protected with mats and litter.

PELARGONIUMS.—This has been a good season for striking Pelargonium cuttings. Those in boxes will require very little water after this time. Keep them as cool as possible; it is better for them not to make much growth until they are potted off in February. The floor of a late vinery is a good place for them. Old plants that have been lifted from the flower-beds should have all of the leaves removed, and be laid thickly together in leaf soil in pits or cool-houses, giving them a water to keep them from withering, and abundance of air. Do not cut them in any way at present, unless to take out decaying shoots. When pits or beds for laying-in old plants are not to hand, they should be potted six or eight together into 8 or 10-inch pots, and placed out of the reach of frost.

MISCELLANEOUS.—Iresine, Colens, and Alternantheras require to be kept in a warm or intermediate house during the winter months, and care should be taken to keep them clean from aphides by fumigation. *Lobelia speciosa*, *Verbenæ*, *Azarias*, *Ageratum*, *Heliotropes*, *Nierembergia*, and the cool varieties of bedding plants that are struck in pots and stored during the winter for propagating in the spring, may be kept in a cool airy house, and be carefully watered, not allowing them to get dry at the roots. Flowering shoots should be pinched out as soon as seen. A temperature of 40° to 45° at night, and 50° by day, will suit them very well. *Centaurea candidissima* may be lifted from the beds and potted into 5 or 6-inch pots. Well water them and place them in a cool house where they may have plenty of air, and be kept free from frost. Do not water them over the foliage in the winter time. These plants will give abundance of cuttings in the spring, but unless old specimen plants are require for planting out, the stock is quickly increased by sowing seeds in February. Carnations and Picotees that have been potted for keeping in pits and frames through the winter must be kept rather dry at the root, affording them abundance of air, and removing the lights whenever possible. The pots should be plunged into cocoa-fibre or other good dry material, to keep the frost from the roots, and covering need only to be used during severe frosts, the plants not being coddled in any way.

A WELSH FOSSIL-TREE.—A fine trunk of a Fossil-tree stands upright in the offices of the Maerdy Coal Company, in the Rhondda Fach. It was taken out of the colliery some time ago, and is 5 feet to 6 feet in length, and judging roughly from its appearance, is over 2 feet in circumference. There is another tree in the colliery, and not yet removed. It stands on the side of a road, and only a portion of it can be seen, but it will, no doubt, be removed some day, so that people may have an opportunity of examining a natural monument of the glories of a "Cymru Fu" forest. *Western Mail*, Oct. 21, 1895.

APPOINTMENTS FOR NOVEMBER.

MEETINGS.

TUESDAY,	Nov. 5	National Chrysanthemum Society at Royal Aquarium.
SATURDAY,	Nov. 9	Royal Botanic Society.
TUESDAY,	Nov. 12	Royal Horticultural Society's Committees, at the Drill Hall, Westminster.
SATURDAY,	Nov. 23	Royal Botanic Society.
TUESDAY,	Nov. 26	Royal Horticultural Society's Committees.

SHOWS.

SATURDAY,	Nov. 2	Crystal Palace Chrysanthemum, Loughborough Chrysanthemum and Fruit.
MONDAY,	Nov. 4	St. Neot's Chrysanthemum, Battersea Chrysanthemum.
TUESDAY,	Nov. 5	Chrysanthemum Shows at Hereford (two days), Southampton, Hanley (two days), Brighton (two days), and Watford (two days). National Chrysanthemum at the Royal Aquarium (three days).
WEDNESDAY,	Nov. 6	Chrysanthemum Shows at Bromley, Ware, Coveutry, Wolverhampton, Tamworth (all two days), Ascot, and Chesterfield.
THURSDAY,	Nov. 7	Chrysanthemum Shows at Exeter, Hitchin, Birkenhead, and Harrogate (two days).
FRIDAY,	Nov. 8	Chrysanthemum Shows at Beigate, Waterford, Windsor, and Derby.
MONDAY,	Nov. 11	Gloucester Root, Fruit, and Grain.
TUESDAY,	Nov. 12	Chrysanthemum Shows at Croydon (two days), Louth (two days), Plymouth (two days), Kingstou-on-Thames (two days), and Farnham.
WEDNESDAY,	Nov. 13	Chrysanthemum Shows at Birmingham, Bournemouth, Bristol, Hertford, Hull, Isle of Thanet, Reading, Lewes, Faversham, Rugby, Barnsley (all two days), and Chelmsford, Ayr, and Yeovil.
THURSDAY,	Nov. 14	Chrysanthemum Shows at Edinburgh (three days), Winchester (two days), Lincoln, Wimbleton, Barnet, Guildford, Fitchley (all two days), and Caterham and Cambridge.
FRIDAY,	Nov. 15	Chrysanthemum Shows at Bolton, Sheffield, Bradford, Stockport, Hincley, and Chorley (all two days).
SATURDAY,	Nov. 16	Chrysanthemum Shows at Batley, Crews, and Eacup.
TUESDAY,	Nov. 19	Leeds Paxton Chrysanthemum (two days). Chester Chrysanthemum (two days).
WEDNESDAY,	Nov. 20	Chrysanthemum Shows at York (three days), South Shields (two days), Dundee (two days), Tonbridge (two days), and Helensburgh.
THURSDAY,	Nov. 21	Chrysanthemum Shows at Norwich, Aylesbury, Glasgow, and Warwick.
FRIDAY,	Nov. 22	Manchester Chrysanthemum.
TUESDAY,	Nov. 26	Tredegar Chrysanthemum (two days).
FRIDAY,	Nov. 29	Alderley Edge Chrysanthemum at Wilmslow (two days).
SATURDAY,	Nov. 30	Dunfermline Chrysanthemum.

SALES FOR THE ENSUING WEEK.

MONDAY,	Nov. 4	Dutch Bulbs, at Protheroe & Morris' Rooms. Plants from Belgium, Roses, &c., at Protheroe & Morris' Rooms. Important Sale of Fruit and Ornamental Trees, at the Burnt Ash Hill Nurseries, Lee, by Protheroe & Morris, by order of Messrs. B. Maller & Sons.
TUESDAY,	Nov. 5	Dutch Bulbs, at Protheroe & Morris' Rooms. Freehold Land at Wickford, Essex, by Protheroe & Morris, at the Mart, London. Freehold Market Nursery at Brentford, by Protheroe & Morris, at the Mart, London.
WEDNESDAY,	Nov. 6	Dutch Bulbs, at Protheroe & Morris' Rooms. Sale of thriving Nursery Stock, at the Cart House Lana Nurseries, Woking, by order of Mr. R. Collyer, by Protheroe & Morris (three days). Great Sale of Fruit Trees, at the Nurseries, Tooting, Wandsworth, Gloucestershire, by Protheroe & Morris.
THURSDAY,	Nov. 7	Dutch Bulbs, at Protheroe & Morris' Rooms. Plants from Belgium, Roses, &c., at Protheroe & Morris' Rooms.
FRIDAY,	Nov. 8	Dutch Bulbs, at Protheroe & Morris' Rooms.
SATURDAY,	Nov. 9	Dutch Bulbs, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCTED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—44°.5.

IN connection with changes, present and prospective, the fate of Chiswick is regarded by gardeners with some apprehension. The Council of the Royal Horticultural Society has informed the public that changes are contemplated, but up to the present it has vouchsafed not a particle of information as to what its policy is likely to be. We need not do more than make passing allusion to the glorious history that attaches to Chiswick, the plants that were introduced from there, the collections of fruits that were got together, the observations that were made in these old gardens. But this is all ancient history: and the present generation, and still more the coming race of gardeners, is, or will be, if not wholly ignorant, at least indifferent to what has been done. There was a time when even the Council, extraordinary as it may seem, were compelled to neglect Chiswick. Owing to financial troubles, the garden was first reduced by more than half its area, and then the remainder was left pretty much to take care of itself. When brighter days came, the Council very properly set to work to restore the dilapidations and ruin caused by years of neglect. Of late years the expenditure has been large, but the result is seen in the general good condition of the buildings. Only two of the old ruinous houses remain, and these have long since been condemned by the Chiswick Board.

The Conferences on Apples, Pears, Ferns, Conifers, Roses, Pinks, Chrysanthemums, Dahlias, and other subjects, which have been held of late years in the gardens in connection with exhibitions, have been singularly valuable and instructive. Some of these, no doubt, could have been as well held elsewhere as at Chiswick: nevertheless, the fact remains that the Conferences held at Chiswick have been quite the most successful of any—we mean, of course, so far as the fulfilment of the object of the particular conference was concerned.

The work done at Chiswick at the present time is varied. As every gardener knows, there are each year numerous trials—now of this flower, now of that; now of this vegetable, now of that, whilst standard collections of fruit are maintained. The trials, so far as they go, are well carried out, and the results are carefully recorded. Especially are they conducted with scrupulous fairness and absence of bias. Complaint is made, and with reason, that the publication of these records is sometimes delayed so long, that their value for commercial purposes is seriously impaired. That is a defect which can easily be remedied; and, moreover, commercial considerations are better left to the great traders, who have their own trial-grounds. It is obvious that the results of these trials, organised and supervised by the superintendent and his assistants, and periodically examined by the several committees during the season, must be of far higher value than those obtained by the cursory examination made of specimens exhibited at the Drill Hall, and of much more importance than the opinion of individual gardeners paraded in trade catalogues.

In some cases the trials are superfluous. There is little utility, now-a-days, in the Society growing a collection of Chrysanthemums, Pelargoniums, Fuchsias, or tuberous Begonias. These have long since passed out of the experimental stage, and the trade may be trusted to make their trials on a larger and more complete scale than can be done at Chiswick. Cannas, on the other hand, are at present relatively new in gardens. The public do not yet know much about them, and it is desirable that the Society should grow illus-

trations of the various types, under various methods of cultivation, until they become generally known, and the most appropriate method of culture decided on.

A very large portion of the resources of the Society is now spent on the growth of plants for distribution to the Fellows. This is a matter in which reform is needed. The plants grown are, for the most part, of no special horticultural interest in themselves, nor does their cultivation present any problems to be solved, as they are, for the most part, of the easiest culture. They are plants which, speaking generally, can be bought from the nearest greengrocer for a shilling or two. In the matter of cultivation they cannot reach the standard attained by the market growers, who grow superb specimens of special things because they can devote an undivided attention to them which is not practicable at Chiswick.

The sale of Grapes, Tomatos, and other produce, is necessitated under present circumstances. This is a great misfortune—a lamentable departure from the legitimate work of such a garden, and an unjustifiable trespass on the functions of business establishments.

With a gigantic conservatory and other houses to maintain, we do not wonder that successive Councils endeavour to recoup some of the expenses of maintenance: but everyone will admit that to attempt to combine an experimental garden with a commercial establishment is to neglect the one department, and to conduct the other unsatisfactorily. All over the world this is so, as those may see who read the accounts of colonial gardens where commercial interests are allowed to be mingled with those of horticulture proper.

The resources of Chiswick and the labours of the staff should not be devoted to objects which can be as well, or better, carried out elsewhere; rather should attention be paid to matters which the average horticulturist, amateur or commercial, has not the means to undertake for himself, or which it may be, for the time being, inexpedient for him to attempt.

Chiswick should be a great reference-garden, where authentically-named specimens of the best fruit trees, and the best vegetables, should be grown for reference and comparison. Many questions of disputed nomenclature, which now-a-days are difficult or impossible to solve, might readily be settled in this way.

In like manner, diverse methods of pruning, and variations in cultural methods generally, should be tried. So far as possible all new methods and all new inventions should be subjected to trial at Chiswick. New plants of all kinds should be grown, and their value for horticultural purposes be tested. With such a large constituency and so many foreign members, seeds of tropical and other plants might be grown for trial. What if the bulk proved to be of no value, even that information would be useful, and in a few cases something interesting would be sure to turn up. As it is, we do not remember a single new plant to have been made known, still less distributed through the agency of Chiswick for many years. What a contrast to what was the case thirty or forty years ago!

Scientific experiments and "research" are, we fear, hopeless without a competent director to initiate, watch and conduct them to a successful result. The salary of a competent director of the kind we have in view would form so considerable an item in the yearly budget, that we fear in the absence of other support it would not be sanctioned. We do not forget that some years ago more than one series of experiments

were carried out at Chiswick under the auspices of the Scientific Committee. But the labour, and it was not inconsiderable, fell to the share of two or three busy men already overweighted with their own affairs. The encouragement

important—if not the most important—features of a national experimental garden.

Much more might be said in detail as to the proper functions of Chiswick, more especially in connection with a properly-equipped school of

LINNEAN SOCIETY.—The next meeting of the Society will be held on Thursday, November 7, at 8 P.M., when the following papers will be read:— Col. SWINHOE, "On Mimicry in Butterflies of the genus *Hypolimnas*, Hüb." Mr. G. F. SCOTT ELLIOT,



FIG. 92.—FLOWER OF *YUCCA GUATEMALENSIS*: FLOWERS IVORY-WHITE. (SEE P. 524.)
(Grown in the Botanic Garden, Cambridge.)

received by the willing horses from the Council was practically nil, whilst by the Fellows at large the whole thing was ignored. The prospects of experiments of this kind are therefore far from promising, and yet these experiments should undoubtedly constitute one of the most

horticulture supported by the public funds and managed by the Society. The Council has raised our expectations to a high pitch. We earnestly hope we may not be disappointed, but that Chiswick may take its place as the first horticultural experiment and reference station of the world.

"A Revision of the genus *Pentas*, Benth." Dr. A. G. BUTLER, "An Account of the Butterflies of the genus *Charaxes*, Ochs."

ROYAL HORTICULTURAL SOCIETY OF IRELAND.—On Wednesday and Thursday, November 6 and 7, the Royal Horticultural Society of Ireland will hold

their annual Fruit and Chrysanthemum Show. The show will be held in the premises of the Royal Dublin Society, at Ball's Bridge. Several special prizes are offered for competition, including three challenge cups presented by Lord ARDILAWN, Messrs. WATERHOUSE & Co., and by the gardeners of Ireland. Silver and bronze medals, and many presentation and money prizes will also be competed for. The date of the show is earlier this year than usual, as the council were anxious to convenience exhibitors who might wish to attend the show to be held in Belfast the following week, and also to allow of growers from the north competing here.

THE GARDENERS' COMPANY.—At a meeting the court held on Tuesday, October 22, the Master (Lient.-Colonel GEORGE LAMBERT, F.D., F.S.A.) presiding, the clerk, Mr. R. GOFTON SALMOND, read a letter from the Commissioners of Sewers, regretting that they could not accept the offer of the company to place seats in various parts of the City for the convenience of the public. The company had been enabled to make this offer to the Commissioners through the kindness of a member as a memento of his election to the court. The seats will now be placed outside the City through the Metropolitan Public Gardens Association. The hon. librarian, Mr. CHARLES WELCH, F.S.A., read a report upon the gardening library presented by the company in 1891 to the Guildhall Library, and supported by a yearly grant from their funds. The number of volumes has now reached eighty-seven, a large number of which were fortunately acquired at the sale of the library of the late Mr. SHIBLEY HIBBERD. Besides several important treatises on gardening in general, there are monographs on the Begonia, Carnation, Chrysanthemum, Clematis, Pelargonium, Narcissus, Rose, Vine, and other plants. The recent purchases include Nicholson's *Dictionary of Gardening*, and a specially fine copy of Lindley's *British Fruits*. The books are already largely used by the readers at the Guildhall Library, and as the collection is rapidly growing in extent and importance, it will doubtless soon become very widely known and appreciated. The example of the Gardeners' Company may with great advantage be followed by many of the more wealthy City guilds. *City Press, Oct. 26.*

THE ROYAL GARDENERS' ORPHAN FUND.—The usual monthly meeting of the committee took place at the Horticultural Club on the 25th ult., Mr. WILLIAM MARSHALL presiding. The following special receipts were announced as having been received during the past three months:—Legacy from Mr. J. Taplin, Havant, £5 5s; the Rev. A. Lowe, proceeds of collection at Harvest Thanksgiving, per Mr. J. Bennett, Burton-on-Trent, £6 6s.; Messrs. J. Crispin & Sons, Show Rooms, Bristol, per Mr. J. H. Vallance, £5 5s.; Mr. Arthur Miles, Dudley Villas, Southampton, £2 3s.; collected at Woodford Flower Show, per Mr. W. D. Wiloughby, £2; Bradford Paxton Society, per Mr. R. Scott, £1 10s.; Mr. J. Barn, Abbey Park, Leicester, £1 5s.; the Misses Evans, Wimbledon, 17s.; Mr. H. Barbridge, Westgate, 10s. 6d.; and collected by Mr. W. G. Head, Crystal Palace, Sydenham, £3 15s. 8d. By means of boxes, the following sums were obtained:—Mr. J. Selway, Betteshanger, Dover, £4 5s.; Mr. J. McIndoe, Hatton Hall, Gaisborough, £5; Mr. C. Sutton, Chavening, Sevenoaks, £1 12s.; Mrs. H. B. Smith, Ealing, 7s. 5d.; and Miss McRonal, Chichester, 7s. In small sums, per the Editor of the *Gardeners' Chronicle*, from October, 1894, to October, 1895, £2 4s. The remainder of the business was of a purely formal character, and the proceedings closed with a vote of thanks to the chairman.

PEBBLESHIRE HORTICULTURAL ASSOCIATION.—The second meeting of the session of this flourishing Association was held in the lesser Good Templars' Hall on Tuesday evening last. Mr. A. SLATER, Vice-President, occupied the chair. After the minutes of the previous meeting had been read by the Secretary, Mr. MCINTOSH, The Gardens, Kingsmeadows, read a paper on "The Cyclamen."

THE SOUTH SHIELDS AND NORTHERN COUNTIES CHRYSANTHEMUM SOCIETY'S exhibition will take place on November 20 and 21, in the Royal Assembly Rooms, at South Shields. The schedule now before us includes fifty-two classes, and there are in addition to local classes, others which are open to all comers. Mr. BERNARD COWAN is the Hon. Sec.

MARRIAGE OF MR. JACKMAN.—On the 17th ult., the nuptials of Mr. A. G. JACKMAN, nurseryman, Woking, with Miss FLORENCE SANNAGE, of Leicester, were celebrated, and in connection therewith, the employés of Messrs. JACKMAN & SONS were entertained to dinner.

MR. VERNON HEATH.—We learn with regret that this well-known photographer died in London on Friday, October 25, at the age of seventy-five. Mr. HEATH's landscape-photography and his views of country-houses attained to a high degree of excellence. A number of them are in the Guildhall Library. Among some of the best he ever took were those of Barnham Betches, a series of striking, beautiful views. Mr. HEATH, a few years ago, compiled a volume, entitled *Fifty Years' Recollections*, which was pleasant reading, and contained many good stories.

AGRICULTURAL RETURNS.—Farmers and others interested in the cultivation of the soil, cannot but agree that they are well attended to by the Board of Agriculture in the matter of statistics and other contributions to the literature of the day selected for their special use and delectation. And this is certainly to be commended, especially as the Board of Trade returns published every month supply the same gentlemen with "matter sufficient to give them pause." Last week there was issued by the Agricultural Department what is termed "Statistical Tables," showing acreage under crops and grass, and number of horses, cattle, sheep, and pigs in the United Kingdom, with particulars for each county of Great Britain—all preliminary to the annual and completed report for the year, to be issued at the usual time. The pamphlet is made up of an enormous mass of figures, none of which do we propose inflicting upon our readers. Sufficient to note here, the growth in the number of acres devoted to market-gardening, and to orchard cultivation. As to the latter, they (in England, Wales, and Scotland), cover an area of 218,000 acres, in 1894 it was a trifle under 214,000 acres. As to market gardens they cover 92,837 acres, as against 88,210 last year. But it must not be supposed that all of this land was withdrawn from other culture, for those who read of land sales, know very well that large estates are being broken up into small farms, which produce better returns for the vendor and form grand speculations for the buyers. As for fruit, there is not now a breakfast-table in the land lacking its jam-pot—jams of all sorts, single and compound, are in great and growing request; and in addition, sugar continues cheap. Decentralisation in the matter of markets is being duly recognised as beneficial; and doubtless, our friends of the Agricultural Department will more and more see their way to extending their field of vision—especially in the matter of markets for sale, and the results in the matter of land and crops.

THE WONDERS OF FERNLAND.—At the Memorial Hall, Farringdon Street, on November 5, under the auspices of the National Amateur Gardening Society, Mr. CHAS. T. DAVERY, F.L.S., will give a lecture on this subject, illustrated with numerous lantern slides, showing photographically and actually the wonderful features of Fern life generally, and more especially of British Ferns, and their most beautiful varieties.

COLOURED GLASS AND STRAWBERRIES.—We read in *Inventions* of Oct. 22, that in cultivating Strawberries under glass of various colours, Prof. ZACHAREWICZ, of Vancluse, France, has obtained the following results:—Ordinary clear glass gave the best and earliest fruit; orange glass increased the

vegetation, but injured the quality, size, and earliness of the fruit; violet glass increased the yield, at the expense of the quality; red, blue, and green glass were harmful to all kinds of vegetation.

THE WORCESTERSHIRE BRANCH OF THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—The inauguration of this branch will take place at the Guildhall, Worcester, on Monday, Nov. 18, and the chair will be taken by the president, Earl BEAUCHAMP, Mayor elect of Worcester, at 3 P.M. Several influential gentlemen have promised to support the chair and address the meeting, whilst every effort is being made by the committee to secure a thoroughly representative and successful gathering. All friends of the cause, and patrons of horticulture, are cordially invited to be present.

THE LATE PROFESSOR HUXLEY.—A biography of Prof. HUXLEY is being prepared by his son, Mr. LEONARD HUXLEY, who will be greatly obliged if those who possess letters or other documents of interest will forward them to him at Charterhouse, Godalming. They will be carefully returned after being copied.

YUCCA GUATEMALENSIS, Baker.

This species, the subject of our illustration, fig. 92, is perhaps the most imposing of the very ornamental genus to which it belongs. The drawings were made from a fine specimen, which flowers about every three years in the Botanic Garden at Cambridge, and where, no doubt, it has grown for many years. Owing chiefly to its size, it is cultivated in the Palm-house, where it is planted out, and, in order that too much space may not be occupied, it is cut back after flowering, and only one or two shoots are allowed to grow. It has a principal stem or trunk, from which the flowering-branches proceed, and the treatment just alluded to accounts for the habit shown by the illustration on p. 525. With free growth there would be several stems, bearing an enormous mass of foliage. The main stem or trunk above referred to, is about 6 feet in height, and about 7 feet in circumference at the base, whence it decreases in size to about the middle, again increasing somewhat towards the point of branching. The flowering-shoot measured about 18 feet, including the panicle, the height of which was about 3 feet 6 inches, and foliage began at about 3 feet from the base of the shoot. The total height of the specimen, it will be seen, was about 24 feet. The panicle of flowers is rhomboid in shape, and striking on account of its density, the flowers seeming to form a solid mass. They are (see fig. 91, p. 519) from 2½ to 3 inches long, the segments oblong-lanceolate, sharp at the point, and about 1 inch in width, those on the outside broader than the inner. The colour may be described as ivory-white, and, speaking of the panicle, as a whole, it could not easily be surpassed in magnificence.

Yucca guatemalensis belongs to a set of about half-a-dozen species, which is characterised by having serrulated leaves. All have a very short peduncle, with the exception of *Y. rupicola*, in which it reaches a length of 3 feet. *Y. aloifolia* is a species too well-known to need description. *Y. yucatanensis* is similar, with leaves 14 to 16 inches long. The remaining species, described by Mr. Baker in the *Journal of the Linnean Society*, vol. xviii., are *Y. brevifolia* and *Y. Desmetiana*, the former having rigid leaves from 6 inches to 1 foot long, and one third of an inch broad, the latter with recurved leaves of twice that width, and either of a purple colour when young, or when older having a narrow pale margin. The present species is the largest of all, its leaves are ensiform, 3 feet long, about 3 inches wide near the middle, very dark green, shining and smooth. It was described and figured by Mr. Baker, in Saunders's *Refugium*, in the year 1870, and, according to him, was introduced about twenty years earlier. In gardens it has been known under a variety of names, *Y. Roezli*, *Dracæna yuccoides*, and *D. ensifolia* being perhaps the more familiar. The name adopted at Cambridge was received from Kew, and may, therefore, be accepted without question. Though referred to Guatemala by its name, this species is also a native of Mexico. *R. J. L.*

HOME CORRESPONDENCE.

FRUIT FARMING IN SOUTH AFRICA.—In answer to the enquiry of your correspondent, "H. F. T.," as to fruit farming in South Africa, as agent for the Cape Orchard Co., I shall be glad to give him any information I can on the subject, if he will call and see me, or write what subjects he wishes to be informed on. My son, who has just returned from the fruit districts of South Africa, will also be able to enlighten him on most of the points connected therewith. *G. E. Hudson, The Cape Orchard Co., Limited, Suffolk House, Laurence Pountney Hill, Cannon Street.*

FLOWERING OF THE JERUSALEM ARTICHOKE.—As a consequence of the prolonged warmth, this plant has been blooming in abundance in the market gardens in and around Bath, and has thrown up stems to the height of 10 to 12 feet, bearing clusters of bright yellow flowers, which when cut are useful for decoration. *F. Nash, Bath.* [It is not uncommon in warm years. Ed.]

THE GUIDE TO KEW GARDENS.—When greatly enjoying a recent visit to these fine gardens, I was much disappointed to find that the popular guide had been out of print for some time, and not one to be had for love or money. Perhaps the authorities would advertise these guides in the *Gardeners' Chronicle*, and the other gardening papers. The want of this guide and the shortness of the time available prevented me from making notes of the herbaceous plants and others in bloom at the time of my visit. *D. T. Fish.*

PRUNING FRUIT TREES.—After reading Mr. J. Simpson's articles under this heading in your last issue, I came to the conclusion that to write anything which shall be clear to the mind of the ordinary reader is a difficult matter. Mr. Simpson professes to criticise what I have written, and I feel sure that he wishes to do so, but what he criticises is very far from what I intended to say. I have not a copy of my paper before me, but I would ask, whence comes the statement that a standard tree, or, indeed, any other, should be pruned as a basin? I am perfectly sure that it is not to be found within the limits of my short paper. I am, of course, aware that the greater part of the more recently-planted orchards in California are pruned in this way, and the pruners find the results excellent, despite Mr. Simpson's experience, but I certainly never advocated it. What I said was, "that all branches must be so disposed as to admit the sunlight and air into the middle of the tree," but I fail to see the necessity of cutting out the centre of a tree, so that the sun may reach it, and certainly after it was removed, it could not be fertile. No, I do not advocate a basin-shape for standard trees in this country, for I think that a tree with a central axis from which the branches radiate, is much better calculated to resist storms, and much more easily managed. What I wished to insist upon was, that the branches radiating from this central axis, should be placed wide enough apart to admit sunlight into the interior of the tree; this, after the first pruning or two, is a very simple matter, and if any crossing branches be removed, and the thin growths which often shoot up from the lower portions of branches and make the interior of an Apple tree like a crow's nest, be cut out, the less pruning a standard tree gets the better. I fancy all this difficulty has arisen from the writer having amused himself with mixing up standards and cordons "in the fruit-bearing habit, of which," he says, "there is not an iota of difference." Let us grant this proposition, it is perfectly true of a really scientifically pruned pyramid, such as I have helped to prune in years gone by in Mr. Van Houtte's garden, near Ghent, but I fear it would be quite out of the question to prune a standard tree in such a way, and, at any rate, the umbrella-shaped head into which no light or air could penetrate, which seems dear to Mr. Simpson's heart, is as far removed from cordon training as the equator from the poles. Mr. Simpson says that my directions on the subject of pruning standards and cordons are contradictory; they were intended to be so, and I rejoice to find that at least on one point I have been understood. My remarks were upon pruning young trees, and my reason for cutting away two-thirds of a healthy standard was, that it should make strong vigorous growth to form the tree of the future, and to prevent its bearing fruit. This is the rock upon which we split—the non-pruning of freshly-planted standard trees. I want my young trees to make growth and not fruit, and therefore I am dubbed a "mutilator."

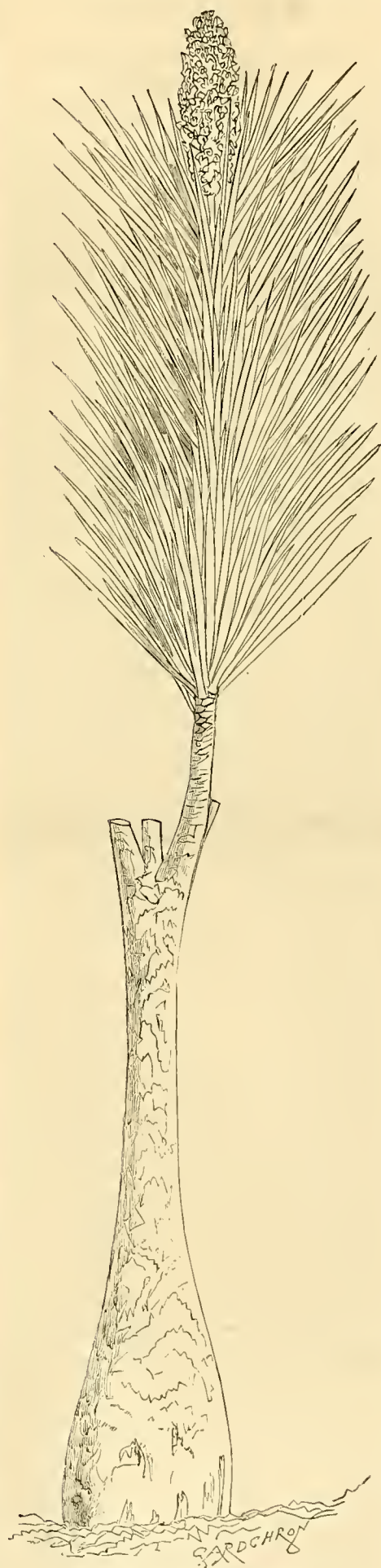


FIG 93.—YUCCA GUATEMALENSIS. (SEE P. 524.)

I am content, the "little band" is growing fast, and I hope one day to find my critic creeping into the fold; but because we prune our young trees to produce growth, and our formed cordon, espalier, and pyramid trees to produce fruit, we are held up to ridicule—this I do not consider reasonable. Mr. S. admits that my advice upon pruning cordons is sound, this makes me happy, and as, in spite of his mixing the two together, I intended the advice upon pruning young standards to be diametrically opposite, after all, I think, I must have made myself understandable if not understood. The quoted remarks of Mr. Wilks, to which might be added those of the late Shirley Hibberd and hosts of others, as to non-pruning, do not enter here at all. I wrote a paper on pruning, not on neglecting to prune. I do not for a moment say that the majority of standard trees are not better if in after life they are left, practically speaking, unpruned, i.e., if they simply have crossing branches and brush wood removed, but before one can leave them to thus stand alone, they must be trained in good ways; this is obvious, or one might reduce the question to utter absurdity, by saying that a tree should not be pruned from the time the graft is put upon the stock in the nursery. On the other hand, all forms of garden trees, espaliers, cordons, and pyramids, must be pruned to obtain the best results, and surely because a certain section of the public, professional as well as amateur, are so incompetent as to ruin their trees when they attempt to prune them, this is no reason why we should abstain from trying to throw some light upon the subject. No, Mr. Simpson, you no doubt thoroughly understand pruning, and you should have taught your man how to use his knife, and not have bargained that it should be kept in his pocket. *A. H. Pearson.*

WINTRY WEATHER IN YORKSHIRE.—During the past week there have been experienced in this locality a sharper snap of winter for the time of year than has been known for twenty-three years. The lowest readings of our thermometers have been 20°, that is 12° of frost; but I hear of a neighbouring gardener who has registered 14°. On Saturday morning last there was a complete covering of snow, which in places the sun does not reach, still lays on the ground. The ground this morning (Saturday last), was hard enough for us to wheel manure upon the vacant quarters in the kitchen garden, a rare occurrence in October hereabouts. *H. J. C., Grimston, Tadcaster, October 28, 1895.*

IN SUSSEX.—On the morning of the 27th the mill-pond in front and behind Uckfield Mill was frozen over. Such has not occurred in October before for the past forty-six years. All outside flowers have disappeared as if by magic. *A. P.*

IN KENT.—During the last few days I have been travelling in that garden of England, Kent, and have heard of a robin's nest with eggs, and rooks engaged in nest-building; and have seen *Rhododendron ponticum* in flower, also *Laburnum* and *Pyrus japonica*; and I have gathered Apple blossom from trees bearing grand crops of fruit. On Friday, October 25, I gathered ripe Strawberries and grand Raspberries from plants in the open, and there are good crops of these fruits in places. That grand old Rose, *Gloire de Dijon*, and others are flowering profusely on cottage walls, and fine blooms too, proving what a remarkable season it has been; and now in some districts severe frost has set in, 10° to 12° being noted, killing all kinds of tender things, especially bedding plants, Dahlias, &c., and making terrible havoc. *A. O.*

THE TRUTH ABOUT PRICES.—What jolly times we poor growers might have if the prices for Apples and Plums given in that cheerful prize essay were only correct! £26 per ton means about 11s. per sieve. Apples differ in weight, but 48 lb. per sieve is not far out. Wellingtons, when well-grown and well kept, fetch as much as any sort, and we must look back to 1889, when that severe frost spoiled so many Apples both native and imported, to find a bushel selling for 12s. after the winter was over, and when I marketed 869 bushels of winter kinds. But that is the sort of good luck which comes to one once in a lifetime. In March, 1895, Wellingtons were 8s.; to-day they are 4s., and very fine fruit indeed, but the fruit will not keep, it having been grown on cultivated land; those from orchards are stored for next spring. King of the Pippins is making 4s. 6d. per bushel now; in October last they were 5s. 6d.; and in November, 1893, 5s. Of course, there are carriage and commission to take off these prices, which cost

me ls. per bushel. Czar Plums last August were 8s. per bushel, Rivers', 9s. In fact, a glance at any market report will show the fallacy of the essayist's statements. *Mid Kent.*

Your correspondent, "D. T. F.," does well to call attention to need of further explanation as to these, as put forward in the Royal Horticultural Society's prize essay. Are the prices quoted averages? If so, how many years, and from what source received, open market, or from private shop or otherwise? I know that the top price for good Blenheim Orange Pippins, or King of the Pippins, offered by large buyers in this country, does not at present exceed £8 per ton; while quotations from markets away are from £7 to £10, the railway and market charges taking away from these £2 to £3 per ton, the net returns being at the rate of £5 to £8. Your average market quotations are also very much on the same scale. *Robt. Grindrod, The Gardens, Whitfeld, Herefordshire.*

MUSCAT OF ALEXANDRIA VINES AT PRESTON HALL, MAIDSTONE.—Amongst the many examples of good cultivation to be seen in the gardens at Preston Hall, is a vine of Muscat of Alexandria. This vine was planted in April, 1894, and the Vines were cut back in February of the present year. The canes are fully 26 feet long, short-jointed, and over 3 inches in circumference at 5 feet from the ground. The border is outside. These Vines afford promise of rendering a good account of themselves next season. Mr. Jarman, the able gardener at Preston Hall, intends replanting all of the vine-ries there by degrees; and should they all do as well as have the Muscats, the results should be quite extraordinary. *A. O.*

BARRON TESTIMONIAL FUND.—Residing, as will be seen at foot of this note, a considerable distance from London, and seldom going that way, I have not had the opportunity of seeing the work done at Chiswick, and am not in a position to give an opinion as to its merits. Judging, however, by the abundant testimony of those who have seen that work, both as expressed in your columns and in private correspondence, I am fully satisfied that, on the whole, it has been real solid work, and as such, deserves the praise of all horticulturists. Personally, I am of opinion that, as a rule, the best testimonial a man can have for any good work he has done, is the still small voice of conscience. No doubt there may be exceptions to this rule, as in the very excellent services Mr. Barron has rendered as Honorary Secretary to the Gardeners' Orphan Fund. Having had some little to do with suggesting the idea of such a fund in the early part of the Jubilee year of 1887, I shall gladly give my small mite to the Testimonial Fund now being got together on his behalf. At p. 51, vol. ii., of the *Gardeners' Chronicle* for 1887, you published a few notes from me bearing upon the fair start already made in establishing a Gardeners' Orphan Fund; as the following extract has some bearing on my point now, perhaps you will let me repeat it. "Amongst the many others who have given their time and experience to maturing plans for the future working of the fund and other organising work in connection therewith, I think that much is due to Mr. Barron of Chiswick for using so freely his great horticultural influence on its behalf. I can say this the more freely as I have not the honour of being personally acquainted with him, or but very slightly." As to the latter portion of this extract matters remain as they then were, we have not met since. Without in the least wishing to detract from the very excellent work done by the chairman, committee, and others, in connection therewith, I still think much is due to Mr. Barron for his services as hon. secretary. It is on this ground I venture to suggest to all interested in the good work of helping those who cannot help themselves, i.e., orphan children, to add their mite to Mr. Barron's testimonial fund. I say mite advisedly, as I take it the smallest sum will be acceptable as well as the larger ones—just according to the power of the contributor. *H. J. Clayton, Grimston Gardens, Tadcaster.*

BOUGAINVILLEA SANDERIANA.—I was interested on reading your correspondent, "R. D.'s," note on this plant in the issue of the *Gardeners' Chronicle* for October 19. That it is distinct from *B. glabra* I am willing to admit, but I was under the impression that it was much freer-flowering, but, unfortunately, with us it has not proved itself to be such. I shall be glad to know how this variety has behaved in this respect in other gardens. *E. Beckett, Elstree.*

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

OCTOBER 15.—Present: Dr. M. T. Masters (in the chair); Rev. W. Wilks, Mr. J. Weathers, and Rev. G. Henslow, Hon. Sec.

Injury to Foliage by Wind.—Mr. Ch. Plowright, of Lynn, sent photographs showing how trees, &c., were damaged on the north sides by a cold wind on May 16, with the following communication:—"After a spell of fine weather, lasting until May 14, we began to think our fruit crop was safe for the year; but on the 15th the temperature fell, and on the 16th we had a gale from the north, accompanied by one or two hail showers. The effect was seen in a Hawthorn hedge facing north and south, for the foliage was shrivelled up on the north side where it is dead, but remained bright green on the south side. Similarly, three or four Pear trees showed a remarkable appearance: the north side was quite black, not a leaf escape, while the opposite side did not seem to have suffered at all. A row of Elms showed graphically which way the wind had blown, and some fine old Beeches assumed on their north side quite an autumnal hue. The Horse-Chestnuts, from the size of their leaves, afforded very distinctive evidence of the injury they sustained, the foliage having turned a bright red. The above effects were general in this part of Norfolk; indeed, no tree which was exposed in the least seemed to have escaped. One of the most striking incidents is the Spruce Fir; at East Walton there is a row of these trees, whose young shoots have been killed by the cold wind on the north side, and hang like brown plumes at the end of the branches." Mr. Plowright does not allude to the probable effect of salt, but as a north wind at Lynn is entirely a sea wind, the disastrous effect to the foliage was probably chiefly due to the presence of salt spray.

Young Apple Fruit.—Mr. T. Eyre, of Thorpe Lea, Egham, forwarded a sample of a second crop of Apples, due to the prolonged high temperature. Raspberries and other fruits, as well as Laburnum, &c., in blossom, as the Secretary observed, have been recorded in Ealing and elsewhere this season.

Cattleya Mossie, with Double Growth.—Mr. W. C. Walker forwarded a photograph of an abnormal specimen with the following remarks:—"I enclose a photograph of *Cattleya Mossie* that has developed an unusual double growth. When it started after flowering it appeared little different from ordinary growth, but as it grew it formed the two distinct growths included in one green sheath at the base."

Aphides on Lettuces.—With regard to the aphides in the soil about the roots of Lettuces sent to the last meeting, Mr. G. B. Buckton of Weycombe, Haslemere, reports as follows:—"As the earth was loose the shaking during transit and the comparative drought killed the insects; but I secured fifty or more specimens. They were all pupæ of aphides, and I am satisfied that they are *Pemphigus lactoæ* (Passerini). This species is subterranean in its larval condition, and it attacks also *Soenhus* and *Melilotus*. On opening the box two winged flies escaped, one of which I secured, and it turned out to be a true *Pemphigus*. The pupæ are without nectaries, and almost if not quite blind. The winged female has moderate eyes, and black. A diagnosis of the insect will be found in *Aphidide Italica Passerini*, p. 77, 1865."

Monstrous Anemone japonica.—Rev. C. Wolley Dod sent specimens of the foliage with the following remark:—"Six years ago I noticed a shoot with crimped leaves, and separated it; next year, with ordinary soil and cultivation, it assumed this monstrous form. It has entirely lost the usual running habit, and does not increase." The leaves were enormous in size, evidently at the expense of the increase of the plant.

Supposed Spontaneous Hybrid Asters.—Mr. Dod also sent a flowering plant of a supposed hybrid between A. Thomsoni, Clarke, and A. omellus, Linn., remarking, "This came from seed collected in my own garden. It has now flowered for five years. It begins to flower early in July, and continues in flower till hard frost. It has never produced fertile seed. The other hybrid was between A. Thomsoni and A. pyrenaicus, D.C. A. Thomsoni produces good seed very sparingly, but one plant growing between two plants of A. pyrenaicus produces good seed plentifully. Some of these seeds produce typical A. Thomsoni, and often the nondescript plant sent. This is entirely sterile. I have raised many for two or three years in succession. They always have a white pappus to the achene, which A. Thomsoni never has."

Some Historic Cedars.—Rev. G. Henslow described two large Cedars (*Cedrus Libani*) in the garden of the Rectory at Bishop's Waltham, which, since their age is known, are perhaps worth recording. They were planted to commemorate the Battle of Waterloo. Both have lost some large boughs. One, indeed, has so greatly suffered in a storm, that nearly half the tree has gone. This one must also have lost its leader at a comparatively early date, as the main trunk now suddenly branches into five large erect minor trunks. It is 42 feet in height. The other has retained its leader, and is about 50 feet high; three of its larger boughs are gone. The girth of the trunk of the first at the parting of the roots is 17 feet. The girth at a height of 5 feet from the ground and just below the lowest bough is 15 feet. The girth of the lowest bough is 6 feet. This bough arises at a height of 5 feet from the ground. The girth of the trunk of the other at the parting of the roots is 17 feet. The girth of the trunk at a height of 5 feet from the ground is 14 feet. The girth of the base of the lowest bough is 5 feet 2 inches. This bough arises at a height of 1 foot 3 inches from the ground. A bough at a height of 4 feet

4 inches from the ground has been sawn off, revealing fifty-seven rings of growth. In all the boughs removed the eccentricity is remarkable; in one instance the centre is 4 inches from the upper surface, and 15 inches from the lower. The situation is high and the soil clay. Both trees are bearing cones.

Pear Diseased.—Mr. Veitch, of Exeter, forwarded a Pear attacked by a fungus. The latter had assumed a remarkable spiral growth round the fruit. It was sent to Kew for investigation.

Parsnip Diseased.—Mr. Reid, of Ealing, forwarded a portion of a Turnip-rooted Parsnip, with purple interior, apparently due to some fungus. It was also forwarded to Kew.

OCTOBER 29.—The meeting on Tuesday last in the Drill Hall, Westminster, was remarkable for a large display of Potatoes. These were chiefly in illustration of a very interesting lecture on the same subject, which Mr. A. W. Sutton delivered in the afternoon. Near upon fifty lantern slides, which had been prepared by Mr. Sutton in connection with the lecture, were greatly appreciated. Orchids were, as usual, exhibited before the committee, but were few in number. *Chrysanthemum* novelties were numerous, and a number of awards were made. The cold weather did not prevent the exhibition of a group of *Crotona*, and a few other house plants.

Floral Committee.

Present: W. Marshall, Esq., in the chair; and Messrs. J. Laing, H. B. May, H. Herbat, R. Dean, R. Owen, G. Stevens, J. Jenning, C. J. Farries, H. Briccoe Ironside, J. D. Pawle, C. E. Pearson, C. Blick, H. H. D'Ombrin, H. Cannell, and J. Barr.

In contrast with the usually pleasant duties of the committee, was the vote of condolence unanimously passed on this occasion to the widow and family of Mr. C. F. Bause, whose decease was reported in our issue of last week. Mr. Bause was a very much respected member of this committee.

Messrs. JAS. VEITCH & SONS, Royal Exotic Nursery, King's Road, Chelsea, showed some clearly hybrid Begonias in bloom, obtained by crossing *B. socotrana* with a variety of the tuberous-rooted section. An Award of Merit was recommended to Success, a rosy-crimson-flowered variety, semi-double, greenish-yellow in the centre; the habit of growth much resembles *B. socotrana*. Eclipse, Sidonia, and Splendent are varieties differing from Success chiefly in the shade of colour in the flowers.

Messrs. R. WALLACE & CO., Colchester, exhibited half-a-dozen plants in flower of *Lycoris aurea*. Spikes about 14 inches long, bearing six or seven golden-yellow flowers about 1½ inches across. The leaves are developed after the plant has flowered. A very pretty species from China, introduced to this country more than a century since, but lost again to cultivation until a year or two ago (First-class Certificate).

Nerine Alleni, a seedling from *N. coruæa* major, crossed with *N. sarniensis*, was exhibited by Mr. R. H. ALLEN, Guernsey. The flowers are very closely placed on the scape, and are a good rosy-crimson in colour.

A collection of small *Crotona*, well-coloured, was exhibited by S. T. FISHER, Esq. (gr., Mr. G. Bond), amongst which were some useful and pretty plants for winter furnishing (Silver Banksian Medal).

Messrs. B. S. WILLIAMS & SONS, Upper Holloway, London, exhibited a plant of *Bouvardia* Silver King. The leaves are variegated with white margins, and the flowers are coral-red.

From Mr. ANTHONY WATERER, Knap Hill Nursery, Woking, came a plant from 20 to 30 feet high, of *Quercus americana* *coccinea splendens*, a very effective variety of the Scarlet Oak.

CHRYSANTHEMUMS.

Novelties in *Chrysanthemum* were numerous. Awards of Merit were made to Dorothy Gibson, a glorious true reflexed flower, of a deep shade of yellow, from Mr. R. OWEN, Maidenhead; and Rose Owen, an incurved flower of the Violet Tomlin type, but paler in colour, the prevailing tint being pale pinkish-rose, the petals, and especially those in the centre, tipped with white (R. OWEN). To Florence Luna, another finely-formed reflexed flower, of a clear bright mulberry shade, full, and shaped well; and Mrs. Briccoe-Ironside, a lovely flower, of a delicate creamy or silvery-blush tint, with lemon centre—a large, full, incurved Japanese, in the way of Edith Præss, quite a new colour, and extra fine, both from Mr. H. BRICCOE-IRONSIDE, Burgess Hill. To Edith Tabor, a large, very broad-petalled soft yellow Japanese, with drooping basal florets, and highly effective in a stand, from Mr. R. C. NOTCUTT, Ipswich. To Mrs. Charles Blick, another large white, broad-petalled, incurved Japanese, having a citron centre—vigorous grower, represented by a dozen plants on single stems, of quite dwarf growth, and each carrying a huge flower, exhibited by Mr. C. BLICK, The Gardens, The Warren, Hayes; to Beauty of Teigamouth, probably the most magnificent variety of a Japanese *Chrysanthemum* seen this season, the surface of the broad incurving florets bright crimson-samaranth, with silvery reverse; the florets not too much incurved to hide the brilliant surface colouring, very large and full. Last year, this was thought to be like Duke of York, but this season it has proved that it is quite distinct in character; from Mr. J. AGATE, nurseryman, Havant. To yellow Source d'Or, a pure pale yellow sport from this old and favourite decorative variety, the sport promising to be as popular for decorative and market purposes as the type, from Messrs. H. CANNELL & SONS. To incurved, Charles H. Curtis, a beautiful pale yellow, compact in form, full and

bright; to single-flowered Annie Holden, a pleasing sulphur sport from the well-known Mary Anderson; to Queen of the Buffs, bright buff, with a slight pale crimson surface to the petals, and very thin side edgings of the same, novel and distinct; and to Mrs. E. G. Whittle, very delicate sulphur-white, having large, broad, incurving florets, somewhat loose at the base, a variety which gained an award for its colour more than for its other merits, all from Mr. H. J. JONES, Lewisham; and to Mons. Chino de Lesche, a very large and massive flower, having broad florets, the surface tinted and striped with cerise, deepening to pale purple on the basal florets, the reverse deep gold, a very fine and distinct Japanese, from Mr. W. WELLS, Earlswood, Redhill.

Other notable new flowers were Maggie Shea, yellow, with a slight white tip to the florets; and Miss Elsie Teichmann, white, with sulphur centre, both very promising, from Mr. C. E. SHEA, Foots Cray. Charles Young, deep rose, with slight shading of violet; and Ada Fulford, an incurved variety, buff, the reverse gold, with slight lines of purple on some of the outer florets, both from Mr. R. OWEN. Mr. J. F. McLEOD, Dover House, Roehampton, had Japanese Belle Jeune, a clear yellow variety of medium size, like La Chirine. From Mr. W. E. TIDY, Havant, came Duke of Connaught, a large yellow incurved Japanese, the basal petals somewhat drooping, in the way of W. H. Lincoln; Mr. T. G. Foster, deep yellow, of a fine depth of colour; and Zelandia, a large, broad-petalled, fully incurved Japanese, of the Queen type. Mr. RICKWOOD, Fulwell Park, Twickenham, had Japanese Fulwell Park, the florets white and yellow, with slight stripes of pale purple. From Mr. GEO. STEVENS, Putney, came incurved Madame F. Minstral, pale rosy-purple, and golden centre. Mr. H. J. JONES had incurved James Murray, very like Princess of Wales; and D. B. Crane, incurved, not in such good character as when shown at the Royal Aquarium. Mr. H. CANNELL had plants of Kentish White, a very promising incurving white Japanese, with pale yellow centre, dwarf in growth, and highly promising.

Messrs. VEITCH & SONS, Exotic Nurseries, Chelsea, had a fine and attractive group of plants, some of them bearing remarkably good flowers, the most noticeable being Louise D. Black, Warrior, Palanza, Louise, Madame Calvat, Mutual Friend, M. George Biron, G. W. Childs, and other leading varieties (Silver Flora Medal).

Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; and Messrs. Jas. O'Brien (Secretary), T. B. Haywood, Sydney Courtauld, W. Cobb, T. Statler, T. W. Bond, E. Hill, H. J. Chapman, J. Gabriel, H. Billantine, and H. M. Pollett.

Despite the cold weather, there was a nice show of Orchids, though fewer groups than usual were staged. Messrs. JAS. VEITCH & SONS, Royal Exotic Nursery, King's Road, Chelsea, sent some pretty and interesting hybrid Orchids. Of them *Laelio-Cattleya* × *Euphrosyne* (C. Warszewiczii × L. *pumila* *Dryana* ♀), was a plant of dwarf habit, with a very large and well-formed flower, with sepals and petals of a light rose colour and narrow yellowish margins, and bright purple lip, with a lilac tip and primrose-yellow disc (Award of Merit); *Cattleya* × *Enrydice* (Aucklandiae × *labiata* ♀), a very charming novelty, with the colours of *Cattleya amethystoglossa*, and the size and somewhat the form of C. Walkeriana nobilior. The very dwarf plant bore a wax-like flower, with ovate sepals and petals of a pinkish-lavender hue, bearing a few purple spots; the lip being rich crimson on the broad, flat, front lobe, and tips of the side lobes; the base bluish-white, and the disc yellow. Their beautiful *Cattleya* × *Mantini*, two varieties of which were now exhibited, as on the former occasion (October 15), now secured a First-class Certificate. Messrs. VEITCH also showed *Laelio-Cattleya* × *Statteriana*, a beautiful hybrid of L. Perrinii and C. *labiata*; and two hybrid *Cypripediums*.

Mons. GEORGES MANTIN, Château de Bel Air, Olivet, Loiret, France, after whom the *Cattleya Mantini* (C. *Dowiana* × *Bowringiana*) was named, sent a grand plant of it, with a noble inflorescence of rich rosy-purple flowers, with orange centre and maroon-crimson front to the lip. It was said to differ from the original, and in consequence was named C. × *Mantini colorata*, but seeing that the three which Messrs. VEITCH exhibited also differed from it and from each other—one of Messrs. VEITCH's being brighter in colour than Mr. MANTIN's—it was decided to award the Certificate as to the type, and as such it received a First-Class Certificate.

Sir TREVOR LAWRENCE, Bart., Burford, Dorset (gr., Mr. W. H. White), showed *Houlletia tigrina*, an old but extremely rare species with decumbent inflorescence of large flowers, which were French-white freckled with rose; the lip ivory-white with crimson spots. A most singular and handsome species (Botanical Certificate).

THOS. STATLER, Esq., Stand Hall, Whitefield, Manchester (gr., Mr. R. Johnson), showed a very interesting group of rare Orchid blooms, for which a Silver Flora Medal was awarded. The most remarkable was *Cattleya aurea* Johnsoniana, with light buff sepals and petals, marbled with rosy-lilac, and a very beautiful and ample dark velvety crimson lip with gold veining. It comes nearest to the fine C. *aurea marmorata* which received a First-class Certificate from the Right Hon. Lord Rothschild's collection; and Mr. STATLER received a similar award. In the group also were six other grand forms of *Cattleya aurea*, some very handsome C. *labiata*, including C. L. excelsior, with flowers prettily flaked with purple, *Cypripedium* × *Edwardii*, and the pallid, green-tinted C. *Spicerianum* *viridescens*.

Messrs. HUGH LOW & Co., Clapton, were also awarded a Silver Flora Medal for a very bright and effective group of

Orchids, in which fine varieties of *Cattleya labiata* figured conspicuously. The remarkably handsome *Cypripedium insigne*, var. *Laura* Kimball, with clear yellow unspotted flowers bearing a broad band of pure white on the dorsal sepal, was also shown, and received an Award of Merit. It is of the C. i. *Sanderæ* class, and differs in having the yellow of a darker tint and in some other respects. Also in Messrs. LOW's group were *Cypripedium* Charlesworthii unicolor, a small but uniformly rose-tinted form; a very distinct form of *Oncidium hæmatochilum*, O. *ornithorhynchum album*, O. *varicosum*, and various other showy species.

Messrs. F. SANDER & Co., St. Albans, staged a group of Orchids, in which were the finest and richest-coloured forms of *Cattleya labiata* yet exhibited, the handsome rose-pink and cream-white *Calanthe* × *Florence*, and the pretty C. × *Clive*, *Catatum Christyanum*, *Lælia pumila marginata*, a fine pan of the stately white *Habenaria Suzanne*, some pretty specimens of *Sophranitis grandiflora*, *Zygopetalum crinitum*, *Cattleyss*, *Cypripediums*, &c.

R. I. MEASURES, Esq., Cambridge Lodge, Camberwell (gr., Mr. H. J. Chapman), exhibited *Cypripedium Allenanum superbum* (Curtisii × *Spicerianum*), a very large white flower tinged with brownish-rose, and certainly a very striking variety (Award of Merit). *Cattleya labiata*, R. I. Measures' variety, a most charming pure white flower with delicate pink veining on the lip, and which had been previously Certificated; *Cypripedium* × *Zeno* (callosum × *ciliolare*), C. × *Arthurianum*, C. × *Chas. Richman*, C. *insigne* Cambridge Lodge var., C. × *Leeanum superbum*, *Cattleya* × *Hardyana*, &c. A Silver Banksian Medal was awarded.

FRED HARDY, Esq., Tynesfield, Ashton-on-Mersey (gr., Mr. T. Stafford), showed *Cattleya Bowringiana gigantea*, a very finely-coloured and extraordinarily-large form (Award of Merit); the handsome white *Cattleya labiata* Cooksoniae, *Cattleya* × *Harrisii* (Leopoldii × *Mendeli*), a very beautiful soft rose, wax-like flower; and a very fine lot of cut spikes of some splendid varieties of *Cattleya labiata*, &c. (Silver Banksian Medal).

GEO. C. RAPHAEL, Esq., Castle Hill, Englefield Green (gr., Mr. Adams), showed *Cattleya labiata*, Raphael's var., with brilliantly-coloured flowers of fine form; *Vanda cœrules*, Raphael's var.; a fine spike of almost circular, pale blue flowers, netted with violet, and with violet lip; and the rare and pretty *Zygopetalum Burkei*.

Messrs. W. L. LEWIS & Co., Southgate, showed a small collection of Orchid blooms, in which were *Cattleya labiata* in several good examples, *Oncidium varicosum*, O. *pratense*, *Cypripedium insigne* Maulei, &c. Mons. TRUFFAUT, Rue des Chantiers, Versailles, sent *Laelio-Cattleya* × *Andrea* (bicolor × *elegans*), of slender growth, and resembling a small L.-C. *elegans*, but with ovate, slightly recurved purple front lobe to the lip. REGINALD YOUNG, Esq., Sefton Park, Liverpool (gr., Mr. Poyntz), sent *Cattleya labiata* Youngianum, *Cypripedium* × *Clotho* (politum × *Boxallii atratum*), and *Lælia pumila*.

WALTER C. CLARK, Esq., Sefton Park, Liverpool, sent varieties of *Cypripedium insigne* and *Cypripedium* × (villosum × *Leeanum superbum*). WILBERFORCE BRYANT, Esq., Stoke Park, Slough (gr., Mr. D. Kemp), sent a grand inflorescence of *Cattleya labiata*, Stoke Park variety, very fine in colour.

Frutic Committee.

Present: P. Crowley, Esq., in the chair; and Messrs. S. T. Wright, J. Cheal, J. H. Veitch, H. Pearson, W. Pope, A. H. Pearson, G. Bunyard, J. Wright, A. Dean, C. Herrin, W. Bates, G. T. Miles, F. Q. Lane, H. Balderson, G. Reynolds, R. Fife, and J. Hudson.

An interesting exhibit of Vine leaves, naturally tinted with autumn colours, and displayed on stretched white canvas, was made by Messrs. D. & W. BUCHANAN, Forth Vineyards, Kippen, who grow them for commercial purposes; very fine Grapes, Gros Colmar and Alnwick Seedling; also clusters of fruits of Tomato, Forth Vineyard Selected, were exhibited. The produce had been grown by the use of Thomson's Vine and Plant Manure (Silver Banksian Medal).

An interesting and very commendable collection of vegetables was made by Mrs. WINGFIELD, Amptill (gr., Mr. Empson). The twenty varieties included a large number of Gourds, Marrows, and two Pumpkins, Leeks, Carrots, Tomatoes, Celery, Cauliflowers, Cabbages, Onions, &c., were very well represented. Some fine heads of Sutton's Cardoon were included, and some purple Kohl Rabi, &c. (Silver-Gilt Knightian Medal).

Mr. Geo. Wythes, gr. to Earl PEFOY, Syon House, Brentford, exhibited a collection of salads in twenty-four varieties. We noticed the Turnip-rooted Celery was included, besides a bunch of the same shown separately (Silver Banksian Medal).

Mr. ROBT. FENN, Sulhamstead, showed a dish of Cox's Orange Pippin Apple, and some fruit of his green culinary Apple, called Pay-the-Rent; the latter is a medium-sized fruit, of good appearance, and keeps well. This was recommended an Award of Merit.

Some fruits of a good-looking kitchen Apple (Continental) named Sanspareil were exhibited by Mr. ANTHONY WATERER, Knap Hill Nurseries, Woking.

Seedling Melons were again shown by Mrs. WINGFIELD, Amptill (gr., Mr. Empson). One of these, Anthony's Favourite, a scarlet-fleshed variety, of very good flavour, received an Award of Merit. Mr. OWEN THOMAS, Royal Gardens, Windsor, sent a fruit of a pretty Melon named Frogmore, which the Committee desired to see again; and fruits of his white fleshed Melon, The Duchess.

The only collection of fruits on this occasion was one exhibited by Mr. WYTHES, embracing seventy-six varieties of Apples and Pears, very commendable in quality, as grown so near the Metropolis (Silver Banksian Medal).

Three large dishes of large excellently-coloured fruits of Gascoigne's Scarlet Seeding Apple from Mr. CHAS. E. SHEA, Foots Cray, Kent, appropriately received the Cultural Commendation of the Committee.

Messrs. SUTTON & SONS, of Reading, and Messrs. H. CANNELL & SONS, Swanley, staged large and most interesting collections of Potatos. The former had representatives of their own raising, including some very handsome seedlings, and further representative tubers of a few species, as also of the quaint Fir-apple section. Messrs. CANNELL & SONS sent anybody's varieties they may grow for trade purposes, under ordinary field culture, the whites being separated from the coloured varieties. Of the beautiful Reading collection, comprising sixty dishes, there were Kingleader, field-grown Ashleaf, Early Border, Magnum Bonum, Triumph, Windsor Castle, Matchless, Sutton's A.1, and others that are now so universally identified with the name of Sutton. All these samples were very clean and handsome. The Fir-apple section, so named because of the similarity of portions of the tubers to Fir-cones, having myriads of deep eyes, and yet so nice for slicing and frying, were represented by the red, white, and purple-flushed varieties. The Almond Potato has small white and kidney-shaped tubers. The species were represented by tubers of *Solanum Maglia*, small-coloured; also of *S. tuberosum*, red round, but yet larger than were the white round tubers of *S. tuberosum*. This is probably but a white form of *tuberosum*, as it seems to differ chiefly in colour. This collection was awarded a Silver Knightian Medal.

Messrs. CANNELL & SONS' collection, if showing less handsome tubers, at least allowed the varieties to show average character under field production thoroughly. The white flat round Come-to-Stay, was in fine form, and handsome. This seems to be a first-rate variety. Others of kidney form were Cannell's Victory, Future Fame, The Canon, Chancellor, Col. Long, Lily White, Snowdrop, Maincrop, Welford Park, and National; and of rounds, Satisfaction, Progress, Schoolmaster, Paul's White Round, Prodigious. Best of All, M.P., Abundance, &c. Of coloured rounds, The Dean, Vicar of Lisleham, Purple Perfection, Pink Perfection, Lord Tennyson, Reading Russet, &c.; and of coloured kidneys, Early Vermont, Mr. Breese, Edgata Purple, Field Marshal (very red), Blue Giant, Prize-taker, &c. The collection comprised 100 varieties, and was of exceeding interest, well meriting the Silver Medal awarded.

Mr. ROBERT FENN, Sulhamstead, showed a box in partitions, in which were small tubers of *Solanum Fendleri*, of American origin; also tubers, the product of a cross between the species and a white seedling, Antagomot. Then other and larger tubers, the result of a second cross between the product of this later cross, and pollen of the Rector of Woodstock. These tubers grown a second year will doubtless give a fine and apparently a handsome sample. A cordial Vote of Thanks was awarded by the committee.

Lecture on Potatos.

In the afternoon was read a lecture on Potatos, by Mr. A. W. Sutton of Reading, whose remarks were rendered doubly interesting by a large number of lantern views, which Messrs. Newton had prepared from photographs taken specially for this lecture. The first portion of Mr. Sutton's lecture was devoted to a review of the historical data connected with the tuber, which included the reading of extracts from Gerarde, and from Loudon's *Encyclopædia*, and other authorities. Mr. Sutton declared that every section of the subject of the Potato had been dealt with on previous occasions, and his task was a very difficult one, for but little that was new could be said, either in regard to the botanical characteristics of *Solanums*, or the culture of the Potato itself.

Then there was the increasingly-important question of disease prevention, which can be treated from at least two chief starting points, either with the object of simplifying and extending the French system of spraying the crops when growing with the Bordeaux Mixture known as "Bouillie Bordelaise," or of dusting the plant with the same compound in the form of powder, and thereby saving from disease the sorts of Potatos already largely grown; or, on the other hand, of introducing to the public novel varieties obtained by cross-fertilisation which may have proved themselves able to withstand the ravages of the dreaded fungus.

"On all topics, except the last," said Mr. Sutton, "so much has been said already, that I felt I could not hope to interest you with any additional remarks of my own; but as I have long been identified with the raising and introduction of seedling Potatos. I thought it possible that I might succeed in popularising this branch of study, especially if aided by the lantern views which Messrs. Newton have made for me from photographs taken specially for this lecture."

The first picture on the screen was a portrait of Gerarde, which appeared in the frontispiece of his well-known *Herbal*, where Gerarde holds a spray of the Potato plant with flowers and berries, he evidently thinking the Potato one of the most important and valuable plants of those so ably described in the *Herbal*. Photographs taken from Gerarde's engraving of the Potato plant on p. 927 of his work were next given, which, no doubt, represent the Potato as grown in his garden. These were followed by the reading of Gerarde's quaint description of the plant and its uses.

Mr. Sutton went on to say, "This picture suggests many thoughts and comparisons. How little have the fine, handsome, and even tubers we see at the time for sale at all the greengrocers in London and elsewhere!

"Then also the use of the Potato in Gerarde's time by the wealthy few as a luxury of questionable value or utility, how different to the present enormous consumption in all civilised parts of the world!

"While Gerarde's Potato is before us, it may be interesting to note that the acreage planted in the United Kingdom in 1894

amounted to 1,252,655 acres [this year it is 1,262,765 acres, vide agricultural returns in *Times* of October 29], averaging 3 tons 15 cwt. 2 qrs. 20 lb. per acre, or a total of 4,652,147 tons grown in the United Kingdom, besides a large quantity imported (for 1893 the figures were 14,140 tons). Reckoning the entire population as 37,880,754, this would allow about 2 cwt. 1 qr. 24 lb. for every man, woman, and child per annum, but these figures make no allowance for the quantity annually consumed in feeding cattle, which is always considerable, and varies chiefly in proportion to the market value of Potatoes.

"My friend Monsieur H. de Vilmorin, has very kindly sent me the figures for France, and he tells me that the acreage under cultivation is annually about 3,842,500, and the total yield for the whole of France is 10,100,000 tons, or making allowance for the quantity exported and imported, the figures stand at 10,000,000 tons. Whilst in England, Potatoes are grown almost entirely for use as a vegetable. Monsieur Vilmorin estimates that about two-fifths or 4,000,000 tons are annually used in France in the manufacture of starch and alcohol.

"I have also learned from my friend Herr Fritz Benary, of Erfurt, who forwards me very valuable statistics, that the total acreage devoted to Potatoes in the German Empire in 1893 was 7,892,165 acres, and the total quantity of Potatoes harvested amounted to 32,277,851 tons, or allowing for the quantities imported and exported, 32,575,497 tons, which was the total quantity available.

IMPROVEMENT AND DETERIORATION.

"I think that it would be interesting now to trace the steps by which the great improvement in the cultivated forms of the Potato has been brought about. And here it is necessary to refer to a misunderstanding arising from the fact that 'Seed Potatoes' and 'Potato Seed' are often supposed to be one and the same thing. Seed Potatoes may be either a crop of Potatoes grown with the special object of producing tubers to plant again the following year, or else, as is frequently the case, they are merely the smaller tubers, which, being too small for market, are therefore kept back for planting. Now, it is well-known that Potatoes are merely the enlargement of underground stems, shortened and thickened, in which starch is stored up in greater or less proportion according to the several varieties. Like other stems, the tubers produce buds or eyes, and are capable of re-development by fresh shoots at the axil of the leaves, which in the case of underground stems are replaced by simple scales scarcely visible.

"Although they may be kept through the winter, and planted again the next spring, they are in no respect anything more or less than portions of the old plant which had died down and apparently ceased to exist the previous autumn; consequently, while through the almost unlimited prolongation of the life of a single Potato-plant weakness and deterioration often set in, there is practically no room for improving the original type by any selection of tubers. This anyone can prove by planting a tuber which may from some cause or other be mis-shapen, and the produce will be found to revert to the same handsome and uniform type as the other Potatoes which were growing on the same plant. The only modification of this rule I am acquainted with, is in the cases where all the tubers of one plant show a uniform divergence in character, either for better or worse. When this is so, it is possible that, by the selection of all or any of these tubers, a slightly different Potato might result, as in the case of some types of the Ashleaf section which are dwarfier and more compact, or else taller and coarser-growing than others. Outside the Ashleaf class, however, I know of no such instances.

"In reference to this point, Monsieur Vilmorin mentions he does not consider a really first-class seedling Potato is liable to degenerate so quickly as is generally supposed. If degeneration sets in soon after its introduction, it merely proves that the variety is one which never ought to have been brought to public notice.

"Potato seed, on the other hand, is totally distinct in every way, being the seeds formed in the Potato berries which some, though not all, varieties of Potatoes bear so freely."

Views were then shown of some of the berries in their natural condition, and also cut to show the arrangement of the seeds within the berries. "A berry," said Mr. Sutton, "may contain from 100 to 300 seeds—the average of five berries examined being 232!—and as the parent plant appears able to control but slightly the distinctive character of its progeny, and as all the different seedlings from one Potato berry may produce plants differing from one another, not only in form but many of them in colour also, it is here we find the great possibilities for improving the race by selection of the better seedlings. Even if no cross-fertilisation of flowers was attempted, great improvement might be made by the selection of the most promising seedlings during the first few years of their existence; but where judicious crossing of the best known varieties is undertaken, we can in a great measure combine in some of the resulting seedlings the merits of both male and female parent, although, even then, no two seedlings from the same berry may be exactly alike.

SEED AND SEEDLINGS.

"Anyone attempting to raise seedling Potatoes must have abundance of patience. Like many other species which are not habitually multiplied by the seed, the Potato has a remarkable tendency to revert to the wild form. It may be necessary to cultivate 100 or even 1000 seedlings before finding one which is really worthy of a place amongst the better varieties already existing. Mons. Vilmorin says that in France the raising of seed Potatoes has been proceeded with in a somewhat haphazard manner; whereas in England, on the other hand, a more systematic method has been followed, mentioning that richness in starch, excellence of flavour, power of resist-

ing disease, with little tendency to develop haulm, are the characters we generally seek. Unfortunately, he says, they are not always able to profit in France by progress realised in England, because the French have a marked preference for Potatoes with yellow flesh; whereas in England, for many years past, there has been a preference for white-fleshed Potatoes. On this account even the celebrated Magnum Bonum, which my house had the honour of introducing in 1878, after having enjoyed a brief popularity in the Paris markets, has been almost abandoned as a table variety on account of the flesh being too pale in colour. Mons. Vilmorin remarks that in Germany considerable attention has been given to raising seed Potatoes, but more particularly with the object of raising varieties which are specially adapted for the production of alcohol and starch."

The next three views represented the pistil, after the anthers had been removed, to prevent self-fertilisation, then the arrangement of anthers around the stigmas, both closed and expanded, and then the inner surface of three anthers and their pollen.

SPECIES AND VARIETIES.

A Potato Seedling at the end of the second year, and another at the end of the fourth year, were next illustrated, after which Mr. Sutton had a picture of *Solanum tuberosum*, but remarked that "he had not noticed anything in this Potato either denoting that it was deserving of cultivation on its own account, or for crossing with the ordinary *Solanum tuberosum*, which it seems so nearly to resemble."

The "Papa Amarilla" was then shown. This is much grown in Peru, but Mr. Sutton after carefully growing the variety for eight years, is of opinion that it is of no use in this country.

Representations were then given of a variety found growing in South Africa, which after being grown at Reading for seven years, Mr. Sutton describes as distinct from all Potatoes, and as being free from disease until 1894, when it suffered badly. Another one found growing in the Rocky Mountains, almost the counterpart of the large white Fir-apple Potato, very much diseased in 1894, and the red and white Fir-apple varieties.

Other interesting representations followed, including the Black Congo Potato, the dense purple of which renders it useful for ornamental cookery.

Another variety, grown much in Norway. It has been considered valuable for the supply of so-called new Potatoes throughout the year. The tubers are seldom larger than an Almond, and by lifting the crop before it is quite ripe, the close texture peculiar to new Potatoes is retained indefinitely.

Slides 22, 23, and 24 represented plants taken from Messrs. Sutton's trial-grounds. Owing to an injury to the stem, the plants were unable to produce tubers below the surface of the ground, and did their utmost to make up for this failure by a vigorous attempt at tuberation from the axils of the leaves.

Other pictures represented a spray of *Solanum nigrum* and berries of the Bitter-sweet (*Solanum dulcissimum*), and the deadly Nightshade (*Atropa Belladonna*). "There were 700 *Solanums*," said Mr. Sutton, "of which only six kinds were tuberous-bearing."

Slide 25 represented flowers and foliage of *Solanum Maglia*, of which Mr. Sutton proceeded to say:—"Chiefly on account of the fact that the dreaded Potato fungus produces most havoc in damp, wet seasons, it has been very much hoped by Lord Cathcart that if hybrid seedlings could be obtained between the *Solanum Maglia* (whose habit was that of low-lying marshy places near the coast of the Islands of the Chonos Archipelago) and the *Solanum tuberosum*, which most writers consider a native of the higher slopes of the Andes, a new race of Potatoes might be secured which would resist disease; but here I may say, in parenthesis, it is not at all impossible that *Solanum tuberosum* may have had its origin as a littoral plant rather than a species of elevated or mountainous regions, which thought is strengthened by the fact that Potatoes flourish so amazingly on the warp-lands of our eastern seaboard. Although many hundred flowers of *Solanum Maglia* were artificially fertilised with pollen from cultivated varieties only five were successful, resulting in five seed-berries, and out of these seed-berries only two seedlings were secured, and only one of these showed any promise whatever, the second requiring to be grown under glass to prevent its dying away."

"Slide 29 shows the tubers of *Solanum Maglia*, and I regret to say that last year, in 1894, the crop was almost entirely destroyed by disease out-of-doors, some indoors being free.

"Slide 30 shows the hybrid seedling just referred to, which, although a vast improvement on the *Solanum Maglia*, is very far behind the ordinary cultivated Potato both in appearance, crop, and qualities. This seedling has now been grown for eight years, and in 1894 the crop was slightly diseased; previously it had almost escaped."

"The next few slides illustrate some of the highest types of seedling Potatoes which my house has had the honour of introducing to the public, the crosses having been made in the majority of cases by the late Mr. Clarke, so well-known as the raiser of Sutton's Magnum Bonum Potato, and two by Mr. Robert Fenn, one of the oldest and best authorities living on the artificial crossing of Potatoes. They are A 1 Potato, Harbinger, Ringleader, Windsor Castle, Supreme, Early Regent, Triumph, Satisfaction, Satisfaction Potato as lifted, Magnum Bonum, Flourball. I must not conclude without referring to the use of the Bouillie Bordelaise as an application for preventing Potato disease."

DISEASE AND SPRAYING.

"Slide No. 42 shows two plots of Sutton's Magnum Bonum Potato growing side by side during the past season, that on the left hand side having been sprayed three times and that on the

right hand not having been sprayed at all. It will be seen that the result was very marked, enabling the plants where sprayed to continue in growth some time after the unsprayed portion had died down, and the weights of the two plots when lifted were as follows:—The sprayed, 3 cwt. 1 qr. 25 lb., and the unsprayed 3 cwt. 1 qr. 4 lb. Strange to say, the quantity of diseased tubers was precisely the same in both plots, viz., 4 lb. The question really remains whether the additional weight per acre would compensate the grower for the somewhat laborious task of spraying his crop three times during the growing period.

"In a most elaborate series of experiments I have conducted this year in conjunction with Prof. Gilchrist of the University Extension College, Reading, we have found that in the first and second early varieties there is no advantage from spraying, as these had finished their growth before any disease could attack the plants, and the dressing did not lengthen appreciably the period of growth. Undoubtedly in some sorts which are peculiarly liable to disease, especially when grown in gardens, a judicious application of the Bouillie Bordelaise would secure even in bad disease years a crop of sound Potatoes."

[GRAFTING THE TOMATO AND POTATO.]

Mr. Sutton then referred to some interesting experiments in grafting the Tomato, and the next few slides represented (1), a bunch of Tomato flowers; (2), bunch of Tomato flowers and berries greatly resembling Potato flowers and berries; (3), a photo of the Tomato plant by Gerarde in 1597. This was followed by a quotation from Gerarde.

Mr. Sutton then proceeded:—"Slide 45 represents our Tomato and Potato graft. One tuber was planted in each pot on March 22, and when about 4 to 5 inches high the plant was cut off half an inch from the level of the soil, and a graft of a Tomato plant introduced on May 8. The result of this has been that the Potato, nourished by the Tomato plant above-ground, has produced a crop of Potatoes in the pot, as will be seen in the picture; and also the Tomato plant above-ground has produced a fairly good crop of Tomatoes, nourished by the Potato roots in the pot."

"Slide 47 is the same process reversed. The Tomato plant was cut off half an inch above the surface, and the Potato graft introduced. The Tomato roots have not, of course, produced Potatoes, but the Potato plant above ground produced one truss of flowers and seven berries; and in order to extend this somewhat interesting experiment, the Tomato flowers have been fertilised with Potato pollen, and the Potato flowers with Tomato pollen for further experiment next year. These photographs were taken on August 14; but on looking at the plants recently, it was found that two of the Potatoes growing on Tomato stalks appeared suddenly to be aware of the fact that, although producing flowers and berries, they had not yet produced tubers, and it being 'never too late to mend,' they have, as you will see in slides 43 and 49, produced tubers from the axils of the leaves and stems."

Some discussion afterwards took place;

NATIONAL CHRYSANTHEMUM.

OCTOBER 23.—The Floral Committee of the above Society met at the Royal Aquarium on the above date, under the presidency of Mr. Thomas Bevan, a considerable number of novelties being staged. So plentiful, indeed, have new productions become, and so much alike are many in general character to varieties already in cultivation, that the Society does well to be sparing with certificates, which are given only to varieties of decided promise after their claims are well considered.

On this occasion First-class Certificates were awarded to Edith Tabor, a highly-promising clear pale yellow Japanese, reflexed like Sunflower, having long basal florets, from Mr. R. C. NOTCUTT, Ipswich; to Mrs. Charles Blick, a large pure white, the florets narrow, and slightly grooved, from Mr. C. BLICK, The Gardens, The Warren, Hayes; to Dorothy Seward, the surface of the petals bright reddish-chestnut, with an amber reverse, very attractive and bright in colour; to Mrs. J. Shrimpton, of a very pleasing orange-amber shade, here and there streaked with reddish-crimson—novel and distinct; and to John Seward, clear medium yellow, large and full, the florets long and drooping, and somewhat broad; the three foregoing were from Mr. WILLIAM SEWARD, The Firs, Hanwell, the raiser of several fine varieties. To Lady Byron, a large white Japanese of considerable substance, said to have come from a cross between Puritan and Mrs. Alpheus Hardy, from Mr. H. WHEAT, Thrumpton Hall, Derby; to Pompon Piccinino, one of a batch of charming varieties raised by Mr. H. BRISQOZ ISONADE, Burgess Hill—bright rosy lilac in colour, fine in shape, small, compact, and very pleasing; to single, Miss Annie Holden, a sulphur-coloured sport from Mary Anderson, which is white, and which appears to have all the good qualities of the latter, from Messrs. H. CANNELL & SONS, Swanley; to Japanese, Ethel Addison, a broad-petalled flower, bright rosy violet in colour, with a silvery reverse, very promising; Emily Spilsbury, a large and full white reflexed Japanese, of excellent form and pure in colour, and incurved; D. B. Crane, colour deep gold, a flower of full substance, and very handsomely incurved, all from Mr. H. J. JONES, Bycroft Nursery, Lewisham; to Japanese, Mutual Friend, a bold and massive broad-petalled white variety, with long curling florets deeply grooved, extra fine, from Mr. E. BECKETT, The Gardens, Aldenham House, Elstree, and to Dorothy Gibson, a beautiful bright deep yellow reflexed flower of exquisite symmetry, and a valuable addition to its class, from Mr. R. OWEN, nurseryman, Maidenhead.

In Mr. R. IRONSIDE'S collection of novelties were Japanese Milano, orange and reddish-cerise, with a golden reverse, having a rare metallic lustre, very promising; and incurved Castagnola, bronzy chestnut, also very promising. Japanese Mons. George Biron, pale chestnut, with a silvery reverse; and Beauty of Teignmouth, an American variety, vivid vermilion-crimson, with silvery reverse and massive petals, both from Mr. W. J. GODFREY, Exmouth, are also very promising.

Japanese Pride of Madford, from Messrs. H. CANNELL & SONS, the committee wished to see again; and they also had in very fine character Globe d'Or, a new incurved flower, certificated last year. Japanese Moos, B. Girond and Moos, G. Montigny did not succeed in obtaining awards, though much flattered by some. Japanese Mdle. A. de Galbert, a large white, from Mr. H. SHOESMITH, Woking; and Japanese C. B. Haywood, from T. B. HAYWOOD, Esq., Woodhatch, the committee wished to see again.

OCTOBER 28.—A meeting of the General Committee was held at Anderson's Hotel on the above date, Mr. B. Wynne presiding. The Secretary reported the amount of prize-money awarded at the October show, all of which had been paid; and the awards of medals by the Arbitration Committee to miscellaneous collections was also approved.

Complaints having been made as to the imperfect lighting of the Royal Aquarium on show days, the Secretary was instructed to address a strong and urgent remonstrance to the Directors in favour of an earlier lighting-up, and a greater volume of light, members having complained of their inability to satisfactorily examine the flowers during the afternoon. An interim cash statement of a very satisfactory character was made by the Secretary, who also gave an interim Jubilee report of an encouraging character, the Secretary being instructed to issue the preliminary schedule of prizes. It was resolved that, following the practice observed in the case of the Centenary Celebration in 1890, a Bronze Jubilee Medal should be given to every Society in affiliation with the National Chrysanthemum Society during 1895. The Secretary reported that the annual dinner would take place at Anderson's Hotel on Wednesday, November 27, the President, Sir Edwin Saunders, in the chair. Twenty-five members were elected, including two Fellows, the number who have joined since the beginning of the year being nearly one hundred.

SHIRLEY AND SURROUNDING DISTRICT GARDENERS' AND AMATEURS' MUTUAL IMPROVEMENT ASSOCIATION.

OCTOBER 25 AND 28.—Two meetings, held under the auspices of the Hants County Council, were held on the above dates, Mr. E. Molyneux, of Swannore Park Gardens, addressing each meeting.

The first was held at Highfield, Southampton, and the subject was "Hardy Fruit Culture for Cottage Gardens and Allotments." There was a very creditable display of fruit, and the lecture was of a most instructive nature, all the principal points, such as planting, training, grafting, and pruning being fully explained.

The meeting on the 28th was at Nurling, Southampton, and the "Cultivation of Fruits and Vegetables for exhibition, with Hints on Packing for Transit," was the subject of a very able address.

The varieties of vegetables and fruits most desirable for exhibition, and the character of the specimens most likely to win prizes, were given. The largest specimens in many cases do not obtain prizes at shows, and the lecturer endeavoured to impress on the minds of his audience that something more than mere size should be aimed at to ensure success. There was quite a show at this meeting of high-class fruit and vegetables, made entirely by the gardeners in the locality, and there was also a good attendance. Hearty votes of thanks were accorded Mr. Molyneux at the close of each meeting.

FRUIT EXHIBITION IN DARLINGTON.

OCTOBER 24 AND 25.—This exhibition, in connection with the Gardeners' Institute, was held in the Mechanics' Institute, on the above dates. It is seldom that fruit attains such perfection in Durham and North Yorkshire as it has done this season, and the specimens exhibited by local growers, both for size and colour, were such that might have made the growers in the southern counties envious.

Specimens of such varieties of Apples as Warner's King, Bismarck, and Peasgood's Nonsuch were exhibited up to 13 oz. in weight; while the bright colours of Mère de Ménage, Baumann's Red Reimette, Reimette du Canada, Scarlet Pearmain, &c., drew forth exclamations of admiration and wonder from all who saw them, many expressing themselves surprised that such splendid specimens could be grown so far north.

In the Pear section, Pittaston Duchess figured most prominently, but there were also some very good specimens of Bergamot d'Espèren, Beurré Diel, Louise Bonne of Jersey, Durondeau, Catillac, Doyenné du Comice, Beurré Clairgeau, Beurré Bachelier, Vicar of Wakefield, Chaumontel, &c.

The nursery trade was well represented by Messrs. KENT & BRYDON, Darlington, BACKHOUSE & SON, York, and T. RIVERS & SON Sawbridgeworth, all of whom staged large collections, and their exhibits were of a most meritorious character.

The varieties most noticeable in KENT & BRYDON'S collection were, Stirling Castle, Cellini, Lord Lennox (of exceptionally high colour), Cox's Pomona, Bismarck, Pott's Seedling, Hawthornden, Brownlee's Russet, and Cox's Orange Pippin. In BACKHOUSE & SON'S, Peasgood's Nonsuch Greenup's Pippin, Rose Hill, Annie Elizabeth, Lady Henniker, and Winter Queening. In RIVERS & SON'S, Wadhurst Pippin, Pitmaston Pine, Mère de Ménage, and Nelson Codlin Apples.

The other exhibitors were Mr. WM. SMITH, North Rise, Darlington; Mr. J. MCINDOE, Hatton Hall Gardens; Mr. Temple, gr. to Sir DAVID DALE, West Lodge, Darlington; Mr. H. Y. JOHNSON, Elm Ridge (gr. Mr W C Barrod), Darlington; Mr. MACKAY, Darlington; Mr. DOUGLAS, gr., Bolderby Park; Mr. J. HORNBY, Heslington Hall Gardens; Mr. HANAGAN, Roughton Grange Gardens; Mr. J. MCINTYRE, Woodside Gardens; Mr. GLAISTER, Orchard Croft; Mr. WM. MALLABAR, Hummersknott; Mr. H. Y. WAND, Briukburn Gardens; Mr. R. SIMPSON, Pitmore Hall Gardens; Mr. J. LEE, Clifton Castle Gardens; Mr. PEEL, Rlydon-on-Tyne; and Mr. SUFFIELD, Stanke Prior. There were also some specialities in vegetables exhibited, most noticeable being a tray of Onions averaging 1½ lb in weight, grown by Mr F. Kneller, gr. to the Marquis of RYON, Studley Royal, Ripon.

The exhibition was visited by a great number of people, and the Secretary (Mr. J. G. WILKINSON) and Committee are to be complimented on the success which attended their efforts in getting together such a large and interesting display.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS. Above (+) or below (-) the Mean for the week ending October 28.	TEMPERATURE.				RAINFALL.		BRIGHT SUN.					
	ACCUMULATED.				10ths Inch.	Ins.	Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1895.				
	Above 42° for the Week.	Below 42° for the Week.	Above 42° difference from Mean since January 1, 1895.	Below 42° difference from Mean since January 1, 1895.					More (+) or less (-) than Mean for the Week.	Nb. of Rainy Days since Jan. 1, 1895.		
0	7	-	2	33	+ 298	+ 279	4	-	192	38.1	30	29
1	7	-	2	31	+ 63	+ 429	3	+	155	24.7	33	36
2	7	-	8	27	+ 236	+ 286	2	+	151	23.7	41	35
3	6	-	15	24	+ 177	+ 234	1	+	129	19.5	31	42
4	7	-	11	34	+ 199	+ 375	1	+	124	18.8	25	38
6	7	-	16	25	+ 153	+ 338	0	aver	117	17.6	27	42
8	7	-	9	33	+ 151	+ 383	9	-	159	23.2	40	34
7	8	-	9	27	+ 236	+ 318	3	+	143	24.9	23	37
8	7	-	17	25	+ 165	+ 355	1	+	127	25.7	39	44
9	6	-	12	27	+ 87	+ 283	0	aver	172	27.4	43	32
10	8	-	16	31	+ 15	+ 213	4	-	143	27.5	53	35
*	4	-	39	0	+ 245	+ 248	2	+	143	21.5	44	62

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

- 0, Scotland, N. Principal Wheat-producing Districts—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 6, England, including London, S.
- Principal Grazing, &c., Districts—5, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending October 28, is furnished by the Meteorological Office:—

"The weather was fine and dry generally at the commencement of the week, but an unsettled condition soon set in, with frequent showers of rain, hail, sleet, or snow in the north-west, and this extended later on to almost all parts of the Kingdom. The showers were, however, heavier and more frequent in the northern and western districts than elsewhere. During the latter part of the week thunder and lightning were experienced in various parts of the country.

"The temperature was unusually low for the time of year, the deficit ranging from 4° in the 'Channel Islands,' and 6° in 'England, E. and Ireland, N.' to 3° in 'England, N.W. and Ireland, S.' The highest of the maxima occurred on the 20th, and ranged from 60° in 'Ireland, S.' to 53° in 'Scotland, N. and England, N.E.' The absolute minima were recorded towards the end of the period, and were extremely low for the

time of year. They ranged from 18° in 'England, S.W.' (at Llandover), 21° in 'England, S.,' and 22° in the 'Midland Counties, Scotland, W., and Ireland, S.' to 27° in 'Scotland, N. and E.,' and to 37° in the 'Channel Islands.' The lowest readings reported from stations with a thermometer exposed on the grass were 13° at Worksop (both on Thursday and Saturday), 16° at Loughborough, 18° at Gilcrux, and 20° at Oxford and Cullompton.

"The rainfall varied very greatly in different parts of the Kingdom, but was, on the whole, in excess of the mean over 'England and Scotland, E.,' and just about the normal elsewhere. The fall consisted mainly of hail, sleet, and snow in the western and northern districts.

"The bright sunshine was more prevalent in the west and south-west, and in 'England, N.E.' than elsewhere. The percentage of the possible duration ranged from 53 in 'Ireland, S.,' 44 in the 'Channel Islands,' 43 in 'Ireland, N.,' and 41 in 'England, E.,' to 25 in the 'Midland Counties,' and 23 in 'England, N.W.'"

PRIZE ESSAYS.—The prizes offered by the Royal Horticultural Society for the best essay on "The Commercial Aspect of Hardy Fruit Growing in Great Britain," were presented at the meeting on Tuesday last, by Sir A. ARBUTHNOT, in the unavoidable absence of Sir Trevor Lawrence. As the judges were unable to decide between two of the papers sent in, the Council have given £15, instead of £10, and this has been divided equally between Mr. LEWIS CASTLE and Mr. S. T. WRIGHT, gardener at Glewston Court, Herefordshire. Dr. HOGG has also presented a large Silver Medal to both essayists.

MARKETS.

COVENT GARDEN, October 31.

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

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.	d.	s. d.		s.	d.	s. d.
Arums, p. 12 blooms	3	0	6	Orchids:—			
Azalea, 12 sprays ...	0	9	1	Cattleya, 12 blms.	6	0	12
Bouvardia, per bun.	0	6	1	Odo notoglossum			
Carnations, 12 blms.	1	0	3	crispum, 12 blm.	3	0	6
Chrysanthemums,				Pelargoniums, scar-			
per 12 blooms ...	1	0	4	let, per 12 bunch	4	0	6
Chrysanthemums,				— 12 sprays ...	0	6	0
per 12 bunches ...	3	0	8	Pyrethrums, 12 bun.	2	0	4
Eucharis, per dozen	3	0	6	Roses, Tea, per dor.	1	0	2
Gardenias, per dor.	3	0	5	— coloured, p. dr.	2	0	4
Lapageria, per doz.				— yellow (Maré-			
blooms ...	0	6	1	chale), per dor.	3	0	6
Lilac, French, p. bun.	3	0	5	— red, per dozen	1	0	1
Lilium Harrisii, do.	3	0	6	— mixed, dr. bun.	6	0	9
Lilium lancifolium,				Stephanotis, 12 sps.	2	0	4
per dozen blooms	1	6	3	Thibaudia, 12 blms.	0	3	0
Lily of the Valley,				Violets, 12 bunches	1	6	2
doz. sprays ...	1	0	2	— Parme, French,			
Maidenhair Fern,				per bunch ...	3	0	5
per 12 bunches ...	4	0	6	— Crat, do.	2	6	3
Marguerite, 12 bn.	1	0	3	— Mimosa or			
Mignonette, 12 bun.	2	0	4	Acacia, do.	1	6	2

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.	d.	s. d.		s.	d.	s. d.
Adiantum, per doz.	4	0	12	Ferns, various, doz.	5	0	12
Aspidistra, per doz.	12	0	30	Fiens elastica, each	1	0	7
— specimen, each	5	0	15	Foliage plants, doz.	12	0	24
Chrysanthemums, p.				Lilium Harrisii, per			
doz. pots ...	6	0	12	dozen pots ...	12	0	24
Cyperus, per dozen	4	0	10	Marguerites, p. doz.	6	0	12
Dracena, each ...	1	0	7	Mignonette, p. doz.	4	0	8
— various, doz.	12	0	20	Palms, various, ea.	2	0	10
Erics, various, doz.	9	0	24	— specimen, ea.	10	8	4
Evergreen Shrubs,				Solanum, per doz.	9	0	12
in variety, doz. ...	6	0	24	Spiraeas, per doz ...	9	0	12
Ferns, small, doz. ...	1	6	3				

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.	d.	s. d.		s.	d.	s. d.
Apples, per bushel ...	1	6	3	Melons, each ...	1	0	2
— dessert, in variety, p. half-sieve ...	2	0	3	Pears, Doyenné du Comice, ½ sve.	9	0	10
Cobs, per 100 lb. ...	30	0	35	— Duchess, half-sieve ...	4	0	5
Grapes, Gros Colmar, 1st quality, lb.	1	6	1	— Beurré Diel, per half-sieve ...	3	0	4
— Gros Colmar, 2nd quality, p. lb.	1	0	1	Pine-apples, St. Michael, each ...	3	0	6
— Alicante, 1st quality, p. lb.	1	3	1	Prunes, half-sieve ...	2	0	—
— Alicante, 2nd quality, p. lb.	1	0	1	Quinces, half-sieve ...	2	0	2
— Muscat, 1st quality, p. lb.	3	0	3	Walnuts, best English, shelled, p. bush. ...	10	0	12
— Muscat, 2nd quality, p. lb.	1	9	2	— French, Grenoble, p. bag. ...	4	6	5

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Cauliflowers, p. doz.	3 0	3 6	Tomatos, Home-grown, p. doz. lb.	—	—
Mushrooms, per lb.	1 0	1 6	— Smooth "	5 0	6 0
Cucumbers, per doz.	2 6	3 0	— ordinary "	3 6	4 6
Onions, Dutch, per cwt. bag ...	3 0	—	— Guernsey "	3 0	3 6
— English, bush.	2 0	—			

POTATOS.

Markets remain about same as last reported. *J. B. Thomas.*

SEEDS.

LONDON: October 30.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report to-day's market thinly attended, with but little business doing. Rather more attention latterly been given to Clover seeds, and the impression widely prevails that the lowest prices possible have been reached. Winter Tares are slow this week. There is no change in Rye. New Haricot Beans on the spot, being in strong demand, and almost unobtainable, have again advanced several shillings per qr. Bine Peas also sell freely at rising quotations. The new Hemp seed just landed, being cheap and good, meets with favour. Canary seed is steady. There is no alteration in either Mustard or Rape seed.

FRUITS AND VEGETABLES.

BOROUGH: Oct. 29.—Quotations:—Cabbages, 2s. 3d. to 2s. 9d. per tally; Carrots and Turnips, 2s. to 2s. 6d. per dozen bundles; Apples, 3s. to 6s. per bushel; Pears, 3s. to 7s. do.; Chestnuts, 6s. to 8s. per basket; Walnuts, 4s. 6d. to 8s. per bag.

SPITALFIELDS: Oct. 29.—Quotations:—Savoys, 5s. to 7s. per tally; Collards, 3s. to 4s. do.; Greens, bunch, 2s. to 2s. 6d. per dozen bunches; Cauliflowers, 6s. to 8s. per tally; Sprouts, 2s. to 2s. 6d. per half-bushel; Turnips, 1s. 9d. to 2s. per bag; Carrots, 1s. 6d. to 1s. 9d. do.; Beets, 1s. 3d. to 1s. 6d. per bushel; Parsnips, 7d. to 9d. per score; Onions, 3s. to 4s. per cwt.; Apples, Cox's Orange Pippin, 2s. 6d. to 3s. per bushel; Northern Greenings, 2s. 6d. to 3s. do.

STRATFORD, Oct. 29.—There has been an improvement generally during the week, consequent upon the change in the weather. Cabbages, 2s. to 5s. per tally; Savoys, 2s. to 6s. do.; Greens, 1s. 3d. to 2s. per bag; do., 1s. 6d. to 3s. per dozen bunches; Cauliflowers, 1s. to 2s. 3d. per dozen; do., 5s. to 10s. per tally; Scotch Kale, 6d. to 9d. per bushel; Vegetable Marrows, 1s. 6d. to 2s. 6d. per tally; Beans, Scarlet, 1s. to 1s. 6d. per dozen; do., 2s. to 2s. 9d. per bag; Beet-root, 2s. 6d. to 3s. per dozen bundles; Celery, 6d. to 1s. per roll; Horse-radish, 1s. 1d. to 1s. 3d. per bundle; Parsley, 1s. to 1s. 6d. per dozen bunches; Turnips, 1s. to 2s. per dozen bunches; do., 3s. to 40s. per ton; Carrots, household, 25s. to 32s. per ton; do., cattle-feeding, 20s. to 25s. per ton; Parsnips, 8d. to 1s. per score; Mangels, 12s. to 15s. per ton; Swedes, 17s. to 20s. per ton; Onions, Ghent, 2s. 9d. to 3s. per bag; Dutch do., 3s. to 3s. 3d. per bag; Bordeaux Port., 4s. 6d. to 5s. 6d. per case; Apples, English, cookers, 2s. 6d. to 3s. 6d. per bushel; do., dessert, 3s. to 5s. per bushel; Pears, English, 2s. to 5s. per bushel; Tomatos, English, 3s. to 3s. 6d. per doz. lb.; Cucumbers, framed, 1s. to 2s. per dozen.

FARRINGTON: Oct. 31.—Quotations:—Apples, Wellingtons, 3s. 3d. per bushel; Blenheim, 4s. do.; King Pippin, 4s. do.; Suffolk, 4s. 6d. do.; Gravensteins, 11s. 6d. per tub; Cox's Orange Pippin, 4s. 6d. per bushel; Pears, California, 10s. 6d. to 14s. per case; Walnuts, 4s. per bag; Chestnuts, 13s. per bag; English Grapes, 1s. per lb.; Tomatos, 6s. per 12 lb.; Prunes and Plums, 2s. 6d. per half bushel; Sloes, 2s. 6d. per peck; Collards, 3s. 6d. per tally; Leeks, 2s. per doz.; Carrots, 3s. per dozen bunches; Turnips, 3s. do.; Cauliflowers, 2s. per dozen; Spinach, 2s. per bushel; Beetroot, 2s. per bushel; Parsnips, 1s. 3d. per score; Artichokes, 2s. 6d. per half-bushel; Celery, 1s. per roll; Onions, English, 4s. per bag.

POTATOS.

BOROUGH: October 29.—Prices ranged from 55s. to 80s. per ton.

SPITALFIELDS: October 29.—Quotations:—Sutton's Abundance, 55s. to 70s.; Reading Giants, 45s. to 65s.; Main Crops, 50s. to 70s.; Imperators, 50s. to 70s.; Fidler's Colossal, 50s. to 65s.; Bruce, 45s. to 60s.; Snowdrops, 60s. to 80s. per ton.

STRATFORD, Oct. 29.—Quotations:—Bruces, dark soil, 40s. to 45s.; do., light soil, 40s. to 60s.; Reading Giants, 45s. to 65s.; Snowdrops, 50s. to 70s.; Hebrons, 55s. to 70s.; Sutton's Abundance, 50s. to 70s. per ton.

FARRINGTON: Oct. 31.—Quotations:—Snowdrops, 30s. to 100s.; Hebrons, 70s. to 90s.; Regents, 80s. to 70s.; Paritans, 55s. to 60s.; Imperators, 50s. to 80s.; Early Rose, 60s. to 70s.; Magnams, 45s. to 55s. per ton.

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 50s. to 100s.; do., inferior, 50s. to 70s.; hay, best, 60s. to 90s.; do., inferior, 30s. to 80s.; mixture, 70s. to 87s. 6d.; and Straw, 20s. to 40s. per load.

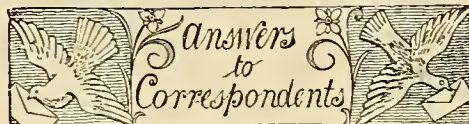
CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending October 23, and for the corresponding week in last year—1895: Wheat, 25s. 5d.; Barley, 25s. 4d.; Oats, 13s. 7d. 1894: Wheat, 17s. 7d.; Barley, 23s. 8d.; Oats, 13s. 3d.

ENQUIRY.

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

Will some of our Danish correspondents kindly inform "Hibernia" of the meaning of the word Traasteen, as given to an Apple; a new variety, said to be the finest in existence, with this name, having been introduced to the gardens of the Prince of Wales at Sandringham in 1893.



* * * Owing to the large increase in our circulation, we are under the necessity of going to press some hours earlier. Our contributors will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.

CATTLEYA LABIATA BLOOMS: *W. Bull.* One of the richest coloured varieties ever seen, and the flower of more than fair size. The other exhibits an attempt on the part of the flower to produce two extra lips out of what are really the sepals.

ERRATUM: The large Pear from "F. H.," inadvertently named Duches d'Angouême in this column last week, should read Pitmaston Duchess.

FRUIT CULTURE IN SOUTH AFRICA: *H. F. T.* You should write to Mr. Cooke, Ravenscourt, Bexley, Kent, who has information to impart.

INSECTS: *F. A.* The grubs appear to be those of the small cockchafer or Fernchafer (*Rhizotrogus solstitialis*). In the case of the lawns, you might try copious applications of diluted gas-water. As to the Begonia beds, dig up and carefully hand-pick and destroy all grubs and affected tubers; gas-water might then be applied, or the earth be removed, and replaced by fresh. *R. McL.—W. R.* The insects are the grubs of one of the boring beetles, which are often imported with Orchids. If the parts affected by them are cut off and burnt, they are easily got rid of.

MUSHROOMS TURNING BROWN WHEN QUITE SMALL: *F. B.* This may happen when the soil and bed are deficient in moisture, as will often occur when excessive heating has taken place. The "spawa" will sometimes be injured by the great heat, and vegetates but weakly. Loss of heat in the bed will arrest development in the Mushrooms. Without seeing the bed, and knowing more of the treatment afforded, we are unable to say what is the exact cause.

* * * PLANTS, FRUITS, ETC., TO BE NAMED.—The applications to name flowers, and especially fruit, are so numerous at this season as severely to tax our resources. They entail an expenditure of time, labour, and money, of which our readers have no idea. We are always willing to oblige our correspondents as far as we can, but the editing of the *Gardeners' Chronicle* is our business, to which everything else must give way. Correspondents are respectfully requested to observe the rule that not more than six specimens can be dealt with at a time. If more are sent, it would be a graceful act on the part of the sender, to send also a small contribution to the *Gardeners' Orphan Fund*. Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered. Leaves only, or florists' varieties cannot, as a rule, be named.

NAMES OF FRUITS: *Houston.* 1, Easter Berré; 2, Vicar of Winkfield; 3, Passe Colmar; 4, Berré d'Aremberg.—*M. P. R.* 1, Cox's Orange Pippin; 2, Small's Admirable; 3, Berré de Capianmont; 4, other Pears over-ripe.—*Camens.* 1, Gloa Morcogan; 2, not known—worthless.—*Charles J. W.* Your Apple is known as the Black Crab.—*H. F.* 1, Berré Rance; 2, Vicar of Winkfield; 3, Passe Colmar.—*B. R. S.* 1, not known—a wild variety; 2, Criméon; 3, Pott's Seedling;—*W. Hunt Charleville.* 1, Cox's Orange Pippin; 2, Cox's Pomona; 3, not known; 4, Warner's King; 5, Ribston Pippin; 6, Yorkshire Greening.—*Kent & Brydon.* Your Apple is inferior to hundreds of others in cultivation.—*Rev. C. C.* Pears, 1, Uvedale's St. Germain; 2, Verniam, both excellent stewing Pears.

NAMES OF PLANTS: Correspondents not answered in this issue are requested to consult the next number.—

Mells Park. 1, *Crataegus crus galli* var. *splendens*; 2, *Crataegus punctata*; 3, *Pyrus prunifolia*; 4, *Crataegus coccinea* var. *macracantha*; 5, *Crataegus coccinea*.—*Gurteen.* *Prunus Padus* (Bird Cherry).—*S. 1.* *Galactites tomentosa*; 2, *Lathyrus Cymenium*; 3, *Sclerolepis verticillata*; 4, *Hamamelis virginica*, very untimely in flower.—*E. J.* *Panicum capillare*.—*J. D.* 1, *Nerice coracæ major*; 2, *N. sarniensis*; 3, the large form of *N. hamilis*, or a hybrid of it; 4, *N. rosea*.—*W. C. R.* 1, *Fankia obcordata*; 2, *Calycanthus præcox*.—*W. F. M.* 1, *Dendrobium album* (aqueum); 2, *Trichosma suavis*; 3, *Eulophia megistophylla*; 4, *Adiantum cuspidatum*; 5, *Adiantum macrophyllum*.—*J. D.* Next week.—*R. B. L. & S.* 1, *Kadsara japonica* variegata; 2, *Siphocampylus bicolor*; 3, *Mentha arvensis*, send when in bloom; 4, *Saintpaulia ionantha*.

NEAPOLITAN VIOLETS IN FLOWER BY CHRISTMAS: *H. May.* It cannot be done, except under exceptionally favourable circumstances, and by a special treatment of the young plants. Naturally, this variety is later in flowering than Marie Louise, The Czar, and Victoria. Very little warmth is required by Violets, a day temperature of 45° to 55° or 60° by sunheat, and 45° as the minimum by night suffice all through the winter. The plants are impatient of a close atmosphere, and require air whenever it can be safely afforded.

PELARGONIUMS AND FUCHSIAS: *Flora.* The first-named may be kept in a sunny window, and afforded water only when the soil gets almost dust-dry. Do not prune till February, nor use saucers under the pots. The Facheias may be kept in the cellar if it be dryish, or similar place, and be cut back or cut right down in March. Cuttings of Pelargonium would root now, and you may succeed with Fuchsias if the cuttings are placed in sandy soil covered with a glass.

RASPBERRIES IN FRUIT: *W. Jones.* By no means unusual before the frost came.

RHUS SUCCEDANEA: *Munches.* A small Japanese tree with smooth branches and leaves, the latter being pinnate, and consisting of fifteen shining green leaflets. So far as we know of, it has no other name outside of Japan.

ROSE LEAF CATERPILLAR: *W. P.* For clearing bushes in the Rose-house, Richard's XL might be tried instead of the time wasted in hand picking. Out of doors you could use quassia water, soap-suds, and tobacco water—the latter not made at home from good tobacco, but purchased at the tobacco manufacturers, which is much stronger and consequently economical. The proportion may be one of the juice to twelve of soapy water. These washes do not kill, but they make the leaves of the Rose unpalatable to the caterpillar.

TOMATO: *Market Gardener.* Not burning from bad glass, but a fungus disease—*Cladosporium lycopersici*. Cut off and burn all affected fruits, and apply the Bordeaux Mixture. See *Gardeners' Chronicle* for receipts for making the same in "Answers to Correspondents" on July 27, 1895.

WORKSHOP AND FACTORY ACTS: *A. T. B.* Send to Messrs. Eyre & Spottiswoode, Queen's Printers, East Harding Street, London, E.C., for a copy of the Act. It will cost but a trifling sum.

COMMUNICATIONS RECEIVED.—*D. L. M.*—Geo. Hunt (next week).—*W. W.*—*G. N.*—*H. M.*—*R. W.*—*B. V.* & Sons.—*R. C.*—*E. H. J.*—*K. W. J.*—*G. J.*—*J. Wheeler.*—*G. P.*—*G. W.*—*D. C. P.*—*R. J. L.*, many thanks.—*R. M.*—*J. B.*—*J. O'B.*—*W. W.*—*D. M.*—*M. Dunn*, greatly obliged.—*E. M.*—*A. L. C. F.*—*E. W.*—*Vigi.*—*G. S.*—*A. C.*—*W. H. D.*—*J. J. H.*—*G. H.*—*J. M. P.*—*S.*, and *J.*—*G. D.*—*J. S.*—*W. C.*—*J. D.*—*G. W. H.*—*T. W. R.*—*P. H.*—*E. J.*—*B. C.*

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,

increased to the extent of more than 80 per cent., and that it continues to increase weekly.

Advertisers are reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN, and ALL CLASSES OF GARDENERS AND GARDEN-LOVERS at home, that it has a specially large FOREIGN AND COLONIAL CIRCULATION, and that it is preserved for reference in all the principal Libraries.

TOP-SOIL AND GARDEN MOULD FOR SALE.

THE METROPOLITAN ASYLUMS BOARD are prepared to receive Offers for the Purchase of about 1,000 yards of MEADOW TOP-SOIL AND GARDEN MOULD on the Park Hospital Estate, Hither Green, Lewisham, S.E., which may be seen on application to the Clerk of the Works.

Purchasers will be required to pay for the soil and mould on or before delivery, to place the same in carts, and to cart it away. OFFERS (which may be for ANY QUANTITY not exceeding 1,000 yards) should be enclosed in sealed envelopes, endorsed "Top-Soil and Garden Mould, Hither Green," and should be delivered at the offices of the Board, as below, by 11 A.M. on Monday, the 4th of November. The managers do not bind themselves to accept the lowest or any tender.

(By order) T. DUNCOMBE MANN, Clerk to the Board. Chief Offices, Norfolk House, Norfolk Street, Strand, W.C. 26th October, 1895

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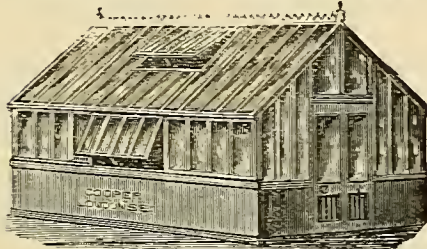
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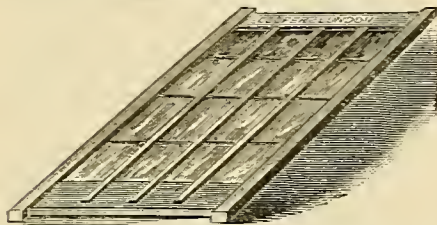
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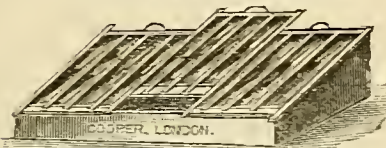


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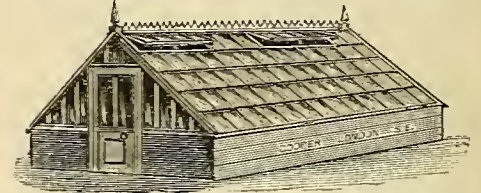
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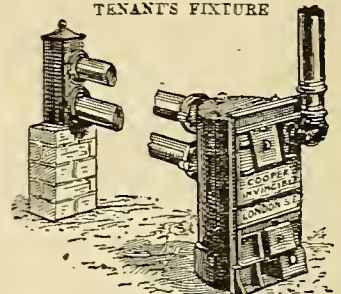
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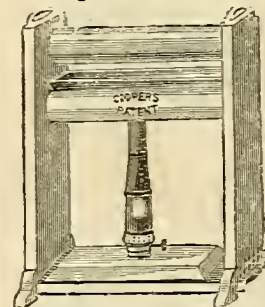
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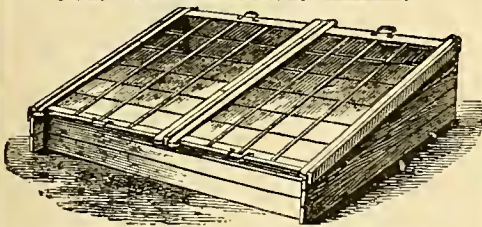


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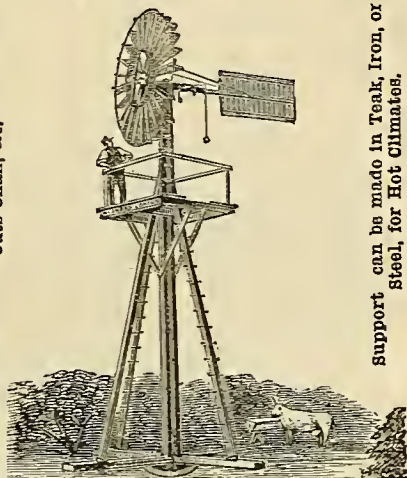
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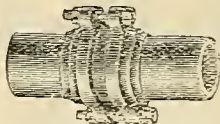
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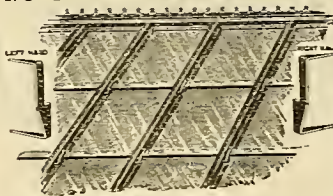
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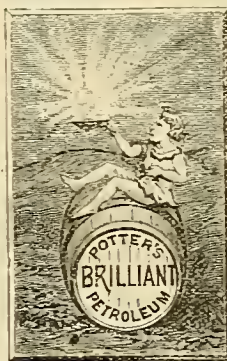
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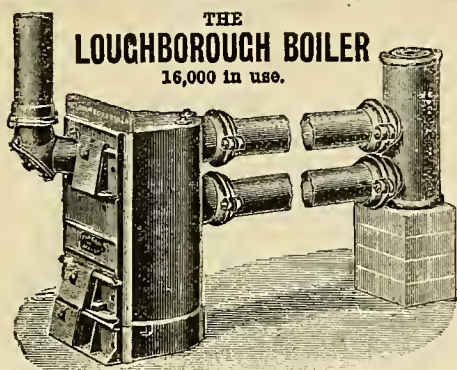
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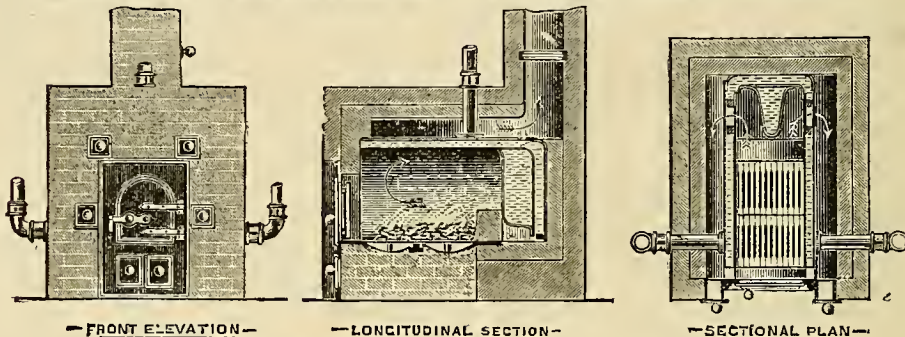
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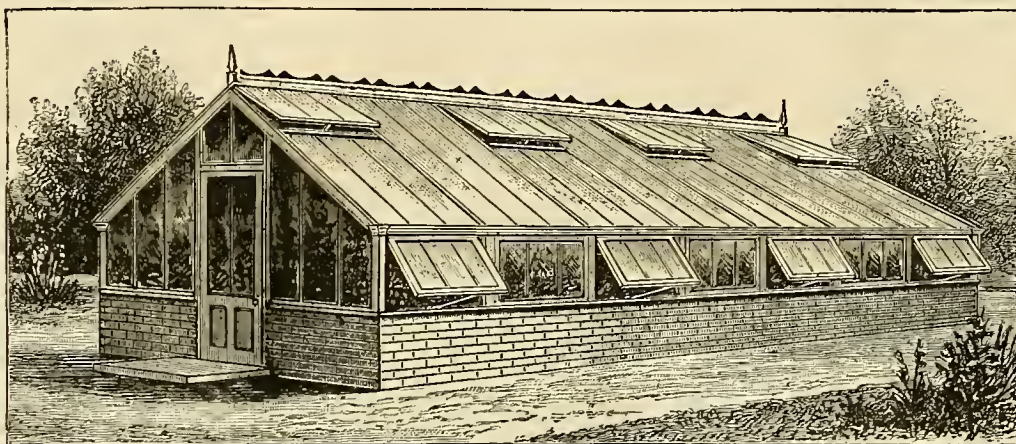
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ESTABLISHED 1841.

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STRAWBERRY PLANTS.—Laxton's Noble and others, 2s. 6d. per 100. Carriage paid; cash with order.—**W. CAVILL**, Penally, R.S.O., Pembroke hire.

CARNATIONS.—Extra strong layers of Ketton Rose, Mrs. Muir, and many other leading varieties. VIOLETS, fine clumps of Marie Louise, Comte de Brazza, Queen Victoria, and others.—For lists and prices, apply, **GEO. DRABBLE**, Ketton Hall Gardens, Stamford.

ROSES for SALE.—320 W. A. Richardson, 300 Gloire de Dijon, 30 Maréchal Niel, 35s. per 100, or 6s. per doz. 20,000 Maudslayi Stocks, 25s. per 1000. Cash with order.—**W. MAGNESS**, Rose Grower, King's Acre, Hereford.

POT VINES.—Strong well-grown Fruiting and Planting Vines for sale, cheap. Gros Colmar, Black Hambro, Muscat, and Alicante. Apply—**MANAGER**, Pollard's Nursery, Cheshunt.

SPECIAL CHEAP OFFER.—ENGLISH OAK, extra fine, 12 to 15 feet, stout, straight, well-shaped, and splendid roots; **ASH**, 5 to 9 feet; **BEECH**, 10 to 12 and 15 feet, equal to Oaks; **HAZEL**, extra fine, 2 to 3 and 4 feet; **PRIVET OVAL**, all sizes, 1 to 5 feet, extra cut back and transplanted; **MANETTI STOCKS**, strong, prices on application; **BEGONIAS**, new trade list free. **B. R. DAVIS**, Yeovil Nurseries, Yeovil.

To Nurserymen, Seed Merchants, and Florists.

J. BLACKBURN AND SONS are offering **J. ARCHANGEL MATS** lower than any other house in the Trade; also Petersburg Mats and Mat Bags, Raffia Fibre, Tobacco Paper, and Shading. Prices free. 4 and 5, Wormwood Street, E.C.

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

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

HORTICULTURAL BONES.—Pure Bones, in ½, 1-inch, and meal, specially prepared. For particulars and price apply to—**E. S. WILES AND LEWIS**, Bone Works, St. Albans.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.B.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patenteses of the Duplex Upright Tubular Boiler. King's Road, Chelsea, S.W. Telegraph Address, "Horticultus, London." Telephone, No. 8728.

SALES BY AUCTION.

DUTCH BULBS—DUTCH BULBS.

Sales nearly every day, in Large and Small Lots, to suit all Buyers.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 33, King Street, Covent Garden, nearly every day, at half-past 12 o'clock, first-class consignments of Choice HYACINTHS, TULIPS, CROCUSES, NARCISSUS, and other BULBS arriving daily from well-known farms in Holland, in the finest possible condition. On view morning of Sale, and Catalogues had.

WEDNESDAY NEXT.

GREAT SALE OF ROSES, FRUIT TREES, PLANTS, BULBS, &c.

Pyramid and Dwarf-trained Fruit Trees, including APPLES, PEARS, PLUMS, CHERRIES, NECTARINES, PRACHES, &c. of choice named sorts. Also White, Red, and Black CURRANTS, GOOSEBERRIES.

200 Choice named Standard Roses, from a leading English Nursery, 500 standard, Half-standard, Dwarf and Climbing ROSES, including many of the newest and best known sorts, in splendid order, from a celebrated Prize Grower in Germany.

A Surplus Stock of well-grown Ornamental Shrubs, FRUIT TREES, &c., from an English Nursery.

Several hundred beautifully-grown small Decorative SHRUBS, for In or Outdoor Cultivation, AZALEA MOLLIS, a variety of LILIUMS, CLEMATIS, and other CLIMBERS, FLOWERING TREES, PEONIES, and a large Assortment of PLANTS from a Dutch Grower, LILIUM HARRISII from Bermuda, FREESIA REFRACTA ALBA.

10,000 Best Berlin Lily of the Valley Crowns, just received direct.

A Consignment of Azalea indica and mollis, well furnished with Flower-buds. A variety of DRACENAS, LATANIA BORBONICA, CORYPHAS and other PALMS, and various small DECORATIVE PLANTS, just received from Ghent.

A SPECIAL COLLECTION of EXTRA FINE HYACINTHS, comprising most of the best sorts, specially selected for Glass and Pot Culture. Great variety of TULIPS, CROCUSES, rare NARCISSUS, SNOWDROPS, &c.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 33, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, November 13, at half-past 12 o'clock precisely.

On view morning of Sale, and Catalogues had.

Thursday Next.

By order of Messrs. W. L. Lewis & Co., Southgate, N.

Grand IMPORTED ORCHIDS, including Cattleya Schilleriana, C. velutina, and C. Schofieldiana, in selected pieces; Oncidium, Sapphonitis, Cattleyas, &c., in variety, and in grand condition.

Also a choice selection of CYPRIPEDIUM SEEDLINGS, together with a good selection of well-grown ESTABLISHED ORCHIDS, amongst which will be found Cattleya Mendelii in sheath, C. Trianae in sheath, and C. labiata in flower; also Oncidium, Cypripediums, Dendrobium, &c., in great variety.

MR. J. C. STEVENS will SELL the above, by AUCTION, at his Great Rooms, 33, King Street, Covent Garden, W.C., on THURSDAY NEXT, November 14, at half-past 12 o'clock precisely.

On view morning of Sale, and Catalogues had.

Normandy, near Guildford, Surrey.

The NORMANDY MANOR ESTATE, adjoining the Wanborough Station.

MESSRS. PROTHEROE AND MORRIS (in conjunction with MESSRS. MUMFORD AND BOND) will SELL by AUCTION, at the White Lion Hotel, Guildford, on SATURDAY NEXT, Nov. 16, at 3 o'clock, the remaining portion of the above VALUABLE ESTATE, in sections, as follows:—

LOT.		a	r.	p
5.	Rich Herby Meadows	...	...	5 2 25
6.	Pasture Land	...	...	5 1 25
7.	Fertile Arable Land	...	...	10 1 29
8.	Fruit Farm	...	...	5 3 18
9.	Valuable Building Estate, frontage 118½ feet...	...	...	17 3 15
10.	Productive Farm	...	...	53 3 17
12.	Very Valuable Fruit Farm and Nursery, 2 Dwelling Houses, Glass and other Erections, and Orchard Land	...	...	41 3 39
13.	Cleygate Farm	...	...	84 0 18
14.	Fruit and Building Lands...	...	...	0 0 10
15.	Ditto ditto...	...	...	0 0 30

May now be viewed. Particulars and plans, and Conditions of Sale, may be had on the premises, at the place of Sale and principal Inns in Guildford, of Messrs. PARROTT, Solicitors, Aylesbury; Messrs. PYKE and PARROTT, Solicitors, 63, Lincoln's Inn Fields, W.C.; Messrs. MUMFORD and BOND, Auctioneers and Surveyors, Brill, Bucks, and Thame, Oxon; and of Messrs. PROTHEROE and MORRIS, Auctioneers and Land Agents, 67 and 68, Cheapside, London, E.C.

TUESDAY NEXT.

BY ORDER OF MESSRS. JAS. VEITCH & SONS, CHELSEA.

AN IMPORTATION OF

CATTLEYA WARSCEWICZII (GIGAS),

THE FREE-FLOWERING VARIETY, RECEIVED IN MAGNIFICENT CONDITION.

MESSRS. PROTHEROE AND MORRIS will include the above in their ORCHID SALE on TUESDAY NEXT, November 12, at half-past 12 o'clock.

On view morning of Sale, and Catalogues had.

100,000 FRUIT TREES.

MESSRS. PROTHEROE AND MORRIS have received instructions from Mr. W. HORNE, Perry Hill, Cliffe, Rochester, to prepare another Sale of—

100,000 FRUIT TREES

of all kinds, for WEDNESDAY, November 27, 1895. Further particulars will appear.

Farnham, Surrey.

Highly Attractive and Extensive SALE of NURSERY STOCK.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. S. Bide to SELL by AUCTION, without reserve, on the Premises, the Rhododendron Nursery, Radshot Lea (the lease of this Nursery having expired), and at the Home Nurseries, both at Farnham, Surrey, on MONDAY, November 18, and FOUR FOLLOWING DAYS, at 12 o'clock precisely each day, about 30,000 RHODODENDRON PONTICUM, 1½ to 4 feet, fine bushy plants, remarkably well set with flower buds; 40,000 FRUIT TREES, including 6,000 2-year Apples, a wonderfully fine lot, grown on old hopland; many thousands of other Fruit Trees; 10,000 Standard and Dwarf Roses; 100,000 FOREST and ORNAMENTAL TREES, consisting of thousands of Spruce, Austrian and other Firs, Larch, Ash, Quick, Birch, Chestnuts, &c.; 10,000 Border Shrubs, in rich assortment, planted in specimen borders half-a-mile long, and all in fine condition for removal; and also many thousands of Evergreen, Coniferæ and Deciduous Shrubs.

May be viewed any day prior to the Sale. Catalogues may be had of Mr. S. Bide at the Alma Nurseries, Farnham, Surrey, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

DUTCH BULBS.

GREAT UNRESERVED SALES.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., EVERY DAY, at 12 o'clock, large consignments of NAMED HYACINTHS, TULIPS, CROCUSES, NARCISSUS, and other BULBS from Holland, lotted to suit the Trade and Private Buyers.

Also ROMAN HYACINTHS, LILIUM CANDIDUM, SNOWDROPS, &c.

On view morning of Sale, and Catalogues had.

90,000 JAPANESE LILIES.

Immense Consignment of 23,000 LILIUM AURATUM, 44,000 LILIUM LONGIFLORUM, 17,000 LILIUM SPECIOSUM, ALBUM, RUBRUM, KRAMERI, and MELPOMENE, and OTHERS.—PRELIMINARY NOTICE.

MESSRS. PROTHEROE AND MORRIS respectfully announce that they have received the Bills of Lading for the above, consigned to them for absolute SALE. As soon as the steamer arrives, the date will be advertised, and Messrs. P. & M. will in the meantime be glad to receive applications for Catalogues. The whole of the Bulbs will be offered on one day.

Monday and Thursday Next.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., as follows, at 12 o'clock each day:—

MONDAY NEXT, November 11.—Seventy-two Azalea indica, 80 A. mollis, 50 Camellias, Palms, and Begonia Bulbs from Belgium.

27,500 LILY of the VALLEY CROWNS, received direct. 20,000 MIXED SPANISH IRIS.

100 Dwarf Roses, Carnations and Picotees, Amaryllis equestris, 70 lots Stove and Greenhouse Plants, English and Canadian-grown Lilies, American Pearl Tuberoses, &c.

THURSDAY NEXT, November 14.—Azaleas, Palms, Dracenas, &c., from Belgium; Hardy Perennials and other Plants and Bulbs, English-grown Lilies, 300 Dwarf Roses, 50 lots of Stove and Greenhouse Plants, 50 clumps Helleborus niger, and 128,000 seeds of Phoenix reclinata.

On view morning of Sale, and Catalogues had.

Tuesday Next.—Direct Consignments.

100 Lots ONCIDIUM PAPILIO MAJUS.

220 LELIA PURPURATA.

100 CATTLEYA SKINNERI.

235 EPIDENDRUM ATRO-PURPUREUM.

300 LYCASTE SPECIOSA.

200 PLANA ALBA.

50 ODONTOGLOSSUM BRAMERI.

And 200 other imported ORCHIDS in variety.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, November 12, at half-past 12 o'clock.

On view morning of Sale, and Catalogues had.

Friday Next, November 15, 1895.

GREAT SALE OF ORCHIDS.

MESSRS. PROTHEROE AND MORRIS have received instructions from MESSRS. F. SANDER & CO. St. Albans, to SELL by AUCTION, at their Central Auction Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, November 15, at half-past 12 o'clock:—

OVER 1000 GRAND PLANTS OF SANDER'S MONTANA CATTLEYAS from beyond Santayuni.

Collected in the entirely new district of Monte Angelos, now being searched for the first time.

See DRIED FLOWERS on day of Sale. Types of Sanderiana, Sanderæ gigas, imperialia, chrysoxoa, Harayana, white gigas, Oweniana, &c.

A snow-white gigas variety is included (see Int 201a). This Sanderian type of Cattleya is the most gorgeous of all the genus, unapproached and unapproachable.

Offered without any reserve. In addition to the foregoing Grand Cattleyas, we shall include a

NEW WHITE ANGULOIA, provisionally named. Anguloia alba magna, probably the white A. Cluweisii. The plants are in fine condition, the Bulbs are remarkably large, and carry abundance of old flower spikes. A

NEW BLUE BOLLEA Flower, of a gentian blue, of the size of small saucers—most striking. The

NEW ONCIDIUM DICHROMUM, Rolfe. A grand new yellow and porphyry-coloured species, blossoms borne on large branching spikes. The

NEW CEOGYNE HALFOURIANA, producing long elegant spikes of cinnamon, orange-and-white flowers. The

NEW ACINETA COLOSSA, bearing large pendent spikes, often 2 feet long, of huge purple blossoms. The

NEW ANETHOCHILUS SANDERIANUS, Krantzlin. Prof. Kranzlin says, "they are the most brilliant Orchid-leaves I have ever seen." A

PHALENOPSIS VARIETY, type of P. Grandiflora, and found growing with P. Sanderiana.

CATTLEYA HARRISONÆ VAR.—The very finest type. DENDROBIUM DENSIFLORUM TYPE, having the characteristic bulb of the magnificent D. Schroderæ.

DENDROBIUM NOBILE.—A type from Assam, offered for the first time.

SACCOLARIUM HARRISONIANUM.—The snow-white Saccolabium. Every part of the flower snow-white, except the centre, which is pea-green.

For full particulars and descriptions of plants see Catalogue. There will also be included in the Sale volumes Nos. 1 and 2 of WARNER'S SELECTED ORCHIDACEOUS PLANTS (very rare).

On view morning of Sale, and Catalogues had.

ORCHIDS—ORCHIDS.

JOHN COWAN & CO., Ltd.,

Are at present Selling, by Private Treaty two large fine Private Collections, which they have purchased, and they have also a very large and fine General Stock of ORCHIDS.

Inspection is very earnestly invited. Descriptive and Priced CATALOGUES post-free on application to the Company.

THE VINEYARD and NURSERIES, GARSTON, near LIVERPOOL.

WANTED TO RENT, SMALL NURSERY with 300 to 600 feet run of Glass.—W., 41, Wellington Street, Strand, W.C.

FOR SALE, a small valuable long leasehold NURSERY, 6 miles from Covent Garden. Seven large Greenhouses, well stocked; two Vineries, Cucumber-house, Plant-houses, five-roomed Cottage. Low Ground Rent. Lease eighty-six years to expire. Eighty-five feet Glass. Facing main road. All particulars of FLOREST, 11, Daffarna Road, Tooting, Surrey.

The Gardeners' Royal Orphan Fund.

THE EIGHTH ELECTION of CHILDREN to the benefit of this Fund, consisting of an allowance of 6s. per week (subject to the conditions stated in Rule XIII.), will take place in FEBRUARY NEXT, at "Anderston's Hotel," Fleet Street, London, E.C. All applications must be made on a printed form, copies of which may be had, gratis, of the Hon. Secretary, or of any of the Local Secretaries. Such form must be correctly filled up, duly signed, and returned to this office not later than Friday, December 6.

A. F. BARRON, Hon. Sec.,
Royal Gardeners' Orphan Fund, Chiswick, W.

Channel Islands.

TO be SOLD or LET, with immediate possession, in the most fertile part of Jersey, extensive VINEYARDS and TOMATO HOUSES, and about four acres of LAND, with well-stocked FRUIT TREES. Good DWELLING-HOUSE. The houses are heated by new powerful boilers, and the vines healthy and in full bearing. Inexhaustible water supply.—For full particulars, apply, OWNER, Advertiser Office, Leicester.

NURSERY, SEED, and FLORIST BUSINESS.—Genuine, established many years; good town (small), Midland counties; good neighbourhood and connection; splendid seed trade. Good shop and house; best position; small Nursery. Price for Greenhouses, Frames, Plants, Trees, Shrubs, Shop Fixtures, Seed Drawers, Stock in Trade, &c., about £200. Splendid opportunity; rents low.—NURSERIES, Gardeners' Chronicle Office, 41, Wellington Street, Strand, London, W.C.

The Royal Horticultural Establishment, Torquay.
TO NURSERYMEN AND OTHERS.

TO BE SOLD, as a Going Concern, all that old-established BUSINESS of a NURSERYMAN, for many years carried on by Mr. C. Phillips, at Torquay, at the Royal Horticultural Establishment. The premises are thoroughly and in every way adapted for the business, and occupy a magnificent position in Union Street at the junction of four of the most important business thoroughfares. The business is the oldest of the kind in Torquay, and is now in full working order, ample provision having been made for the forthcoming Christmas and Easter trade. To a practical man with a moderate capital this offers an unusually good opportunity for acquiring a first-class business on moderate terms.

For full particulars, apply to A. J. DAVY, Estate Agent and Auctioneer, Torquay.

FRUIT and GREENGROCERY BUSINESS for SALE, Hastings—Old-established, good family and ready-money trade. Lease, goodwill, fixtures, hand-art, pony and trap, £375.—M. A., 41, Wellington St., Strand, W.C.

GENUINE FLORISTS for DISPOSAL, an exceptional chance to secure a good paying concern in fashionable town. Premises and position second to none. Price for doing any amount of trade; doing £120 monthly, Price, £500; Stock at Valuation, no agents.—VENDOR, 41, Wellington Street, Strand, W.C.

EASTBOURNE.—For SALE, High-class FRUITERER'S, GREENGROCER'S, &c., with small Nursery. Price as going concern, £350.—Particulars from H. R., 4, Lordship Terrace, Rothe's Road, Dorking, Surrey.

ENTIRE NURSERY STOCK (under Glass) TO BE SOLD at Once, at valuation; can be seen any time; leaving neighbourhood.—Apply, W. WILES, Brightwell Nursery (back of Mitre Hotel), Tooting Graveney.

FOR SALE, GREENGROCER'S, FRUITERER'S, and FLORIST'S, doing high-class Family Trade at full prices. In-coming low. Rent £40, let off £58 10s. For particulars, apply to—GREENGROCEER, 175, Ladbrooke Grove, Notting Hill, W.

WATERCRESS BEDS.—TO LET, about one acre, thirty miles from London on Great Eastern Railway; two minutes walk from station.—Apply by letter, 149, Loughborough Road, Brixton, S.W.

TO WATERCRESS GROWERS.—Plough Lane, Wimbledon. About 5 acres of Land adjoining the river Wandle, suitable for Watercress beds, TO BE LET.—Apply to BOLTON & CO., 3, Temple Gardens, E.C.

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

HENRY RIDES, SALESMAN, Central Avenue, Covent Garden, W.O. Highest Market Prices. Prompt cash.

The Best Present for a Gardener.

VINES and VINE CULTURE. The most complete and exhaustive Treatise on Grapes and their Culture ever published. Third Edition just out.

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

EARLY PROLIFIC PLUM.—A fine batch of feathered trees, with very fibrous roots. Price according to quantity. Buyers of ALL KINDS of FRUIT TREES would do well to call or write for estimate.

WILL TAYLER, Osborn Nursery, Hampton, Middlesex.

Plants Shipped to all Parts.

WATSON and SCULL, 90, Lower Thames Street, London, E.C., give special attention to the reception and forwarding of Plants and Botanical Specimens to and from all parts of the World. Be particular, and have them consigned to our Care, and save Expense and Delay. Dealers in Virgin Cork, Raffia, Bamboo Canes, Garden Sticks, Palm Seeds, &c.

ANTHONY WATERER respectfully invites

from intending Planters an inspection of the following well-grown and finely-rooted EVERGREENS:—
ABIES PUNGENS GLAUCA { **COLORADO BLUE SPRUCE,**
ARGENTEA } 3, 4, 5, and 6 feet.
 These are all SEEDLINGS. The plants usually met with are grafted on the Common Spruce.
CEDRUS ATLANTICA, 5, 6, 7, 8 to 10 feet.
GLAUCA, 4, 5, 6, 7, and 8 feet.
CEDRUS LEBANI, 5, 6, 7, 8 to 10 feet.
ENGLISH YEWS, 4, 5, 6 to 8 feet.
GOLDEN CHINESE JUNIPER, 4, 5, 6, 7, and 8 feet.
GOLDEN YEWS, Seedlings, perfect pyramids 4, 5, 6, and 7 ft. Standards, 6, 7, and 8 feet.
PICEA CONCOLOR } 4, 5, 6, 7, and 8 feet.
VIOLACEA }
LASIOCARPA } 6, 7, and 8 feet.
MAGNIFICA }
PINUS AUSTRIACA } 3, 4, 5, 6, to 8 feet.
LARICIO }
THUOPSIS BOREALIS, 5 to 8 feet.
DOLABRATA, 5 to 10 feet.
HOLLIES, GREEN, Common, up to 10 and 12 feet.
HOOGINS
LAURIFOLIA } up to 10 feet.
MYRTIFOLIA }
GOLDEN QUEEN } 4 to 10 feet.
SILVER QUEEN }
WATERER'S, and many other variegated kinds, 6 to 10 feet.
PERRY'S WEEPING } with straight stems and
GOLDEN WEEPING } fine heads.
YEWS, ENGLISH, 4, 5, 6 to 8 feet, and as much in diameter.
 Knap Hill Nursery, Woking, Surrey.

KENT: THE GARDEN OF ENGLAND.

SUPERIOR KENT ROSES.

George Bunyard & Co.,
ROYAL NURSERIES, MAIDSTONE,

Are offering well-grown and finely-rooted Roses at the following cash prices. Package free. Selection left to themselves.

SUPERIOR H.P. STANDARDS, 2½ to 3½ feet stems, assorted, choice, per dozen, 18s. to 24s.
HALF-STANDARD H.P.'s, 1 to 2 feet stems, choice, per dozen, 12s. to 15s.
STANDARD or HALF-STANDARD TEAS and NOISSETTES, per dozen, 24s. to 33s.
H.P. DWARFS, on Seedling Briar, per dozen, 9s. to 12s.
H.P. DWARFS, on Manetti, per dozen, 7s. 6d.
FINE CLIMBERS, for Pillars and Walls, per dozen, 9s. to 18s.
DWARF TEA-SCENTED and NOISSETTE, per dozen, 18s.
CHINA, MOSS, and **PROVENCE ROSES,** per dozen, 6s. to 9s.

Copies of G. B. & Co.'s Fruit List, 6 stamps.

LARGE SPECIMEN HOLLIES.

From 6 to 8 feet, well furnished with shoots to the ground.

JOHN FRASER, The Nurseries, South Woodford, Essex, begs to invite attention to a splendid lot of cheap Specimen Hollies, which are suitable for planting in large towns or elsewhere. The sorts consist of the common Green, and many of the best broad-leaved kinds, such as *Scotia*, *White-berried*, *Canadian*, *Hedgehog*, *Bay-leaved*, *Nigrescens*, and others. These Hollies have been regularly transplanted, and will lift with good balls. As it is necessary to clear the ground, a Special Low Price will be quoted for large quantities. Sizes and Prices may be had on application.

ELMS — ELMS — ELMS.

All worked Trees. Vastly superior to Seedlings.
CHICHESTER, 4 to 5 feet, 5s. doz., 35s. per 100.
 " 6 to 8 feet, 7s. doz., 50s. per 100.
 " 14 to 18 feet, 24s. doz.
ENGLISH, 4 to 5 feet, 6s. doz., 40s. per 100.
 " 6 to 8 feet, 9s. doz., 65s. per 100.
 " 12 to 14 feet, 21s. per doz.
MONTANA SUPERBA, 7 to 8 feet, 8s. doz., 80s. per 100.
 " 10 to 12 feet, 15s. doz., 100s. per 100.
 CATALOGUES FREE.

JNO. JEFFERIES & SON,

ROYAL NURSERIES, CIRENCESTER.

WHINHAM'S INDUSTRY GOOSEBERRY.

By far the best variety in cultivation. Strong 3-yr.-old Bushes, 3s. 6d. per dozen, £1 per 100, free. Strong, well-ripened Cuttings, 6s. per 100, 30s. per 1000.
 THOMAS COLEMAN, Saffron Walden.

LORD PENZANCE'S HYBRID

SWEET BRIARS

Strong flowering bunches from open ground. 1894 varieties, 5s. each; those of 1895, 7s. 6d. each.
 Full particulars of—

KEYNES, WILLIAMS & CO., Salisbury.

EXHIBITIONS.

ROYAL BOTANIC SOCIETY
 GARDENS, REGENT'S PARK.
EXHIBITION of CHRYSANTHEMUMS.
 November 11 to 16.
 Admission 1s., or by Fellow's Order.

KINGSTON AND SURBITON
 CHRYSANTHEMUM SOCIETY.

President: G. C. SHERRARD, Esq., J.P.
 The NINETEENTH ANNUAL GRAND SHOW of CHRYSANTHEMUMS, FLORAL DECORATIONS, FRUITS, VEGETABLES, &c., will be held in the Drill Hall, Kingston-on-Thames, on TUESDAY and WEDNESDAY, November 12 and 13, 1895, when the Seventh Champion Challenge Vase, value 25 guineas, open to all subscribers of 21s., will be offered for competition, in addition to £160 in prizes.
 Entries close November 9. Schedules, and all information, of the Hon. Sec.— Mr. F. J. HAYWARD,
 High Street, Kingston-on-Thames.

EDINBURGH CHRYSANTHEMUM
 SHOW (held under the auspices of the Scottish Horticultural Association), November 14, 15, and 16.

Entries close November 7. Schedules on application to—
 17, South Frederick Street. ROBERT LAIRD.

SHEFFIELD CHRYSANTHEMUM
 SOCIETY.

EIGHTEENTH ANNUAL SHOW, Corn Exchange, Sheffield. £200 in Prizes. Schedules on application to—
 177, Cemetery Road, Sheffield. WM. HOUSLEY.

LEEDS PAXTON SOCIETY'S CHRYSANTHEMUM
 SHOW.

The SEVENTH ANNUAL EXHIBITION will be held in the Second West York Royal Engineer's Drill Hall, Clay Pits Lane, (off Coberg Street, top of Cookridge Street), Leeds, Nov. 19 and 20, when upwards of £170 will be offered in prizes. Schedule of prizes may be had from

JAMES CAMPBELL, Hon. Sec.
 The Gardens, Methley Park, Leeds.

TWICKENHAM HORTICULTURAL AND
 COTTAGE GARDEN SOCIETY.

THE ANNUAL AUTUMN SHOW of CHRYSANTHEMUMS, FRUIT, VEGETABLES, and TABLE DECORATIONS, will be held in the Town Hall, Twickenham, on TUESDAY and WEDNESDAY, November 19 and 20, 1895.
 Entries must be sent in on or before Tuesday, November 12. Entry forms and all further particulars may be obtained from the Hon. Secretary.

EDWARD F. GREEN,
 Strafford House, Twickenham.

YORK CHRYSANTHEMUM SHOW.

The SIXTEENTH ANNUAL SHOW will be held Nov. 30, 21, and 22, 1895. Upwards of £200 offered in Prizes, in liberal proportions, for Plants, Cut Flowers, Fruit and Vegetables. Schedules, &c., to be had from
 J. LAZENBY, 13, Feasegate, York.
 Challenge Prize, value £20, added to 1st Prize (£10) for 38 Cut Blooms. Cup (£10) and £4 cash for Group.

HARRISONS' ROOT AND VEGETABLE SHOW

Will be Held in their Seed Warehouse,
41, WELFORD ROAD, LEICESTER,
 On WEDNESDAY, November 13,
 And three following days.

SILVER MEDALS and Valuable MONEY PRIZES will be offered.

Schedules and Particulars on application to

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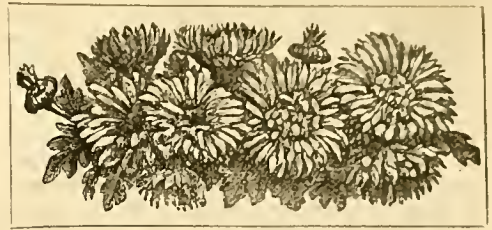
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THE Gardeners' Chronicle.

SATURDAY, NOVEMBER 9, 1895.

MELVILLE CASTLE.

ONE of the most delightful excursions from Edinburgh is that which embraces the classic and charming vale of the Esk—Roslin, Hawthornden, Melville, Dalkeith, Newbattle, Dalhousie, are so many shrines in what one might call a horticultural pilgrimage. Influenced by the fascination of lovely grounds and gardens, and held fast by the hospitality of Lord Melville's factor and general manager, Mr. McKinnon, we devoted the major part of our afternoon's trip to the enjoyment of the beauties of Melville. As soon as you pass within the gates of the noble park, you are struck with the marks of the interest, care, and taste devoted to arboriculture on the part of the owner. His lordship is a keen arboriculturist, as the frequent strips of young plantations, contrasting with the grand stretches of Oak and Beech, testify. For 1½ mile the Esk meanders through as charming a piece of scenery as the eye need desire—meadows interspersed with magnificent ornamental Limes, Scottish Elms, Beeches, and Oaks, and flanked by heavily-wooded heights on either side. These Beeches and Oaks are classico, if one may judge from the frequent quotations from Sir Walter Scott, with which our guide enlivens the stroll. Unfortunately, the effects of storms and old age have made themselves apparent in frequent gaps; but these ravages have given scope for the enterprise of both owner and manager, with good effect in the present, and the hope of great things in the future. A glance over the fields stretching away to the right, and forming the home farm, tells us that Lord Melville is likewise an enthusiastic agriculturist. The crops are heavy, and give expression to the fertility of the Melville estate. A considerable stock of Highland cattle, Ayrshire cows, and sheep, add to the anxieties of the manager, and, like everything else, they are in prime condition.

Half-an-hour's stroll brings us to the castle, an imposing turretted mansion, commanding a fine bit of the Esk, and surrounded by lawns and shrubberies, rich in ornamental trees. The extensive breaks of Rhododendrons, many of them added of recent years, must have a striking effect in the early summer. The size of some of the Beeches and Oaks in the environs of the castle remind of the remote historic prominence of Melville. It has its Queen Mary's Oak, and its pre-Reformation shrine; and, still more interesting, it is associated with the great Henry Dundas, the friend and colleague of Pitt, and one of the most distinguished and popular of those potent individuals of a past generation, who went by the sobriquet of "Kings of Scotland." His monument in St. Andrew Square, Edinburgh, is the tribute of Scotland to his varied services and

ON FRIDAY, NOVEMBER 15,

AT HALF-PAST 12 O'CLOCK PRECISELY,

Messrs. Protheroe & Morris,

Will Offer the above grand New and Choice Orchids,

AT THEIR

CENTRAL AUCTION ROOMS, 67 & 68, CHEAPSIDE LONDON, E.C.

gifts. Besides being associated with the memory of Queen Mary, the annals of Melville proudly record two visits of royalty within the century. George IV. was here in 1822, Queen Victoria in 1842.

The next object of interest is the garden. Melville's fame has long been eminent, and deservedly so. The Grapes grown here for the last twenty years have been the admiration and the envy of many a far-travelled visitor. A long record of prize-taking, which has of late, owing to the multifarious engagements of Mr. McKinnon, been discontinued, attests to the great things they have achieved in competition at all the more important exhibitions.

A look at this year's crop is sufficient to prove that the traditions of Melville in this respect are well maintained, and to induce regret that Mr. McKinnon resists all our arguments to appear once more in the lists. The first house we entered was a lateinery, containing Alicante, Lady Downs, and Gros Colmar. The large size of both berry and bunch, and the presence of excellent colour and finish, indicated both care and intelligence in rearing. The same features were observable in the next two houses, devoted to the culture of Black and Golden Hamburg, Gros Maroc, Muscat of Alexandria, Mrs. Pince, and Madresfield Court. The Golden Hamburg were specially magnificent, and the skill of Mr. McKinnon and his able chief assistant, Mr. Black, have been particularly successful in bringing near to perfection the crop of Madresfield Court, which have a tendency to crack, and are very difficult to finish.

Two other houses are devoted to the rearing of early crops, and from the finished appearance of the bunches left, give every indication of health and vigour. Several other houses are devoted to Peaches, Tomatoes, Figs, Plums, &c., and are similarly indicative of the results obtained by able management. Whether regard be had to the size or to the flavour of these fruits, it is sufficient to say that they are grown at Melville. Another remarkable feature of fruit-rearing here, and one which owes its initiation and perfection to the present manager, is the splendid collection of fruit trees in pots, which crowd other two large houses. A large crop of Apples, Pears, Pines, Cherries, &c., is annually produced, which may challenge comparison with that grown under the most favourable conditions of climate, soil, and sets us marvelling at the resources of the gardening art here brought into play.

Turning from fruit grown under glass to the fruit and vegetable gardens, the results this year have been somewhat disappointing in the case of Apples and Pears at least. The fact that June was excessively dry in this part of the country, combined with the sandy nature of the subsoil, blighted the early promise of a large number of trees. Otherwise, the aspect of these gardens reveal a good average crop of fruit and vegetables. There is a specially fine lot of Morello Cherries.

The exhibition of flowering plants in the conservatories and flower garden maintains the tradition of former years. One of the former, whose roof is hidden by a mass of Tacsonias, Fuchsias, and Clematis, contains a mixture of greenhouse plants, all in prime condition. The broad borders of the walk in front have long been remarkable for the collection of herbaceous flowers, embracing many rare specimens. A number of beds in front of the Palm-house, ablaze with Begonias, give a very striking effect of brilliant colour to this part of the gardens. They have been found to stand the rainy weather of this damp climate better than Pelargoniums, and the heavy rains of the month of July have enabled them to recover from the drought of June.

The flower garden comes last, but it is not the least characteristic of the beauties of Melville. It reveals a fine combination of taste and intelligence. The long rich border of Phloxes, Pentstemons, Antirrhinums, &c., backed by a high wall ablaze with a variety of creeping plants, combines symmetry with profusion. Mixed beds are here the

order of the day, and in addition to many gems of their kind, we were specially struck with the graceful effect produced by a frequently recurring one composed of Begonias, Gladiolus, Lobelia cardinalis, and Dactylis glomerata. The plan of devoting the centre beds to plants of tall growth, serves admirably to break the monotony and artificialness of the conventional flower garden, and contributes to create the impression of the presence of Nature rather than the hand of man. The whole is finely set off by a border of Rhododendrons, mixed with golden Elder, Retinosporas, &c., and runs along the left-hand side. *Tourist.*

BEGONIA DISEASE.

CULTIVATORS of tropical herbaceous plants, such as Gloxinias, Achimenes, Pentas, Impatiens, Vincas, and especially Begonias, are more or less familiar with a "disease" which attacks these plants, sometimes crippling and practically destroying whole batches of them in a few weeks. It attacks chiefly the young leaves and flower-buds, causing the latter to wither and fall off, and the leaves to curl and become aborted. When the disease is bad, the youngest leaves are arrested in growth when very small, and the whole plant soon presents a hopelessly crippled appearance. The leaves are discoloured with patches of a black or brown colour, as if suffering from a rust-fungus of some kind.

The general impression with regard to the nature of this disease is that it is fungoid. Attention was called to it recently in these pages in a paper on "Taberona Begonias," by Mr. W. W. Sheath (see pp. 267, 268), who stated that "Pot-plants (of Begonias) are sometimes infested with a kind of rust on the stems and leaves, which some growers say is a fungus, but I have found it more prevalent when in too much heat in spring; also by sudden changes of temperature or draughts; by imperfect drainage—in fact, by anything that would cause a check in the growth." On p. 305 there is a note signed "W.K.," wherein this disease is attributed to "large numbers of white insects, barely visible to the naked eye." Another correspondent, however, "H. W. C.," who says (p. 337) that he is an extensive grower of Begonias, does not believe that the small white insects are the cause of this rust-like disease, but inclines to believe that it is caused by a fungus.

A similar discussion has been going on concurrently in the pages of *The Garden*. I have been acquainted with this disease for some years, which at first I thought was some kind of rust-fungus, but which I now know is caused by a very small insect or mite, as small as it be invisible to the naked eye. It runs very quickly, and therefore often soon leaves a leaf or shoot if disturbed. This no doubt accounts for the failure of experts to find the insect when specimens of the disease have been submitted to them.

By lightly fumigating once a week with tobacco the plants subject to the attacks of this pest, we have now no difficulty in keeping our Begonias clean; indeed, I may say that tobacco fumigation is a perfect preventive, and almost a certain cure, if the plants have not been hopelessly crippled before it is applied. This year a batch of Acanthaceous plants, such as Justicias, Aphelandras, &c., had been suffering from this particular disease for some weeks before it was noticed. The gardener in charge of the plants thought a fungus was the cause of the curling and discoloration of the foliage. By frequently dipping the affected plants in a weak solution of tobacco, the plants were, in most cases, saved, and have since quite recovered.

Every cultivator knows how easily irregularity of temperature or atmospheric moisture will bring on an attack of red-spider or thrips among plants grown under glass, and this mite, which is smaller than either of the two pests named, and at least as quick-spreading and injurious in its effects on the health of the plant, can get a start from the same cause, viz., bad ventilation or some other fault in the atmosphere in the house containing the plants.

I am quite certain that the disease, as above

described, and which attacks various tropical herbaceous plants, is the work of an insect or mite which may be kept under by the frequent use of tobacco, either in solution or as fumes.

If further proof is wanted, the following should suffice. A few days ago I asked Mr. Massee, the eminent fungologist, to examine some examples of plants affected with this disease, and which had escaped notice till recently. He reported as follows:—"The disease is caused primarily by very minute, white insects—Saprophytic fungi, such as Botrytis, Heterosporium, &c., soon follow. Keep down the insects and the disease will disappear."

Certain forms of black blotching and leaf-curling which often disfigure Masdevallias of the Chimara section and some others beside, are the work of an almost invisible insect, probably a relation of the mischievous little red-spider. It must be sought for very carefully, and when discovered it requires some care and perseverance to get rid of it. But this, of course, is another story. *W. W., Kew.*

KEW NOTES.

MUSA FEHI.—A plant bearing this name is now in flower in the Palm-house at Kew. There appears to be some doubt as to the true characters of M. Fehi, but whether the plant under notice be that species or not, it is certainly new to cultivation, and is strikingly handsome. It has stems 10 feet high and 6 inches in diameter at the base; the leaves are 6 feet long and 18 inches wide, with a cylindrical petiole 18 inches long, clothed with a white mealy down. The inflorescence is horizontal, the stalk 1 foot long below the first whorl of flowers; the bracts are ovate, concave, the largest 8 inches long by 5 inches in width, and coloured crimson-claret, the colour being very rich when the bracts first unfold. They are much more persistent than in *M. sapientum*. There are from seven to nine flowers in each row, at the base of the bracts, and the fruits are angular. *M. Fehi* is a native of Tahiti and New Caledonia, and bears edible fruits which sometimes ripen their seeds, and sometimes are seedless. The plant at Kew was obtained from the Jardin des Plantes, Paris, three years ago, and it is now flowering for the first time. A drawing of it has been made for the *Botanical Magazine*.

AGAVE ATROVIRENS.

One of the largest Agaves ever grown at Kew is now pushing up a flower-spike in the Palm-house, whither it has recently been transferred from the Succulent-house, where it was a conspicuous object during several years. It has fifty leaves, the average size of which is 4½ feet, and width 14 inches, the margins are clothed with stout hooked teeth, and the apex with a stout straight spine 3 inches long. The spike when fully developed is about 30 feet high, the flowers, which are tubular, yellow, and 4 inches long, being crowded on a thyrsoid panicle 8 feet long. The leaves on wild plants are said to be 12 feet long. A plant of this species flowered at Kew in 1888. It is one of the commonest of the Agaves grown in the gardens on the Riviera, where it generally goes under the name of *A. Salmiana*. The big Agaves at Kew have been reduced in number by the flowering of a considerable number within the last three years. This is the third giant that has flowered within twelve months. Of course, they perish with flowering.

WALLICHIA CARYOTOIDES.

This is the handsomest of the three known species of *Wallichia*, which are all represented in the Palm-house at Kew, where two of them, viz., *W. densiflora* and *W. caryotoides* flower now and then; whilst the third, *W. disticha*, is always attractive in the arrangement of its leaves, which is as distichous as in the Traveller's tree, *Ravenala*. The habit of *W. caryotoides* is sabbelliferous (tufted), the leaves forming a crowded cluster 4 feet through at the base, with a spread of about 12 feet; each leaf is 10 feet long, the leaflets are 2 feet long, cuneate at the base, wider and jagged at the apex, dark green on the upper surface, silvery below. The male inflorescence

is developed about a foot above the ground, and has a stout curved stalk clothed with large, boat-shaped, overlapping, purplish-brown bracts, below which is a dense cluster of drooping unbranched tails, about a foot long, clothed with pale pink flowers. This is

& Co., of Colchester, at the meeting of the R.H.S. on Tuesday, October 29. *Lycoris* is allied to *Amaryllis*, but is distinguished from that genus by the small number of ovules in each cell of the ovary. The length of the segments in *L. aurea* is 3 inches, and

PLANT NOTES.

PRIMULA CASHMERICANA (CAPITATA).

This North-western Indian Primrose is one of the most charming alpine for flowering at this



FIG 94.—LYCORIS AUREA: FLOWERS ORANGE.

the first male inflorescence the plant has borne, the previous ones hitherto being female, less crowded, with branched tails and inconspicuous bracts. *W. W., Kew.*

LYCORIS AUREA.

SEVERAL plants of this excellent autumn-flowering species (fig. 94) were shown by Messrs. Wallace

the colour a rich orange; the anthers are yellow-coloured. The flowers appear usually in August and September, and before the leaves; the plant is amenable to greenhouse culture. The bulb is sub-globose, 2 inches in diameter. It is figured in the *Botanical Magazine*, t. 409, as *Amaryllis aurea*, and it was introduced from China in 1777 by Dr. Fothergill.

season, decorating the otherwise bare rockery. It has strap-shaped, bright green leaves, which form a rosette. The flowers are of a violet colour, and well elevated on a stout stalk, which is covered with a mealiness even to the calyces, resembling *P. farinosa* in this respect, as in others. I saw a bed of it the other day, and every plant was in bloom. The situation, sheltered by a high bank, and shaded by a

tree, seemed to exactly snit it. The heads were full of flower, and the bed made a fine show. *A. H.*

PETRÆA VOLUBILIS ALBA.

This is a lovely thing when in flower. A small plant at the Botanic Garden, Grenada, is occasionally laden with pendulous tail-like racemes of white flowers. A pretty contrast it is, therefore, to the purple-flowered *Petræa*; and when both flower together on a slope or on level ground, they form a conspicuous and pleasing picture, scarcely to be passed by unnoticed.

VILLAMILLA OCTANDÆA.

This is a plant commonly to be seen and passed by in a walk about the country. It is a pendulous scandent, vine-like shrub, which, at the time of flowering, is oftentimes destitute of foliage, whilst at other times the foliage and flowers come together. The flowers are borne along the branches, and when no leaves are present, the shrub looks like a mass of bare twigs covered with a coating of snow. The flowers are white, with a faint green tinge. The plant might be worth cultivation in Europe, if it has not already been grown there. At its fruiting stage, the plant is even more conspicuous than when in flower; it then bears a great number of purple-coloured fruits. Baskets of different sizes are made from the large stems by an old Frenchman named Sartz, an inmate of our poor-house. These he sells at 2d. and upwards. *W. E. Broadway, Botanic Garden, Grenada, British West Indies.*

ABOUT CHRYSANTHEMUMS.

(The notes below were written before the first of the exhibitions was held.—ED.)

TRENT PARK, BARNET.

THOUGH so young a man, Mr. W. H. Lees, gardener to F. A. Bevan, Esq., has taken so high a position as a grower and an exhibitor, that the condition of his flowers naturally excites amongst growers the liveliest interest. I saw his plants on the 26th, and so far as the Crystal Palace show and the National are concerned, Mr. Lees should be in splendid form. If he has any weakness at all, I should look for it in the direction of undue precocity; just as his formidable competitor at Leatherhead seemed a little late. However, time will show. There are some 600 plants growing at Trent Park in numerous houses, and no effective concentration is made; but that may be no harm to the grower. Japanese are, of course, the prominent section, and many of these are indeed superb. Incurved also are very fine; indeed, Mr. Lees' own estimate—and he is a capable if a partial judge—is that he has never been stronger than this season. Of Japanese, that truly beautiful white *Souvenir d'une petite amie* is splendid. So, too, is a newer one—*Mutual Friend*, that seems like one come to stay; the petals are broad, and the flowers are massive, and of the purest white. What a grand flower is *Thos. Wilkins!* colour cream-yellow, the petals long and drooping; and yet another superb yellow is *Pallanza*, after *Sunflower*, but rather richer, and having broader petals. The rich-coloured *Mr. Seward* is very fine. A striking flower is *Robert Ballantine*, large and distinctive, colour rosy-magenta. *Madame Ad. Moulin* is yet another fine new white; and *George Biron*, a rich reddish-chestnut, is a striking flower. In spite of its curious name—*Denil de Jules Ferry*—violet-amaranth, with pale reverse, is a telling flower; while still another white is found in *Mdlle. M. A. Calvert*, which has a long ribbon-like petal, and is distinctive. Then in *Amiral Avellan* we have another yellow of a rich orange hue; *Madame Champon* is a refined *Etoile de Lyon*, and may, if found generally satisfactory, replace the older variety; *Mephisto* has the colour of the old *La Japonaise*, and the style of *Comte de Germiny*, and is full of promise. A very pretty and true Japanese is *Crystal Belle*, having the form of the old *Golden Dragon*, and of a delicate soft pink hue. That fine older yellow, *H. L. Sunderbruch*, is remarkably good; very delicately tinted and fine in form is *Louise*, now so

popular; and another white, *Guirlande*, is both solid and pleasing. Colonel Chase, though not large, is very beautiful, having a golden centre with outer petals of a soft flesh hue. Older varieties like *E. Molyneux* and *J. Shrimpton* are first rate. *Madame Carnot*, another white, bids fair to stand in the front rank of that section. A good brown chestnut flower is *Madame A. D. Girond*; *H. Jacotot* file, *Mons. Panckoncke*, and *Abbey Maidenhall*, are excellent also. These are, however, but a few of the many fine varieties at Trent Park. Of incurved, there seem to be, if fewer novelties, at least all the very best of the old ones, and all in very fine form. *Queens*, *Princesses*, *Tecke*, &c., are all excellent, and promise capital blooms. Of later novelties, *J. Agate*, white; *Globe d'Or*, buff yellow; *Lucy Kendall*, *W. Tunnington*, and *Robert Petfield* are the most noticeable. In a cool shed, where wonderful early blooms are being retarded, *Mrs. W. H. Lees*, a new Japanese, was grand indeed; so also were *Eva Knowles*, *Colonel Smith*, and other older ones. Throughout the whole collection, there are ample evidences of the highest culture; wood is strong, leafage fine, and fully retained, and flowers of the largest. It will be no matter for surprise if in some notable competitions they should be found hard to beat. *D.*

DOWNSIDE, LEATHERHEAD.

The very high reputation which Mr. W. Mease, Mr. Tate's able gardener, has obtained as a *Chrysanthemum* grower and exhibitor, naturally attracts special attention to his plants every year, and this season as strongly as ever. He is at present one of the champions of the autumn queen, and usually takes a very high place in the competitions. His plants just now are full of promise, and he has a very fine and varied collection of Japanese, incurved and reflexed, though strongest in the two former sections. With characteristic courage, Mr. Mease adds numerous novelties to his collection, picking, so far as possible, the best. Of older ones, he has plenty in the finest condition, and such well-known varieties as *E. Molyneux*, just now splendid, literally for its colours nobelated by any of the new ones; *Souvenir d'une petite amie*, beautiful white; *Eda Prass*, *Mdlle. Thérèse Rey*, *R. Owen*, *International*, *Sunflower*, *Piété Roberts*, *Commander Blussett*, *Hairy Wonder*, and many others fairly well known. Then of new Japanese, *A. H. Fewkes*, something of smaller style, but of a deeper yellow, and broader petal, very fine; *W. G. Newett*, a superb white; *Mrs. C. E. Shea*, creamy-white, fine bloom, and a sturdy grower. This variety enjoys the reputation of being the dearest yet put into commerce, as plants cost one guinea each. It ought indeed to be good for that sum. *Golden Wedding*, though represented by one plant only, is here very robust and healthy, promising glorious golden flowers. *Duchess of York*, soft light yellow, is very full of promise. Another beautiful rich yellow is *Sir E. T. Smith*, that will probably be seen prominently later. *Golden Gate*, bronzy-yellow, promises very fine blooms. A grand new white is *Mdlle. M. A. de Calvat*, petals drooping, the blooms dense. An attractive incurved form is *Globe d'Or*, showing both clear yellow and reddish-brown bloom; this bids fair to make a fine addition to the solid Japanese—or is it a real incurved? *D. B. Crane* is apparently an incurved Japanese, though termed of the ordinary incurved section; colour golden-bronze. Another fine yellow is *Phœbus*, something of the form of *Harman Payne*, but more refined petal. Yet another yellow, *M. Charles Molin*, tinted with bronze; a rich flower. Very diverse is *Denil de Jules Ferry*, large spreading bloom, dark violet-rose face, with silvery reverse. Another massive incurved bloom is *Major Bonnafond*, a massive, pale yellow. Good *Gracious* grows very tall, but it gives some charming soft pink flowers of great beauty. The much-talked-of *Philadelphia* is here too, but far from being incurved; it is promising to assume a drooping character. A massive pure white is *Madame Carnot*. *Mrs. W. H. Lees* has flowers both white and much tinged with pink, but very fine. *Duke of York* is another flower of the *Harman Payne* type,

but deeper coloured, and better. *M. Gruyer* has large blooms and broad petals, colour pale rose, white reverse. *Mr. Joanny Moten* is a striking flower, colour of *Cullingfordi*, very taking and effective. *James Myers*, somewhat after *Vivian Morel* in form, colour soft rosy-rose, is very pleasing. Of newer incurved forms, and these relatively are few, *Mrs. Archie Kingdon*, white, flushed pink, of the *Princess* type, very solid. *Globe d'Or*, already noticed, is amongst the incurved, in deeper tone than previously seen. *Robert Petfield* is very fine; *James Agate* seems here as much Japanese as incurved; *Lord Rosebery* promises very fine flowers; so, too, do all the *Teck* types; indeed, they are very good. *A. D.*

AT LILFORD ROAD NURSERIES, CAMBERWELL.

Mr. Norman Davis showed us about a fortnight ago, a batch of plants in flower of his new yellow Japanese variety *Pallanza*. We had seen the variety elsewhere, but its most valuable characteristic could not be detected so clearly as *Mr. Davis'* group displayed them. The plants generally were dwarf, very weak, and had been grown from cuttings struck in May, and some in June. Yet each plant had six or eight good blooms upon it. The colour is rich, the petals smooth, and the bloom capital for decorative purposes. As there will assuredly be considerable discussion regarding the value of this variety for exhibition purposes, and its similarity to the very pretty but frequently unsatisfactory *Sunflower*, it should be remembered that *Pallanza's* greatest value will be found to be its usefulness for market work, and for the general grower. It will furnish abundance of flowers very similar—yet quite dissimilar—to *Sunflower*, without any special culture whatever. On the other hand, most growers have trouble with *Sunflower*, and some have actually discarded it. *Mr. Davis* admits that it may not be practicable to exhibit the two varieties on one stand or in the same collection. On the crown bud, the flower bears striking resemblance to *Sunflower*, but in the terminal the likeness is much diminished. While it is claimed that as an exhibition flower *Pallanza* will out *Sunflower*, there can be no doubt whatever that in every other respect it is superior to that variety. It has already found unusual favour with market growers, and blooms of it this time next season should be as plentiful as *Blackberries*. We may add, that the variety was raised by *Mr. Briacoe Ironside*, while residing in Italy. *Mr. Davis* regards a seedling which shows a tendency to become a good market and a generally useful kind with as much favour as one likely to give fine exhibition blooms. A variety with the remarkable name of *Son Altesse Side Taieb Bey*, and hailing from *DeLaux*, the French raiser, is expected to become a useful kind. The flowers are very distinct and pretty, rosy-pink, almost the same colour seen in the old variety *Rœsa superba*, but in this case much lighter. A good batch of plants of *Madame Carnot* was observed, and a similar one of *Mdlle. Thérèse Rey*. *Mr. Davis* is inclined to consider the last-named the best white *Chrysanthemum* still, but *Madame Carnot* promises well, although when this notice was written it was too early to determine its exact worth. *Lady Biron* is a capital white Japanese bloom, with incurved petals, large, and not tightly cupped. It will no doubt prove to be a good thing. An unnamed seedling white Japanese in this collection seems to possess great possibilities. *Pride of Madford*, for which *Messrs. H. Cannell & Sons* obtained an award of merit recently, had six good buds on a plant, and promised well. Many other varieties were blooming or about to bloom, including *Philadelphia* and other new ones. *Comte F. Lourane* has nearly dropped out of collections, but it is a very pretty flower, with a white ground, and nearly covered with stripes of rose.

AT THE ROYAL EXOTIC NURSERIES, CHELSEA.

Messrs. Jas. Veitch & Sons, staged a good group of plants at the October show at the Royal Aquarium, but the general collection was not by any means so early as these, and there were many varieties blooming

a week or so since in an excellent manner. International appears to be coming very pale yellow or nearly white, and the light rose seen in the flower last season is wanting. Miss Louise D. Black, an American novelty, from Hill & Co., is not at present a deep flower, but the incurved florets are of reddish-orange colour, and very good. Warrior is a Japanese incurved, the flower large and globular, rather closely cupped, but the colour pale drab, detracts from its value. Graphic (Owen), a Japanese, is snow-white, with irregular petals, and promises to be very attractive. Pallanza was very deep in colour in this collection, and will rival Sunflower. The well-known variety G. C. Schwabe generally does very well at Chelsea, and this season offers no exception; whilst the same remark may be applied to Eda Prass, which is generally good this year. Louise has been capital, and Mrs. F. Jameson is very good. The new William Bolia, rosy purple-coloured, with silver reverse, will make large blooms; and Mons. Panckoncke promises well. Mons. Chas. Molin (Calvat) will prove to be a very good yellow; and Charles H. Curtis (Jones) will no doubt make a good addition to the incurved section—the flowers are a good yellow colour, and when finished the blooms will be of large size. Madame Carnot is expected to become a very good white Japanese flower, and the buds as opening would quite support this view. A variety in the way of E. Molyneux is M. Geo. Biron; it has the advantage of being a good doer, but as regards attractiveness, we still prefer the older variety. A very spreading yellow Japanese flower is Duchess of Wellington (H. J. Jones). The colour is good, and the petals, though narrow, are very long, but the blooms should be deeper. Mrs. W. Dreer has a flower in the way of Mrs. F. Jameson. Buds of Mrs. C. E. Shea were rather late, and had not yet opened; but there were good flowers of Colonel Bourne (Owen), a nice short grower, bearing flowers of a capital crimson, not unlike James Lynch. Nyanza, from Hill, America, is also a capital colour, but apparently the petals by recurving greatly will not show the colour much. Many of the older kinds are grown well at Chelsea, and at the same time the collection is full of novelties. P.

WOODHATCH, REIOATE.

When Mr. T. B. Haywood received the customary large party of friends who annually visit his delightful residence and gardens, as was the case on the 30th ult., he had to show them one of the most varied and attractive of private collections to be found, perhaps, in the kingdom. His gardener, Mr. Salter, does not confine his favours as a first-class cultivator to one section only, for he presents Japanese, incurved, Anemone, reflexed, and Pompons in rich profusion, and in the most varied forms. It is difficult, indeed, to say which exhibits the highest culture, for if the great Japanese seem most attractive, the other sections are of the highest relative excellence, and are of their kinds exceedingly beautiful. The bulk of the some 800 plants grown are ranged on sloping banks in two long lean-to houses, where they make a singularly attractive show. Of newer Japanese, the dominant section now, special interest attaches to an exceedingly fine white from Australia, named T. B. Haywood, that should make a good reputation. International is here very fine, yet not coarse; and Jas. Myers is excellent. Violetta is early, colour white, flushed pink; and Wilfrid Marshall is a fine yellow. Another fine Australian white is Mrs. H. B. Higgins. Such well-known forms as Mrs. E. G. Hill, W. Seward, Eda Prass, Vivand Morel, and Mons. Panckoucke are first-rate. A very beautiful variety, also white, is Florence Emma; a very striking flower is Madame Maurice Ricaud, colour rosy-red. Good, too, is the high-coloured Commandant Blissett; and Colonel C. B. Smith seems to be here, as everywhere, very fine indeed this season. Mr. C. Shrimpton, too, is in grand form and colour; a rich clear yellow is Thos. Wilkine. President Calvat, of chestnut colour, is large, but rather rough; Lady E. Saunders is of a lovely straw-primrose hue; Chas. Davis is very fine; and a very pleasing flower is Mr. R. Dean; one

of the most pleasing soft whites is Rose Wynne. Deuil de Jules Ferry, rich amaranth, is very fine; so, too, is M. Gruyer, large, and of a pleasing pink hue. A superb white here, as elsewhere, is Souvenir d'une petite amie. A truly grand flower, of a delicate straw-yellow colour, is Madame H. Demolfs, the petals very broad and massive. The white Beauty of Exmouth is fine; and J. Agate here is a Japanese incurved, though in other directions a true incurved. Of this latter section, Madame Darrier, M. A. Bahuut, Baron Hirsch, R. Petfield, the Queen family—indeed, all the best—are well represented, and in capital form. Amongst the Anemone section, very fine are Delaware, Mrs. Judge Benedict, W. W. Astor, Minnie Chate, Thorpe Junior (rich yellow), Sir W. Raleigh (mauve), Owen's Perfection, Nouvelle Alveole, and Mons. C. Leboscqz. Of new reflexed, a very beautiful flower is Clara Jeal, ivory-white, with gold centre. Amongst Pompons, Elsie Walker, golden-buff; Prince of Orange, reddish-gold; Pygmalion, reddish-chestnut; Maid of Kent, Toussaint Maurisot, Black Douglas, Golden Mdle. Marthe, St. Michael, and Eynesford Gem, are some of the best. It is possible, however, to refer to only a few out of the great collection. A very beautiful show may be seen in one of the Orchid-houses of eleven pans of the charming Pleione lagenaria, each about 13 inches across, forming dense masses of flowers. Also in another house a grand mass of varied colours, obtained from superbly-grown and bloomed zonal Pelargoniums, such as could not anywhere for quality be excelled. A look into the fine and airy fruit-room is also an interesting feature, for Apples and Pears are not only plentiful, but include noble samples. A. D.

MR. W. WELLS, EARLSWOOD.

On so glorious a day as was the 28th, it was a delightful walk from Woodhatch, across the common which intervenes to Mr. Wells' nursery at Earlswood. Here the plants may be counted by thousands, and it is to the grower's credit that every one is good, and the display a first-rate one. Special interest naturally attaches to the huge trade collections, because novelties are looked for, and we are not disappointed. The bulk of the plants are arranged in a double-sided centre bed in a very large long span-house, and the sides and ends are also fully furnished. Varieties, too, are largely placed in blocks, so that it is more easy to ascertain the average character of any. Japanese, of course, claim first attention, and foremost amongst these is the new M. Chenon de Lechs, broad even reflexed form, outer petals rosy-lilac, centre golden-bronze; this is a gem. Of hairy sorts White Plume, Hairy Wonder, and Louis Boehmer are very good. A good variety is M. Ad. Giraud, style of Gloire de Bæker, but finer, richer colour, and dwarfier. J. Shrimpton is in superb colour, really yet of its line unexcelled. A grand white again here is Madame Carnot; and Colonel Chase, though not large, is lovely. Mons. Ch. Molin is of a rich rosy-bronze. Rose Wynne, one of the finest whites; though Souvenir d'une petite amie is one of the very best now. Mrs. Airdrie, incurved form, white, striped rose, is good; and specially fine is Mons. George Biron, reddish terra-cotta, with pale gold reverse. A fine variety is M. H. J. Jones, colour rosy-amaranth, with silvery reverse; and Madame Mauriel Ricord is here, a great beauty, style of Excelsior, but richer coloured. Deuil de Jules Ferry is superb; this is a constant variety evidently, as it is so good everywhere. Mdle. M. A. Calvat is one of the finest whites without doubt. Louise, now getting well known, is a massive flower of delicate hue. A new and fine yellow is Thos. Wilkine; Maud Pearson, colour not unlike that of Belle Paule, but with larger flowers, is very pleasing. A promising flower of rich golden bronze hue is Mouchette, that bids fair to displace Colonel C. B. Smith, it is so fine and massive. Beauty of Teignmouth, crimson-maroon, shaded violet, and silvery-pink reverse, is a beautiful flower to be borne in mind. Of incurved varieties, J. Agate is here true, and of

fine form; a great beauty in this section also is Mrs. R. C. Kingeton, soft lilac on white ground, fine form and deep. There are hundreds of other well-known varieties, also of Anemones, reflexed, Pompons, &c. Single varieties are very charming, and Mr. Wells grows and raises largely; a good half-dozen of these so delightful for cutting purposes are Virgin Queen, large pure white, rose-pink; Mary Anderson, flesh, charming yellow; Bertha, pink-magenta; and Lizzie Mainwaring, bluish white. A large number of plants of Souvenir d'une petite amie from March-struck cuttings, and carrying fine blooms at from 15 to 20 inches in height, show what a fine variety it is for grouping. The new Japanese incurved Globe d'Or is very fine, and makes it a capital addition to that section, if it may be so termed. A. D.

MR. W. J. GODFREY'S, EXMOUTH.

A large span-roofed house, 156 feet long, and 27 feet wide, full of exhibition blooms of all the newest and best varieties of Chrysanthemums, was the grand sight presented to my view on October 24, when visiting this popular and increasing sea-side town. The entire collection showed signs of superior skill in cultivation, and could not have been more healthy, sturdy, and clean; the house in which they were staged was erected specially for this object, having an arrangement of thin tiffany for shading in case of bright sunshine, but which could easily be removed when not required. I was also fortunate in being conducted by Mr. Godfrey himself, who is now regarded as one of our most experienced specialists in Chrysanthemums. The admired and greatly-discussed Beauty of Exmouth, with which Mr. Godfrey made his *début*, originated an enthusiasm for Chrysanthemum culture, which has resulted in the superb display mentioned in the first few lines of this article. The collection referred to includes all varieties worth growing, varieties of home and Continental raising. Amongst these, I may mention a few which, perhaps, have already been noticed, but are here presented as grand and reliable varieties. White Madame Carnot, an immense bloom, very deep, a grand flower. Mdle. de la Galbert, a lovely white, beautiful form, likely to become a very popular variety. Mutual Friend, also a large white, outer petals very slightly shaded with mauve; Mrs. W. J. Godfrey, a large batch of this variety of sturdy growth, many plants carrying five blooms each of the most beautiful white in existence, the petals slightly hearted, and broad petals, massive, being a greatly improved A. Hardy. Duchess of York was giving some very promising blooms. Miss Rita Schroeter, a monster bloom, creamy-white, each floret shaded and edged with lilac-rose; Mrs. G. West, of American origin, also an immense bloom, after the style of Mrs. E. W. Clarke, but altogether superior in size, form, and colour, the richest yellow in the house; Miss Louise D. Black, in form similar to Lincoln, but larger florets, and much richer colour; Miss Elsie Teichmann, milk-white, one of Mr. Shea's seedlings, capital form and substance; A. H. Fewkes is of a capital dwarf, sturdy habit, a rich globular bloom, and of good size; Beauty of Teignmouth was represented by blooms much superior to Duke of York, having a better habit, much richer in colour, and very distinct in foliage; Gold Dast, whose petals are of a most beautiful plume shape, is an extremely striking flower of a clear canary-yellow; Nyanza seems to be an improved Beauty of Castlewood, of a brighter colour, equal in size, but a much better grower; Phœbus, a splendid yellow, will be much sought after, and is here represented by some very handsome blooms; Philadelphia, a large batch is growing, colour a pale yellow, changing to white.

About 400 seedlings are being cultivated on trial this season, many of them have developed blooms of exceptional merit, while a great many were yet to develop, but looked very promising. The selected varieties are named, and will be sent out next spring, those that are already considered acquisitions, include Pride of Devon, which boasts of being the largest bloom in the house, white, slightly shaded

pink, long drooping outer petals, forming a very deep flower. Wilfrid H. Godfrey, a very distinct variety, canary-yellow, reverse straw colour, the florets curling at the tips, which lends a charming effect. Mrs. J. P. Bryce, a very handsome variety, soft rose-pink, broad florets, bloom of good substance and form.

A large variety is grown for decoration in other houses, besides seedlings in various stages, both of his own and other noted raisers. Mr. Godfrey has special arrangements in his houses made for the perfecting and maturing the seed of the flowers selected for this purpose, his experiments having been attended with a fair amount of success. Several houses were full of Carnations of his famed varieties, showing immense quantities of flower-buds. *D. C. Powell.*

AT THE RYECROFT NURSERY.

At this nursery, in Hither Green, just outside Lewisham, the collection of Chrysanthemums is as interesting as ever; indeed, Mr. H. J. Jones has pursued the cultivation and raising of Chrysanthemums with such thoroughness since he commenced a few years ago, that his collections may be expected to become increasingly important year by year. Nevertheless, the visitor who goes to admire a pictorial display rather than to examine the characteristics of the blooms of the newer varieties, may be less startled with the effect produced than last year. This will be due to a different arrangement which has been adopted. Then, everything was done to create effect, but this year the arrangement enables the visitor to come near to any bloom he may wish to examine, and the tendency is not to increase the effect. Fewer older varieties are cultivated in special manner than formerly, in order to give more attention to novelties, and particularly to the increasing number of Mr. Jones' own seedlings. Most, but not all, of those we can now notice belong to the last-named class.

Additions to the incurved section are always more important, because rarer, than those of the other classes, and a good number of plants of the two varieties that are most interesting at the present time seemed to afford a good opportunity to estimate their worth. Taking Chas. H. Curtis first, we have a very large bloom with plenty of florets, and excellent in colour, being bright golden-yellow; but from present indications, the flowers will require considerable dressing before they are staged as exhibition blooms. D. B. Crane is a smaller but deeper bloom, nearly old gold in colour, and is one that will require very little dressing at all. When staged, however, the blooms of Chas. H. Curtis are much more effective than the other, for they make as pretty blooms as any incurved flower at all.

Turning to the Japanese varieties, there are Mr. P. Parnell and G. H. Hollingworth, both seedlings, the former a large bloom of good colour (crimson), with loose florets; and the latter a light yellow bloom with very wide florets, apparently to be very large, but bloom not yet developed. Mrs. G. H. Smart is a yellow and bronzy-coloured flower, an incurved Japanese, possibly distinct, but not quite to our mind. A bold incurved Japanese seedling has been named Mrs. C. J. Mills; when first opening, slightly blush, but afterwards coming pure white—likely to be a good one. Miss Clara Walker is another good white one, similar in build to the Meg Merrilies type. Duchess of Fife is another white incurved Japanese, similar in some respects to R. Owen, and very bold and deep. J. H. Richardson has extra broad florets, white, striped with rose; and Lady Randolph is a rosy-purple flower, with silver reverse—a very pretty contrast. Miss Ethel Addison will, no doubt, become popular; it has already been certificated, and has large flowers, broad florets, coloured rose, with silver reverse. Miss Elsie Teichmann is an incurved Japanese, has wide florets, and will apparently make a large flower, there being a lot of "stuff" yet to develop; the flower is white, with a straw-coloured centre. Miss Alice M. Love is one of the first varieties certificated this season; it is white with pale yellow centre, florets incurved.

When speaking of incurved varieties, we should have mentioned Mr. Jas. Murray, which will, no doubt, make a desirable pink bloom; the flowers had not "built" when these notes were taken. Mrs. G. Gover is one of the fantastical varieties, has very irregular florets, red with buff reverse, and will make a large flower. T. H. Wooderson in size reminds one of Etoile de Lyon, but, we think, lacks refinement. A capital variety, we believe, Mrs. Richard Jones will be: the flowers are white, large, florets rather narrow, but long, and recurving slightly at the tips; it is graceful, and from the large number of plants in bloom it is a very easy "doer." Mention may be made of Mr. P. Mariton, a hairy French variety: colour, chestnut; likely to be a good thing.

There are so many new and interesting plants in this collection, that we are able to notice but a portion, nor can remark upon many of last year's novelties, and new ones from other raisers. First-rate blooms of such sterling varieties as Amiral Avellan (Calvat), Jno. Machar (Cannell), A. H. Fewkes (American), Mrs. E. S. Hills, Mutual Friend (a capital white one), Mdlle. Paul de Croy, and International, were, however, to be seen; and some of the finest flowers of that excellent Anemone-flowered variety, Descartes, we have yet seen. We must conclude, however, after mentioning an incurved Japanese named Lady Playfair, from the same American raiser as A. H. Fewkes; the bloom is peculiarly pretty from its delicate tint. *P.*

NURSERY NOTES.

THE ALLINGTON NURSERIES, MAIDSTONE.

IF clean land, thoroughly-well tilled, with half-a-foot of absolutely loose soil on the surface through constant working, and stocked from centre to circumference with healthy young trees, are indications of skilful management, then Messrs. Geo. Bunyard & Co. are entitled to congratulation. The fight of trees versus weeds, has not been left without the evident interference of the cultivator in favour of the crop that will pay him, or which at any rate, is more likely than the other to do so. It is undoubtedly disappointing, that notwithstanding all that has been said and written about fruit culture for profit, and for home consumption, there still exist hundreds of acres of good land, on which the old fruit trees of a generation ago still stand, trees that would be unremunerative if only on account of their great age, though in many cases they are doubly worthless, because the varieties they represent have been superseded by better and more useful sorts. On the other hand, there are thousands and thousands of young trees of the best varieties in the nurseries, which would yield a profit to the cultivator if they were planted in the place of these moss-grown antiquities, that furnish arguments of a kind every year to persons seeking to throw cold water on the fruit-growing movement. Fortunately, this is not the case in regard to gardens. Gardeners have learned the lesson well, that good crops of fruit of first-class quality may be looked for only on trees of moderate age, and that if these fruits are to be worth anything, the best varieties possible must be planted; hence there has arisen from gardeners a satisfactory demand for these.

Such remarks as the above are quite *à propos* of our visit to Maidstone in early October, inasmuch as the large quantity of fruit trees there forcibly reminded us of such orchards as we have just described. How satisfactory it would be to the owners of such fruit grounds and to all concerned, if they could be convinced of their opportunities!

Perhaps few localities have had a less quantity of rain during the season now rapidly closing than the Maidstone district, for Mr. Bunyard informed us, that even when the long-endured drought came to an end, the rainfall there was particularly light. "Have you done any watering?" we ventured to ask. "No," was the reply, "not any, it would be impracticable on a large scale, and I think the system

results in more harm than good." How to explain the healthfulness and vigour of the whole of the trees after such a statement, would be a puzzle to strangers, but one having a knowledge of the system of culture here, would unhesitatingly conclude that the surface tilling, the constant hoeing of the surface soil, are the chief causes of the abundant success. The soil must nevertheless be very exceptional, because, while it is comparatively light and conducive to root-formation, it was of sufficient depth and retentiveness to pass through a season like that of 1895 with but few ill-effects. We first went among some trees of the well-known Apple Bramley's Seedling, "just to see the crops of fruit they are carrying." Yes, here were fruits of surprising quality and quantity. Nor did Lane's Prince Albert, which was fruiting in the same spot, make a less worthy show, but, of course, neither sorts had such an effect as the fruits of Gascoigne's Scarlet Seedling, always a well-coloured Apple, but in the Maidstone district especially so, where indeed it is fiery red. Some fine trees were close to these bearing capital fruits of Banmann's Winter Reinette, a variety of which many growers we have met have a very high opinion. Bismarck, too—a grand apple—was bearing heavily, but it is seldom it does not, and we have an idea that planters are not using this variety so freely as they might with advantage. One of its most pronounced qualities is this predisposition to heavy cropping, which we have noticed again and again, then the fruit is of good size, and according to information we have had from some who have tasted the fruit when cooked, it is also of first-rate quality. In appearance the Apple is certainly good, and in addition to other advantages it possesses, the fruit hangs well upon the trees, and may be harvested later than many varieties. We next pass a grand lot of standard Cherry-trees, pretty specimens, and in robust health, capital trees for the Kentish, or, indeed, any other Cherry orchards. But near by is a very large batch of standard Apples and Pears, also for orchard culture. What excellent trees they are! Seems so smooth and straight, as if moulded, and thick withal. These 60,000 standards were only four years old, and the majority of them have large heads that suggest rather half-a-dozen years. How the different varieties vary in their growth! Of course, all the trees are budded or grafted low down, and the stem is formed by the scion, not the stock, hence the difference in time required to get varieties up is considerable. In another part of the nursery a further batch of standards is seen, and Mr. Bunyard estimates that in all he has about 120,000 such trees. Now, the entire stock of fruit-trees is decidedly first-class, but none in the collection are finer of their kind than these orchard standards. As a matter of course, the varieties represented in these trees are those of sterling merit, and useful for market. We noticed a few of them, namely, Ecklinville Seedling, Golden Spire, New Hawthornden, the Queen, one of the best flavoured of culinary varieties; Beauty of Bath, Beauty of Kent, Paesgood's Nonsuch, Colonel Vaughan, a great favourite in Kent; and last, but not least in importance, Newton Wonder, a first-class Apple, sent out by Messrs. Pearson & Sons, Chilwell. This Apple, we believe, was the result of a cross between Dumelow's Seedling and Blenheim Orange, and the young trees and fruits upon the same at Maidstone, were sufficient evidence of its cropping qualities, and of the excellent character of the fruits. Passing on to one of the slopes—which are common in Mr. Bunyard's ground—we were compelled to pause to inquire the name of the Apple making such an effect in one of the hollows. "That is Gascoigne's Scarlet Seedling again," said Mr. Bunyard. It was another batch of this excellent Apple, and, without doubt, it furnished the greatest pictorial effect to be seen in the nursery. But there is little time to linger in such a nursery, and we were soon remarking upon another excellent Apple named Allen's Everlasting. It is usually good in March, the quality is splendid, and it crops very freely. The fruit is only of medium size, russety in appearance, with a few red blotches. A remark is certainly

deserved by a quantity of first-class two-year-old trees of Stirling Castle, an Apple that needs no praise now. Then there is Hollandbury, a good useful Apple; and many others, which we must perforce pass over. In doing so, however, the health and kindly growth of the trees, whether on the free stock or the Paradise, is very apparent. Double grafted trees also are seen, varieties that are not satisfactory except treated so, and by such means even Blenheim Orange Pippin will bear crops of fruit as pyramids at a comparatively early age. A considerable number of amateur standards were looking well. This form of training is still very popular with amateurs, as the stem can be cropped its whole length, until a good-sized head is made, when, if desired, the stem may be cleared closely of all growth.

two reasons. The first is, that the trees here which were grafted upon the Paradise many years ago, furnish effectual proof that there was nothing in the objection that used to be raised that trees so treated would be short-lived. The other reason for walking amongst them was the opportunity they afford of seeing rare and interesting varieties that are, to some extent, little known; and reference might be made to the Apple White Transparent, an excellent early Apple, for which Mr. Bunyard obtained an Award of Merit from the Royal Horticultural Society a short time ago. It is considered much better than Early Julian, is a sure cropper and capital grower. Foster's Seedling, with flesh similar to Cellino Pippin, and flavour like Blenheim Orange; and Mrs. Barron, a good kitchen fruit, might both be better known. Mr. Bunyard thinks

crops of fruit from Apricot indoors. These must be passed, however, with the remark, that of the former, gardeners would do well to plant less sparingly; and in regard to the Apricots, the borders during winter should be kept as dry as it is possible to get them. Strawberry-plants are grown in large quantities.

By no means do Messrs. Bunyard & Co.'s treasures consist exclusively of fruit trees, though these are their speciality. Roses we saw in abundance, standard varieties especially. The choicer sorts of trees and shrubs of vivid-coloured foliage, or conspicuous flowers, and herbaceous plants, less common than most of the species, are also to be seen at Allington; and had we more time and space at our command interesting notes concerning such might be written.



FIG 95.—HOULETIA TIGRINA.

Large-sized trained trees of Apples and Pears, as gridiron, horizontal-trained, or fans, are kept for supply to purchasers who wish to cover walls or espaliers with trees that will fruit at once.

Passing some trees that had been transplanted, a discussion arose as to whether fruit trees should be pruned when first planted. Mr. H. A. Pearson, in his lecture at the Palace recently, after fairly stating the grounds for pruning and for non-pruning the first season, concluded by recommending that the trees should be pruned. Mr. Bunyard, with his large experience, is quite of an opposite opinion. Theoretically, the reasoning of either school is very plausible. Each agree that their efforts should be to induce most root action; but to this end different and quite opposite means are adopted. It is a question that practical planters may soon, by experience, settle for themselves.

The trial ground should not escape notice, for

that James Grieve will be better than Cox's Orange Pippin; and our attention was directed to the dark green culinary Apple, Duke of York, from Tasmania, as being an immense cropper.

Pears occupy an important position in this nursery. Large breadths were observed of bush, pyramidal, and trained trees; but our time was spent on this occasion more particularly amongst the Apples, which this season have carried so many more fruits than the Pear trees.

It may be interesting to state that although a good number of orchard-trees of Apples, Pears, and other fruits, are well grown at Maidstone, the best specimen Apples were to be found this season on the trees in the open nursery.

Many other items of interest call for remark, such as the splendid and large stock of Fig trees of the newer varieties in pots, as well as others, and the successful method by which Mr. Bunyard obtains good

HOULETIA TIGRINA.

ON the occasion of the meeting of the Royal Horticultural Society on Tuesday, October 23, Sir Trevor Lawrence, Bart, exhibited an inflorescence of this distinct and very pretty species. They have free, spreading, sub-equal sepals, and a narrow fleshy lip continuous with the column, the base concave, and the lateral coming from behind the retrorsely-curved horn-like processes; the middle lobe articulated and undivided, usually truncate at the base.

The pseudo-bulbs are one-leaved, and the flower-spike rises from their base. The pseudo-bulb in this species is 2 inches long, ovate, and the leaves plicate, and of a dark-green colour. The sepals are concave, of a pinkish-buff mottled with greenish-yellow; petals bright yellow, with mottling of crimson; lip pale yellow, at the tip white, with minute purplish-crimson spots elsewhere.

This New Grenadan species (fig. 95), like the others, succeeds in the intermediate-house, and during its period of flowering it should be suspended, as the inflorescence arches forward and droops over,

PREPARING LAND FOR, AND PLANTING, FRUIT TREES.

I RECOLLECT attending a Fruit Conference at Chiswick when Mr. Pearson of Chiswell, in a lecture, laid stress upon the way nurserymen were sometimes accused of supplying unsatisfactory fruit trees, while the cause of failure rested with the planter. That non-success in fruit culture may not unfrequently be rightly attributed to either bad planting or inadequate preparations for planting, I think few will deny; possibly mistakes are most often made in not taking sufficient pains with the preparations. In commencing hardy fruit culture, it pays to do everything connected with it thoroughly well; and the most important points that must not be overlooked, are firstly, to select a suitable site, and properly prepare it; secondly, to purchase good trees of the best varieties; and thirdly, to plant them well, and protect them.

In dwelling upon this important subject, I cannot do better than describe the manner in which the fruit-garden here was formed and planted, particularly as the trees and bushes are making very satisfactory progress. The site selected was an old pasture situated above the fog-line, upon a rather sharp S.E. slope, well sheltered from the north and east by higher land and trees, and fairly so from other quarters by trees. The soil is a good loam, inclined to be heavy, resting in some places upon a stony subsoil, and in others marl. The garden, which is oblong in shape, was made and planted in 1893; the work commencing in April, by draining the land with 3 inch tile drains, placed 3 feet deep, and 15 feet apart. This is a necessary preparation that does not always receive the attention it deserves. An instance of this came under my notice some years ago, when I was asked advice about some young Apple trees which were what was termed "going back." After ascertaining the nature of the soil, the cause of the unhealthy condition of the trees was attributed to deficient drainage. "Oh! that cannot be, just look at the fall in the ground," was the reply. A descent in land that possesses a tenacious sub-soil will not, however, ensure good drainage. Once the draining was completed, the land was trenched to the depth of 2 feet 3 inches in the manner known as bastard trenching—the top spit being kept upon the surface. This proved a hard undertaking, for, as will be remembered, the summer of 1893 was very dry, and consequently, the soil was unusually hard. This dry state of the weather, however, had a beneficial influence upon the work, both by sweetening the soil and killing herbage; at the same time, it kept the newly-cultivated land in a dangerously aerated state for planting, and in order to counteract this evil, and also break the clods, a Cambridge-roller drawn by three horses was several times run over it. This done, another digging, this time one spit deep, was afforded, and as it proceeded, the turf was well broken, and mixed through the soil—thus a satisfactory site for planting fruit trees upon was prepared.

Intersecting grass walks, the principal ones being 10 feet wide, and the others 5 feet, divide the garden into six divisions, the two largest occupying upwards of half the garden, and placed on the highest ground, being devoted to Apples. The next two, which take up more than a fourth of the space, are planted respectively with Pears and Cherries, and Plums and Cherries; while the remaining two, which are situated on the lowest ground, are occupied by Currants, Gooseberries, and Raspberries. The Apples, Cherries, Pears, and Plums which are pyramidal and bush in form, are planted in squares, and are 12 feet apart. The Currants and Gooseberries are in rows 6 feet apart, and the Raspberries are also in rows 6 feet apart, the plants being 2 feet asunder in the rows. It has been remarked that the rows of Raspberries are needlessly far apart, but this is not so, for it was found to-day by measurement that many of the canes of *R. Superlativa* are upwards of 9 feet in length; at the same time they are clothed with

robust foliage, and bright red-coloured rind from base to top (good indications of the probable production of abundance of fruit next year), which could scarcely be the case if the rows were appreciably closer together.

Planting commenced with the bush fruits during the last week in October, and was completed with Apples the second week in November. The trees, when received after a journey of about 140 miles, were unpacked, had their roots dipped in water, and carefully laid in damp soil. The weather being favourable, and the ground in excellent condition, however, no time was lost in at once planting them in their permanent quarters. In order to facilitate this, the position of the rows had been previously marked out, with pegs at each end, and a line had also been prepared by being knotted to indicate accurately when stretched each tree's station. In proceeding with the planting, the roots of each tree were closely examined, when any broken or injured portions were removed by a clean cut made on the under side. Pains were taken to spread the roots regularly, and keep them up near the surface of the soil, which was pressed firmly about them. Any trees that required it were then staked, their bark being protected from injury from the ties by pieces of old indiarubber hose, and finally each tree was accurately named, and mulched with farmyard manure. The only quarters that received manure, other than that employed as a mulching, were those occupied by Currants, Gooseberries, and Raspberries, and these had a dressing of decayed farmyard manure worked through the surface-soil. It may be mentioned that the only losses that occurred in the plantation, which covers nearly three acres of land, were a few Raspberry-canes. *Thos. Coomber, The Hendre Gardens.*

BOOK NOTICE.

THE GENUS *MASDEVALLIA*. By the Marquess of Lothian and Miss F. H. Woolward. (Porter: London.) Part VII. Price £1 10s.

THE authors of this elegant monograph are getting near the end of their work. A notice to subscribers issued with the present part states that the next number (Part VIII.) will, it is hoped, be the last. It will be well, therefore, to postpone any further remarks until the completion of the book, when we shall hope to review it as a whole. Suffice it to say that, with Part VII., the number of species and varieties depicted and described is brought up to seventy, the recent decade comprising *Masdevallia caloptera*, *M. gemmata*, *M. O'Brieniana*, *M. pachyura*, *M. porcelliceps*, *M. radiosa*, *M. triaristella*, *M. trinema*, *M. troglodytes*, and *M. velifera*. With two exceptions, these are all species of the late Professor Reichenbach; and also, with two exceptions, were first described in the pages of the *Gardeners' Chronicle*. Several are very rare; and in at least three cases, Miss Woolward has been unable to obtain any record of the native habitat, which remains a trade secret—to the advantage of the importer, but seriously to the disadvantage of science. *A. B. R.*

THE WEEK'S WORK.

THE KITCHEN GARDEN.

By JOHN LAMBERT, *Gardener, Plover Castle, Welshpool.*

ASPARAGUS BEDS.—Where Asparagus is grown in beds, and the heads are preferred in a green natural state, the soil above the roots will not be more than 3 inches in thickness. This may be forked over very lightly and carefully so that no roots are broken, to break up the hard surface of the soil. The manure to be applied should vary according to the nature of the soil. If inclined to be very retentive of water, use stable-dung and a small quantity of light sandy soil mixed with it. This dressing may be made 2 inches deep. If the soil is already sufficiently light, afford the beds a good dressing of cow-manure, which will enrich the soil, and also afford protection

to the roots from very severe frost. Where a thick surface of soil is kept above the roots for blanching purposes, some of this may be removed by drawing it with rakes into the alleys, and the surface broken up lightly. Then apply a dressing of manure, and leave the spare soil in the alleys for use in the spring. If the beds are getting very poor, some finely-crushed bones may be given at this season of the year, but artificial manures are best applied to a crop when in active growth. If Asparagus is grown on the single-row method, the raised mounds are apt to become bare towards autumn, owing to the heavy rains, and very little forking will be required; the soil between them, however, should be deeply broken up, and every other space between the rows that is used for a path when cutting the produce. Dress the mounds with nice rich, fresh soil if they are too bare, and cover them and the spaces between with a good dressing of manure. No further attention need be given them till spring.

FORCING.—Preparations should be made for forcing Asparagus in proportion to requirements. Good roots for forcing may be produced in about three or four years, if seed be sown in rich, deep soil, and good dressings are afforded frequently. Roots thus grown will now be ready for lifting. Not many gardens are provided with permanent beds for forcing every alternate or every third year, and heated by hot-water pipes or manure. Such a method is, no doubt, the best, because the roots are not disturbed in the least, and being forced gently, they usually prove satisfactory. But, on the other hand, very good Asparagus can be obtained from lifted plants provided they are strong. The first step in the preparations should be the mixing, turning, and wetting of fresh stable manure and leaves. The material should then be turned several times at intervals of about four days or so. A pit of suitable size may be filled with this, or failing pits, such places as Cucumber or Tomato-houses may be used for the purpose. Tread the material down well, and when the heat begins to decline, cover with from 3 to 4 inches of soil. Then place the Asparagus roots so that they just touch each other, and cover them with soil to whatever depth may seem desirable, and if blanched heads are preferred, the light may be excluded. The surface of the soil should not be more than about 9 inches or so from the roof-glass before it is settled by sinking. Keep a test-stick or thermometer plunged in the bed, and do not allow the heat of the manure to rise too high, 75° is warm enough, but 10° hotter will not harm them. A single row of pipes will afford what atmospheric heat may be required. When water is used, it should be tepid. After the "grass" appears, keep a moist-growing atmosphere of about 55°. Another pit should be filled in the same way to come into cutting when the first is exhausted. A bed will not last good for a longer period than six weeks, and it will commence to bear in about two weeks after putting the roots into it. Bottom-heat may be obtained from hot-water pipes, and very good results are obtained by this means when care is used, but such heat is more apt to fluctuate than that furnished by a bed of manure, and the latter affords a moist heat, whilst the former is dry, unless evaporation pans are used underneath the bed, or the pipes are immersed in water-tanks underneath. Keep a stock of manure mixed ready for refilling the pits.

PLANTS UNDER GLASS.

By W. H. SMITH, *Gardener, West Dean Park, Chichester.*

LATE-FLOWERING CHRYSANTHEMUMS.—Where many flowers are required for cutting in the months of December and January, the varieties which flower late, or which can be retarded, are very useful, and especially if large vases have to be kept furnished with flowers, for as most of the flowers which are forced have short stalks, the long stemmed Chrysanthemum blooms form capital material for use. These late varieties should not be much disbudded, being then much more graceful, and therefore of more use for decoration than the larger heavier blooms. If a house having a northern aspect is available, these varieties may be retarded in their flowering very easily. Air must be admitted to the plants freely whenever there is no frost or it is not damp-laden. When there is much dampness in the air, gentle fire-heat should be afforded, and air in small amount given by the top and bottom ventilators or sashes. Varieties for very late flowering are Lady Canning, Lady Lawrence, Ethel, Middle, Lacroix, W. H. Lincoln; and the semi-double yellow coloured Admiral

Symonds, which is one of the best for cutting purposes.

TREE CARNATIONS.—These plants now coming into flower should be afforded weak manure-water in liberal quantities. It need not always be applied in that way, as a small quantity of fertiliser (Clay's or other) may be sprinkled on the surface of the soil, a job which may be readily done when tying and rearranging them. Carnations now require very careful watering, and to be kept free from aphids by occasionally fumigating the houses with tobacco or the XL All compound. A genial growing atmosphere, and a temperature of about 50° by night to 55° by day should be maintained, with air left on at the upper and lower ventilators. In bright weather a light syringing between the pots will help to keep red-spider in check.

CAMELIAS.—Those plants which have begun to open their flowers should be rather liberally supplied with water at the roots, provided the drainage is good, and they are not over-potted; weak manure-water may also be occasionally afforded them, that is, if they seem to need it. Potted plants which may be losing their flower-buds, should be placed for an hour in a tub of water, so as to enable the water to reach every part of the ball, the centre part having probably become dry.

AURICULAS.—These plants will now require very little water, but plenty of air, whenever there is no frost. In wet or very damp weather, it is a good practice to tilt the frame lights at the top and bottom. The frame should face the south, and be covered with mats in case of severe frost.

LILIUM LONGIFLORUM VAR. HARRISI.—The bulbs for early forcing should be purchased forthwith and potted up, placing each bulb in an 8 inch pot, in turfy loam, leaf-mould, cow-manure in a dry state, and coarse sand. If the soil be moderately moist, no water will be needed before the roots permeate every part of it. Plunge the potted bulbs in a cold frame, in cocoa-nut-fibre refuse, covering them to the depth of 5 inches. Here they must remain until the shoot is about 1 inch long, when it will be found that the pots are filled with roots. The plants should then be gradually inured to the light, and eventually put into a warmer temperature.

DAPHNE INDICA ALBA.—A few of the plants may be placed in a temperature a little warmer than that they have been used to, and not forced too hard, or the plants will be apt to lose their flower-buds. A temperature of 50° by night and 55° by day will be sufficiently warm.

THE HARDY FRUIT GARDEN.

By W. POPE, Gardener, Highclere Castle, Newbury.

SELECTION OF FRUITS FOR SMALL GARDENS.—The select list of fruits given below is intended for the use of those who may have small gardens, and are desirous of planting a few well-tried varieties of each kind, to afford a useful supply for dessert and culinary purposes.

Dessert Apples.—Irish Peach, King of Pippins, Cox's Orange and Starmer Pippins, Claygate and Adam's Pearmain; of culinary varieties, Keswick Codlin, Stirling Castle, Carlisle Codlin, Annie Elizabeth, New Northern Greening, and Damsel's Seedling.

Plums.—River's Early Prolific, Greengage, Kirke's, Victoria, Monarch, and Cox's Golden Drop.

Pears.—Williams' Bon Chrétien, Fondante d'Automne, Marie Louise, Doyenné du Comice, Maréchal de la Cour, Glou Morceau, and Josephine de Malines.

Cherries.—May Daks, Bigarreau Napoleon, Elton, Belle Magnifique, and Morello.

Apricots.—The Moor Park.

Figs.—As a trustworthy Fig in the south, Brown Turkey is the best.

Gooseberries.—These may consist of Early Sulphur, Whinham's Industry, Red Champagne, and Red Warrington.

Strawberries.—Vicomtesse H. de Thury, President, Royal Sovereign, and Waterloo.

Currants.—White Dutch, Red Dutch, Ruby Castle, Lee's Prolific Black.

Raspberries.—Superlative, and Yellow Antwerp.

Nuts.—Kentish Cob or Lambert's Filbert.

Peaches.—Alexander, Grosse Mignonne, Noblesse, Bellegarde, Albatross.

Nectarines.—Pitnaston Orange, Balgowan, Stanwick Elrage.

Of these the Peaches, Nectarines Apricots,

and Figs, of course, require the shelter of a wall, one either west, south-west, or south, being suitable; all the rest may be grown in the open, either as pyramids, bushes, espaliers, or standards, as the case may be.

FRUIT FOR MARKET PURPOSES.—In planting for market purposes, a multiplicity of sorts should be avoided, and only those selected which are known to be prolific, coming quickly into bearing, and of taking appearance, either in regard to colour or size—colour rather than good quality being sought after in the majority of cases. A few that generally give a fair return are, of Apples, Mrs. Gladstone, Devonshire Quarrenden, Worcester Pearmain, Lady Sadeley, Red Astrachan, King of Pippins, Cox's Orange, Gascoign's Scarlet, Warner's King, Ecklinville, Annie Elizabeth, Lane's Prince Albert, Wellington, and Northern Greening.

Pears.—Williams' Bon Chrétien, Louis Bonne of Jersey, Beurré Clairgean, Jargonelle, Fertility, Doyenné du Comice, Bishop's Thumb.

Plums.—River's Early Prolific, Mitchelson's, Danyer's Victoria, The Czar, Belgian Purple, Pond's Seedling, The Sultan, Monarch, Belle de Septembre, Cox's Golden Drop, Prince Englebert; and Damson the Crittenden.

Cherries.—Frogmore Early, Bigarreau Napoleon, Werder's Early Black, Belle Magnifique, and Morello.

Gooseberries.—Whinham's Industry, Keepsake, Crown Bob, Red Warrington, and Early Sulphur.

Currants.—Lee's Prolific Black, Black Champion, Red Dutch, Ruby Castle, and, if a white variety be required, White Dutch is the best.

THE FLOWER GARDEN.

By BAILEY WADDA, Gardener, Birdsall Gardens, York.

HERBACEOUS BORDERS.—The making of new herbaceous perennial borders, and the rearrangement of old ones, may now be proceeded with when the weather permits. New borders should be arranged whenever possible, so as to have a broad walk on each side, being more attractive in this way than when there is only a walk on one side. Besides, it gives more space to display the plants, and the border need not be of an inordinate length. New ground, if of a strong loamy or clayey nature will be improved by charring the top spit; and it should be well drained and afterwards trenched 2 feet deep, mixing with the staple a good quantity of road grit, leaf-mould, and short manure; but on the other hand, if the soil be light or sandy, or rests on sand, gravel, rock, &c., artificial drainage may not be required, but a mixture of strong loam, cow dung and short manure will improve its holding qualities—these should be incorporated with the staple on trenching it. When a new border is made on opposite sides of a walk, the width of the walk should determine that of the border on each side, as it does not look well to have borders of less width than the walk. As a rule, a border 9 feet wide is sufficiently wide, for showing the plants from the walk, as a greater width does not allow of the plants at the back of it being seen to advantage. As a margin to a border running through a kitchen garden, a Rose fence about 5 feet high at the back makes a suitable dividing line. For the purpose of the fence, strong Larch poles, or a diagonal rustic lattice constructed from the same, answer well. This may be planted with a few climbing plants, Honey-suckles, Clematis, and Tea and other varieties of Roses. I am of the opinion that no kind of permanent edging should be used in the front of the borders, these being in the way of the flowering plants, and the stiff outlines spoil the effects of a border of mixed flowering plants. Nothing impoverishes the soil more than Ivy, Yews, &c., and such edgings form the best harbour possible for the all-devouring slugs. Grass-edging, when the turf is in perfect keeping, form the most appropriate margins for a border situated in a flower garden or pleasure ground. A border gives the most satisfaction when its position is well sheltered, but exposed to the sun, and it is backed by shrubs. The planting in regard to the height of the plants, and the colour of their flowers, and the season when they appear, is a matter for careful study; and to enable one to manage it readily, a plan should be made to scale, and the position of each plant and group of plants indicated on it. No two men will plant a border just alike, and scarcely any rules are of service, excepting very general ones. For instance, it may be proper to plant bold clumps of showy plants at irregular dis-

tances apart throughout the borders, starting at the back with Hollyhocks, Delphiniums, Phloxes, Helianthus, Eryngium, Giant Fennel, Golden Rod, &c. Rheum palmatum, Kniphofia Uvaria and glaucocens, and similar tall-growers; following these with Pæonia herbacea in variety, Spiræas, Perennial Asters, Inula glandulosa, Rudbeckias, Potentillas, Pentstemons, the taller species of Campanula; Iris, Caltha palustris, Trollius europæus, Anemones, Hemerocallis in variety, and gradually finish off with quite dwarf plants at the front.

At the present time divide and plant clumps of old, strong-growing Pæonies, Phloxes, Helianthus, Iris, &c., which if planted at this season soon establish themselves in the spring, and flower satisfactorily in their season. Plants in existing borders should have all dead and decaying foliage cleared off them, and the soil carefully pricked over with a digging-fork, following this operation with a dressing 2 inches thick of well-rotted stable-manure and loam. The task of selecting the plants for filling a new border of any considerable size is one of great interest, and those who may not have had much experience, will have to devote a good deal of care and discretion to the matter.

FRUITS UNDER GLASS.

By RICHARD PARKER, Gardener, Goodwood, Chichester.

THE CUCUMBER-HOUSE.—In keeping Cucumber-plants in health and fruitfulness, two facts should be borne in mind, viz, light cropping and a regular temperature. Moreover, there is always, during spells of frost, danger from affording too great an amount of artificial heat so that the night temperature often exceeds that of the day. To allow this disparity of heat to occur causes a weak growth in the plants, and leads to that pest of the Cucumber-house, red-spider, making its appearance. Less syringing of the foliage should be done as the winter advances, and the atmosphere kept moist by the use of evaporating pans, and by damping the walls and paths occasionally in the daytime. Almost daily attention to stopping the points of the shoots at the second or third leaf is necessary; and the shoots should be thinly trained over the trellis, and no crowding allowed, or the foliage will soon become of a pale green unhealthy colour, and the flowers fail to set, or the fruits become deformed. Slight surface dressing of some fairly rich, friable compost should be afforded at intervals of ten days, the soil used being rendered warm by keeping it in baskets over the boilers. Weak liquid-manure afforded once a week is of much value; but if root-water be used, it should be very weak, or the roots may be injured by it, and the fruit made bitter. The day temperature of the Cucumber-house or pit may range from 65° to 72°, and that of the night from 63° to 65°, roof coverings being afforded during severe frosts, as advised by me in last week's calendar. Fresh air in small quantity is always beneficial, and may be admitted for a short time daily, if it can be done without causing a check to growth.

TOMATOS.—These plants have made good progress, and at the present time they have plenty of fruits in different stages of development. Since they were placed in the house, a gentle warmth has been maintained in the hot-water pipes, and abundance of air afforded by day, with the result that growth is starchy, and the plants have continued to produce flowers, and set them. Applying water to the plants requires care, or the soil will become too moist to suit their well-being. As soon as a fruit begins to colour generally all over, it should be removed, thus not taxing the strength of the plants too much. Continue to ventilate the house freely in favourable weather, but do not let the night temperature fall below 50°.

VARIORUM.

PHENOMENA OF NATURE.—We hear of new Potatoes and Strawberries at Salcombe; and I know of one other place in the neighbourhood where new Potatoes and Green Peas were enjoyed on Friday last. Is it not equally unusual to see a brood of newly-hatched wild ducks on a pond, partially covered with ice on October 29, while swallows—two only—were flitting over the surface in the sun as if it were September? It struck me as very phenomenal—or, rather, Nature slightly out of joint. Is it so? H. C., Oct. 31, in *The Western Morning News*.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.	
SATURDAY,	Nov. 9—Royal Botanic Society.
TUESDAY,	Nov. 12 } Royal Horticultural Society, at the Drill Hall, Westminster.
SHOWS.	
MONDAY,	Nov. 11—Gloucester Root, Fruit, and Grain.
TUESDAY,	Nov. 12 } Chrysanthemum Shows at Croydon, Louth, Plymouth, Kingston-on-Thames (all two days), and Farnham.
WEDNESDAY,	Nov. 13 } Chrysanthemum Shows at Birmingham, Bournemouth, Bristol, Hull, Hertford, Isle of Thanet, Reading, Lewes, Faversham, Rugby, Barnsley (all two days), and Chelmsford, Ayr, and Yeovil.
THURSDAY,	Nov. 14 } Chrysanthemum Shows at Edinburgh (three days), Winchester, Lincoln, Wimbledon, Barnet, Guildford, Fitchley (all two days), and Caterham and Cambridge.
FRIDAY,	Nov. 15 } Chrysanthemum Shows at Bolton, Sheffield, Bradford, Stockport, Hinckley, and Chorley (all two days).
SATURDAY,	Nov. 16 } Chrysanthemum Shows at Batley, Crewe, and Bacup.
SALES.	
MONDAY,	Nov. 11 } Dutch Bulbs at Protheroe & Morris' Rooms. Plants from Belgium, Roses, &c., at Protheroe & Morris' Rooms.
TUESDAY,	Nov. 12 } Dutch Bulbs at Protheroe & Morris' Rooms. Imported Orchids at Protheroe & Morris' Rooms.
WEDNESDAY,	Nov. 13 } Dutch Bulbs at Protheroe & Morris' Rooms.
THURSDAY,	Nov. 14 } Dutch Bulbs at Protheroe & Morris' Rooms. Plants from Belgium, Roses, &c., at Protheroe & Morris' Rooms.
FRIDAY,	Nov. 15 } Dutch Bulbs at Protheroe & Morris' Rooms. Orchids from Messrs. F. Sander & Co., at Protheroe & Morris' Rooms.
SATURDAY,	Nov. 16 } Dutch Bulbs at Protheroe & Morris' Rooms. Sale of the remaining portion of the Normandy Manor Estate, Guildford, at the White Lion Hotel, Guildford, by Protheroe & Morris.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—42°.6.

National Chrysanthemum Exhibition.

THE great exhibition of Chrysanthemums by the National Society, has passed, and the excitement necessarily attending competitive displays of this character is now transferred from the Metropolis to provincial towns, where it will surely be maintained in varying degree, until the remotest part north of the Tweed has enjoyed in its own degree of fulness the reign of the Autumn Queen. No such exhibition as we witnessed during the present week at the Royal Aquarium could have been made in a season unpropitious to the growth of the Chrysanthemum, and that 1895 has been a favourable year has been clearly proved.

The Japanese section, which undoubtedly continues to be the one most popular with growers and with the public, was magnificent. The best collection included a considerable number of novelties, proving that in regard to varieties, progress is still made in the development of larger and better flowers, for the greater part upon types which have existed for some time. A word of warning is needed by raisers and judges alike, that mere size of bloom, unaccompanied by refinement and a good habit of growth, should not be encouraged, though in this respect there would appear to be greater discrimination exercised than was the case some time ago.

Incurveds were as well grown years ago as we grow them now; but the quality of the flowers this year is, we think, decidedly better than it was last season, both in depth and finish. Apart from exhibitors, the general grower has lost his

enthusiasm for this section, which is probably because very much greater care and skill are required to bring the blooms to perfection than are necessary in the case of Japanese varieties. A badly-grown incurved flower is by no means handsome, but is much less so than a Japanese bloom with incurved petals. On the other hand, a perfect incurved flower is not devoid of attraction, and it is certainly worth encouragement as being a very distinct type of flower. A few new varieties are exhibited this season, but the additions are fewer in comparison with the other types. In this respect it is satisfactory that the National Society recognises the desirability of encouraging the cultivation of every form, and whether or not they are to be seen in general collections, the Pompon, the Anemone, Reflexed and Single-flowered varieties, may be always found at this exhibition in more or less, though generally satisfactory, degree of perfection. Such types are pretty, and at least afford some relief from the larger and more showy varieties. The single-flowered ones especially are very attractive, and growers would be wise did they give them a little more consideration than is their wont.

Trained Chrysanthemum plants have always a place at the Aquarium Show, and to many persons they form attractive exhibits as representing a great deal of careful and skilful work. A well-grown naturally-trained bush plant, not mercilessly, but moderately disbudded, is however, an equally pretty object.

The table decorations and various devices for exhibiting the decorative usefulness of the Chrysanthemum were deserving of great praise.

It is interesting during a series of years to observe how different growers come prominently to notice, and for a time hold the field with conspicuous success. At the show under notice, the leading class for Japanese and that for incurved flowers were easily taken by a young gardener who comparatively recently commenced to exhibit. The Societies' competition was won by the Southgate Chrysanthemum Society, and in this case also the whole of the forty-eight blooms were furnished by the same grower. The two leading classes at the Crystal Palace this year, and the same classes at the Aquarium last year, were spoils to the same exhibitor. In 1893, he took the leading class for incurved flowers at the National Society's show, but not that for Japanese. Blooms from the same collection will, we believe, be shown at Edinburgh, with what success remains to be seen.

Paris Notes.

Of all similar gardens known to us the Parc Monceaux at Paris easily takes first prize for town-squares. It has more than once been mentioned in these columns, but its grassy mounds, noble trees, and interesting flower beds, are always charming. The constituents of some of these groups may be enumerated. One consisted of a bed of Rhododendrons, with tall deciduous Magnolias interspersed. Another shrubbery consisted mainly of purple Hazel, kept topped, intermixed with Weeping Silver Birch, surrounded by a line of Scarlet Salvia (*S. elegans*), and bounded by a mixed edging of *Tagetes*, zonal *Pelargoniums*, *Ageratum*, *Verbena*, *Golden Feather*, and other plants of like character. Another very effective arrangement was composed of a centre of tall *Papyrus* (*Papyrus antiquorum*), surrounded by *Cyperus alternifolius* and *Panicum plicatum*, and with an edging of *Centaurea candidissima*, alternating with plants of pink *Iresine*. An adjoining bed was composed entirely of *Cannas*,

and the contrast between the two was delightful. The frost, however, had given notice that it was time to take up the *Cannas*, and the hint was taken in the last week of October both here and in the *Jardin des Plantes*.

Generally speaking, there does not appear to be much novelty in the way of garden decoration. The beds near the Louvre are much as they were in the days of *LOUIS PHILIPPE*; and the same fine "sub-tropicals" which were used in the days of the Empire, are still employed elsewhere, such as the fine *Solanums*, *Wigandias*, *Ferdinandias*, *Musa-Ensete*, *Phoenix*, &c. These are grand plants for the purpose, but we have got more or less accustomed to them, and it is time to look about for others. Our own gardens and parks are not so much, if at all behind now, unless it be in grouping and in the arrangement of colours, points in which the taste of the French is shown to a degree which we cannot or do not rival. Various *Bamboos* are coming into use, and very distinct and beautiful they are.

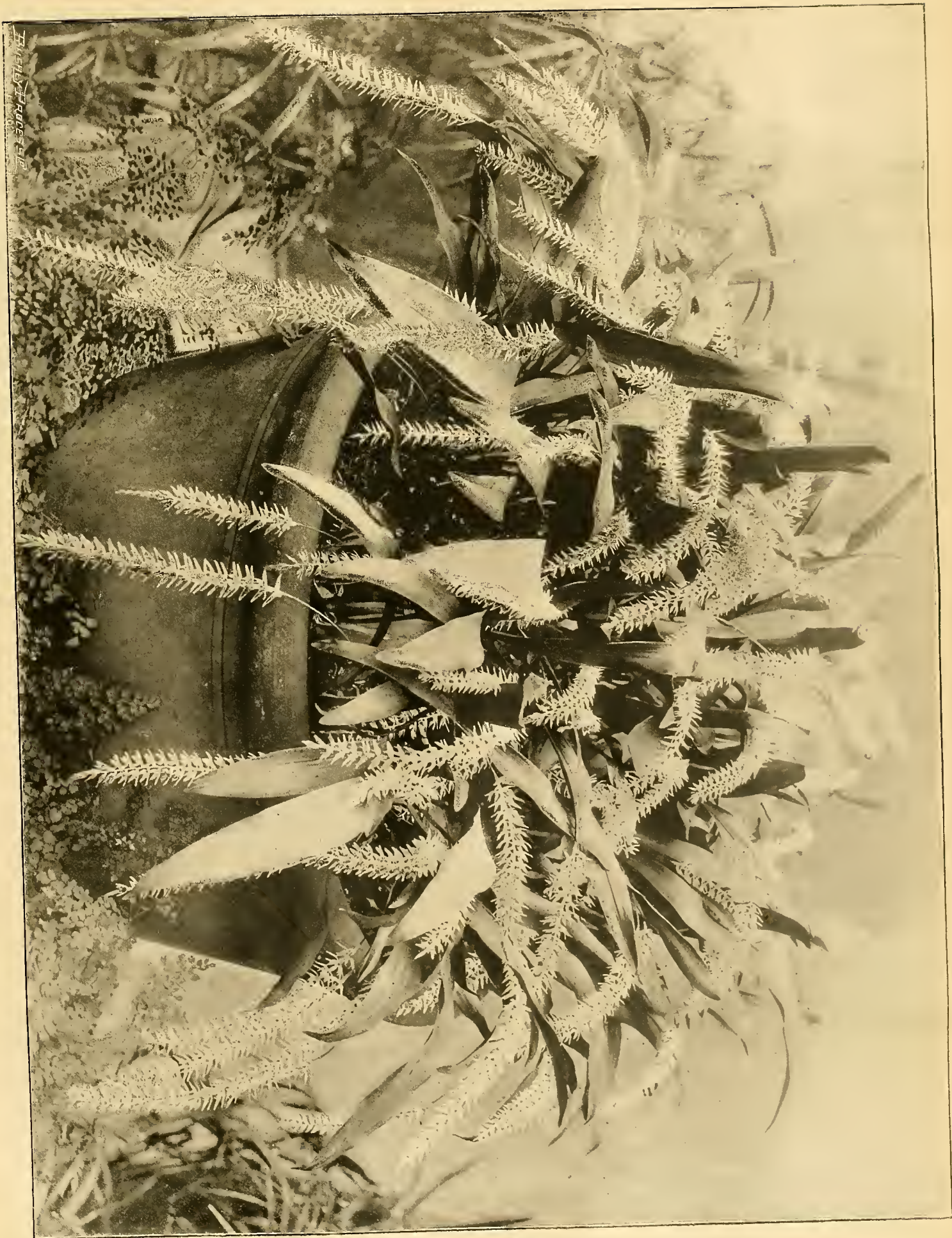
It is obviously possible to have too much of a good thing. "Ondulations" are everywhere advertised in Paris by the *coiffeurs* for the benefit of the ladies, and the landscape-gardeners also indulge to the full in this pleasing device. It is a question, however, whether it is not overdone, and whether in a small town-square or garden surrounded by stiff architectural lines, a style of landscape-gardening more appropriate to the *genius loci*, would not be preferable. Why, for instance, reproduce in the small garden of the *Elysées* the swelling mounds of the *Parc Monceaux*?

The Limes and especially the Horse-Chestnuts in the Paris streets present a remarkable and in many cases a miserable aspect. In consequence of the season they have made a second growth, and whilst in the case of the Horse-Chestnut, the drought of autumn seems to have scorched the young growth to tinder, the frost of the last few days has seriously hurt the fresh green of the Limes. What will be the result next spring it will be curious to see.

However excellent the Plane may be as a town tree, it has its defects. In the first place it is a forest-tree, and as such is out of place in a street avenue, where it speedily grows too big and has to be tortured into shape and cut into moderate dimensions. Then, as in the case of our own Thames Embankment, the planters planted them much too closely, or, which comes to the same thing, they omitted to thin them sufficiently early, and so many of the vaunted street avenues of Paris show rows of scare-crows or clothes-props. Round-headed trees of moderate height and medium dimensions are generally preferable for street planting, but they are not easily attainable, as the nurserymen do not keep them in stock. *Cratægus linearis* (if that be the right name?) and the ordinary round-headed false-*Acacias* are well adapted for the purpose. Pyramidal trees may also be employed with advantage. *Pawlonias* are much used in Paris, but would be hurt by spring frost in London. *Ailanthus* makes an excellent spreading tree by the Seine, and does not grow too large in these circumstances.

Here is a hint for our florists and market-dealers. Along the quays not only may well-grown plants be bought for a small price, but also small baskets (say, half a bushel) of good potting-soil can also be obtained. All who have to do with amateur gardeners, or who live in great cities, well know the difficulty there is in getting proper mould. The Parisians have solved the difficulty.

The meeting last month of the five Academies



PLATYCLINIS GLUMACEA IN SIR TREVOR LAWRENCE'S GARDEN, BURFORD, DORKING.

which conjointly form the Institute was a grand spectacle. The President of the Republic was surrounded by the ministers and ambassadors in full *tenue*, the Academicians wore their green-embroidered coats and cocked hats, the doctors and professors their gorgeous and variously-coloured robes. Horticulture was represented by M. LÉON SAY, the President of the National Horticultural Society of France. English science was adequately represented by the President of the Royal Society in doctor's robes, and by several other representative men. The whole scene greatly resembled an Oxford Commemoration, but with this very important difference, that whilst noise and rowdiness characterise the behaviour of too many of the undergraduates in our universities, the students gathered at the Sorbonne were quiet as mice in spite of the provocation afforded by an outrageously long address from M. JULES SIMON, which it would have been preferable to have taken as read, as when read it proved most interesting.

PLATYCLINIS (DENDROCHILUM) OLUMACEA.

—The subject of our Supplementary Illustration this week, *Platyclinis glumacea*, is sufficiently represented in collections in this country to be well known and highly appreciated. When properly cultivated, few species of Orchids can rival this species in grace, the plant being of a compact habit of growth, and carrying its pendulous crowded racemes of flowers well above the foliage. The subject of our illustration is from the collection of Sir TREVOR LAWRENCE, Bart., Barford, Dorking, and carried more than one hundred flower-spikes. The cultivation of the plant is comparatively easy, and it may be grown either in a basket or well-drained pot. In potting, a layer of sphagnum-moss should be placed on the crocks, and the plant raised well above the rim, using a compost consisting of equal parts of peat and sphagnum-moss. *Platyclinis glumacea* is at rest at this season, and should be accommodated in an intermediate-house; and when growth recommences it should be removed to the East Indian-house and placed near the roof-glass. The plant requires, when growing, to be liberally supplied with water at the root and overhead, and the undersides of the leaves occasionally syringed, to dislodge red-spider, with which it is very liable to be infested.

ROYAL HORTICULTURAL SOCIETY.—The next fruit and floral meeting of the Royal Horticultural Society will be held on Tuesday, November 12, in the Drill Hall, James Street, Victoria Street, Westminster; and at 3 P.M. a lecture will be given by Dr. MAXWELL T. MASTERS on "Substitutes for Larch." The committees will meet as usual at 12 o'clock.

A HISTORY OF ENGLISH GARDENING—The Hon. Miss ALICIA ANKERST's history of *Gardening in England*, 1 vol., 8vo, with sixty-five illustrations of old English gardens, will be published by Mr. QUARITCH towards the end of the present month.

NATIONAL AURICULA AND PRIMULA SOCIETY.—The annual general meeting of this Society was held in the rooms of the Horticultural Club, Hotel Windsor, on October 30. The expenditure for the year was £77 14s. 4d., against receipts from subscriptions, £68 13s. 6d. The deficiency of £9 10s. was taken from the reserve fund, which now stands at £11 8s. 6d. The exhibition will, with the permission of the Council of the Royal Horticultural Society, be held in the Drill Hall, James Street, Westminster, as heretofore. A full statement of accounts, and schedule of prizes, will shortly be published. *J. Douglas, Hon. Sec.*

NATIONAL CARNATION SOCIETY (SOUTHERN SECTION).—The annual general meeting of the Southern Section of the National Carnation and Picotee Society was held in the rooms of the Horticultural Club, Hotel Windsor, by the permission of the members, on October 30. Mr. MARTIN

ROWAN presided, in the unavoidable absence of MARTIN SMITH, Esq., President. The financial statement showed a balance in hand from last year of £159 13s. 7d.; subscriptions, £241 15s. 6d., inclusive of special prizes; entrance-fees, 7s. 6d.; total, £401 16s. 7d. The expenditure was £205 17s. 6d., leaving a balance in hand for the present year of £195 19s. 1d. Twenty-six members have been lost during the year by death and withdrawal. Against this fifty-eight new members are added. It was decided to hold the next exhibition at the Crystal Palace about the third week in July. Mr. JAS. DOUGLAS is the Hon. Sec.

THE MAGPIE MOTH.—This pretty but destructive moth (*Abraxas grossulariata*) forms the subject of a leaflet recently issued by the Board of Agriculture. The caterpillars of this moth occasionally cause serious injury to the Gooseberry and Currant crops. They are sometimes also destructive to Apricot trees, and are frequently found on the Sloe and Blackthorn. These caterpillars are often confounded by casual observers with those of the larvæ of the Gooseberry and Currant sawfly (*Nematus ribesii*), but they are essentially distinct. Copies of this leaflet are to be obtained, free of charge and post free, on application to the Secretary, Board of Agriculture, 4, Whitehall Place, London, S.W. Letters of application so addressed need not be stamped.

CHRYSANTHEMUMS AT RAVENSCOURT PARK, HAMMERSMITH.—Now that most of the parks under the control of the London County Council have suitable structures for their annual displays of Chrysanthemums, it would be a real boon to Hammersmith (the home of the late JOHN SALTER, who did so much for the flower), with its 105,000 inhabitants, to have something more worthy of such a progressive borough than the present antiquated little conservatory attached to the library, and which contains about 150 plants, of good sorts, but grown and flowered under difficulties by Mr. W. B. GINGELL, the superintendent.

CHRYSANTHEMUMS IN THE EAST OF LONDON.—Twice a year, in association with the summer exhibition at the end of June, and the Chrysanthemum show which is held in the early days of November, the committee of the People's Palace Horticultural Society offer prizes for the best-kept and stocked greenhouses. In each case, and especially so in the summer, a large number of entries is made; and in connection with the Chrysanthemum show, some twenty entries were sent in. Seeing that the range of the area of the competition extends southwards to New Cross, then along the north side of the River Thames through Stepney to Limehouse, Poplar, and on to Cabott Town, Canning Town, then to Stratford, Leyton, and Walthamstow, and then from Victoria Park to Whitechapel, it is obvious a considerable space has to be travelled over in making the awards, and a whole day is consumed in doing so. A large number—indeed, almost the whole of the greenhouses submitted for competition, are of home construction, small, more or less artistic in design, but in which some excellent plants are grown despite antagonistic surroundings. In order to place the competitors on a somewhat equal footing, it has been found necessary to make two distinct classes—the one confined to the more crowded neighbourhoods found in Mile End, Bow, Bardett Road, Stepney, Limehouse, Cabott Town, and such densely-populated neighbourhoods; the other class applying to the more open neighbourhoods, such as those abutting upon Victoria Park, at North Bow, Plaistow, Leyton, and Walthamstow. It would surprise a stranger to observe how generally the Chrysanthemum is grown under glass, in structures heated in a few instances by hot-water pipes or flues, and in many by oil stoves. Some of the cultivators leave home at an early hour for the City, and do not return till evening, having but little leisure to attend to their plants. Others follow avocations close at home, and can give attention during the middle of the day. The favourite plants of the Eastender, in addition to the

Chrysanthemum, are the Tomato, Fuchsia, Zonal Pelargonium, *Plumbago capensis*, tuberous-rooted Begonia, *Anthericum variegatum*, some excellent specimens of which are grown; Ricinus, Ficus, Aralia Sieboldi, Cacti, various Ferns, Coleus, &c., the choice being a very wide one. The People's Palace Horticultural Society, by means of its exhibitions and lectures, is giving an immense impetus to plant culture east of the City.

PEOPLE'S PARK, DEVONPORT.—This beautiful park, acquired a few years ago from the War Office authorities, is now the freehold of the Corporation of Devonport. The total cost was somewhere about £10,000. With characteristic public spirit, the Corporations of Plymouth, Stonehouse, and Devonport, have been liberal in laying-out their new possession, nor did they limit the carrying out of the work to local effort; for while the actual laying-out was executed by local labour, the plan was furnished by and the supervision of the work entrusted to Messrs. ROBERT VEITCH & SON, nurserymen, Exeter. The park opened on Monday, October 28, by the Mayor of Devonport, Mr. J. BRIGHT JAMES, in the presence of a large and influential assemblage of the citizens and borough officials. To commemorate the event a *Quercus Ilex* was planted by the Mayor, who, borrowing the language of another craft, declared the tree to be "well and truly planted." A public luncheon followed, at which Lord ST. LEVAN (the Lord of the Manor), General Sir RICHARD HARRISON, Dr. MAY, the Mayor, and other public officials were speakers. The park is a great improvement and attraction, and its excellent situation has been made the most of by the landscape gardener.

SUICIDE IN KEW GARDENS.—On Tuesday evening, November 5, at the Church Room, Richmond, Mr. A. BRANTON HICKS held an inquiry with reference to the death of Mrs. LUCY MAXWELL BROWNLOW, aged sixty years, lately residing at Exe View, Aliphington, near Exeter, who was found drowned in a pond in Kew Gardens, in front of the museum, on Sunday morning. Mrs. RICHARDS, the wife of a civil engineer, of 31, Gloucester Street, Warwick Square, S.W., stated that the latter was the widow of EDWARD MAXWELL BROWNLOW, of the old East India Company's Navy, and who had come up to London to consult a specialist, and by whose advice she went to stay with a friend at Kew Palace, in order to get away from the noise of London. Evidence was given that on Sunday morning she was missing from her room, and a search was made. The drawing-room window was open, and there were indications that deceased had leaped out, and climbed over a fence 5½ feet high, and thus got into the gardens. Her body was found lying in the water 9 feet from the bank. The jury returned a verdict of suicide while temporarily insane.

THE AGRICULTURAL DEPARTMENT IN ABERDEEN UNIVERSITY.—The first, and an important, step towards the constitution of the Agricultural Department in Aberdeen University was made on Monday, the 4th inst., by the appointment of Mr. JAMES WILSON, B.Sc., Lecturer in Agriculture, University College of Wales, Aberystwith, to the Fordyce Lectureship on Principles of Agriculture. The appointment is in form for a year only, as the funds at the command of the University authorities being in the nature of annual grants, it cannot be put on a permanent footing. With efficient teaching in the different branches of the subject, Aberdeen University should form an excellent centre of agricultural education. Under the new arrangement, the Fordyce Lectureship has been very considerably enlarged in its scope, and instead of £40, as formerly, the salary is now £500.

"GUIDE PRATIQUE DE L'AMATEUR DE FRUITS."—In this work of the nursery establishment of MM. SIMON LOUIS FRÈRES, of Metz, is given an account of the culture and a description of the different kinds of hardy fruits forming the pomological collection of the nursery belonging to the brothers SIMON-LOUIS, classed according to their merit. An alphabetical list accompanies each section, giving the synonyms

of the varieties in French, English, and German. The descriptive matter attached to each variety of fruit is sufficient for identification, and the number of varieties described is enormous. As an instance of the thoroughness with which the identification of synonymous varieties has been done, we find the Pear Fondante du Bois credited with 61, and Doyenné Blanc with 84 synonyms!

THE PROFESSORSHIP OF BOTANY AT CAMBRIDGE.—Professor MARSHALL WARD has been elected to supply the vacancy caused by the death of Professor BABINGTON. The University is to be congratulated on this appointment.

SCOTLAND.

NORTH OF SCOTLAND ROOT, FRUIT, AND VEGETABLE ASSOCIATION.

The annual show of this Association was held on Saturday, November 2, at Inverurie, and, so far as the number of entries is concerned, it proved fully up to the average of previous years; and the fact that over 600 entries were made, shows that there is no lack of vitality in the Society. This year the Association has started under new auspices, Mr. Alexander Greig, Paradise, Inverurie, having taken charge of affairs for the first time as secretary and treasurer. His arrangements on Saturday were quite satisfactory, working as they did with harmony and smoothness.

FRUIT.

Apples were a first-class show. Here Mr. T. Middleton, Monymusk; Mr. A. Middleton, Manser; Mr. C. Noonan, Inverey; and Mr. A. Campbell, Thainstone, gave a good account of themselves. The display of Pears was considered to be over an average, the Ribstone Pippin, King of Pippins, Cellini, and Lord Suffield varieties being especially good. In this section, Mr. Ogg, Fintray House; Mr. A. Gardiner, Kennay House; and Mr. T. Middleton, Monymusk, were the chief prize-winners. The collections of fruit were not so good, Grapes in most cases being indifferently shown. Mr. Ogg, Mr. T. Middleton, and Mr. Campbell, Thainstone, were the best exhibitors.

VEGETABLES.

The display in this section was uncommonly fine, and the following cultivators are well worthy of mention for the excellence of their exhibits, Messrs. J. Ogston, Bourtie; T. Middleton, A. Middleton, W. Alexander, Cluny; John Brodie, Bogentarie; James Grant, Rothienorman; John Paterson, Sannybrae; and W. Mathieson.

TRADE NOTICE.

NEW COMPANY AT BOSTON.

We learn from the *Sheffield Independent* that a new company is being formed under the name of Messrs. W. W. Johnson and Son, Limited, for the purpose of acquiring the business of Messrs. W. W. Johnson and Son, seed growers, and wholesale and retail seed merchants, Boston, Lincolnshire. The amount of the share capital is to be £25,000, divided into £10 shares; 1750 preference shares bearing interest at five per cent., and 750 ordinary shares.

SCOTTISH HORTICULTURAL ASSOCIATION.—

A meeting of the Scottish Horticultural Association was held on the evening of the 5th inst. at 5, St. Andrew Square, Mr. R. W. E. Murray, Blackford House, the President, in the chair. There was a good attendance of members. Mr. Robert Laird, the honorary secretary, read a communication by Mr. James Day, Galloway House, Garliestown, on the Pear. An interesting discussion followed the reading of the paper, for which Mr. Day was given a vote of thanks.

LINARIA VULGARIS, WITH DOUBLE FLOWERS.

LINARIA vulgaris is a common species in Britain, but a double form of the plant is extremely rare. A patch of the latter was discovered by Mr. Haddy, a resident of Tavistock, on September 12 of the present year, growing about 3 miles distant from that town. There were at that time upwards of one hundred flower-spikes, every one of which, the discoverer states, was similar in doubleness to the specimen (fig. 96). If this character becomes fixed on cultivation, and the plant comes true from seed, it will be a pretty addition to our border and rock plants.



FIG. 96.—*LINARIA VULGARIS*, DOUBLE-FLOWERED VARIETY.
 A, Spike, half nat. size.
 B, Bloom, X 2, showing central lobe of chief lip greatly extended and petal-like at tip, with a three-lobed upper lip—interior growths removed.
 C, Same, showing interior petals—these are two to three-lobed, hairy lips three or four in number—sometimes with an abortive stamen attached.
 D, Section, showing that the inner growths are petaloid stamens.
 E, Inner growth, X 4, showing hairy lip-like growths, and aborted stamens.
 F, A central hollow growth.

THE LADY MELON.

This illustration (fig. 97) is a representation of a new Melon named The Lady, which has been raised by Mr. Owen Thomas, The Royal Gardens, Windsor.

Mr. Thomas describes the fruit as of medium size, cream-coloured, with a slightly netted skin, with pale green flesh, tinted with red, which is very deep, and with an unusually small seed cavity. It is also a free setter and bearer, and Mr. Thomas considers it one of the best flavoured Melons.

Messrs. Dicksons, of Chester, have been fortunate in securing the entire stock of the seed, and purpose offering it for the approaching season.

HOME CORRESPONDENCE.

THE PACKING COMPETITION AT THE CRYSTAL PALACE SHOW.—The judges who are selected by the Royal Horticultural Society should have sufficient self-restraint to peruse adverse comments on their awards, some of which are beyond the mark, as for instance, those on p. 499 of the *Gardeners' Chronicle* for October 26. I should, as one of the judges at the Crystal Palace Show, be inclined to take no notice of those remarks, but as they are of a misleading character, I will, in justice to myself and colleagues, briefly reply. I will take the first complaint, viz., that gardeners are not considered to be capable judges of packing, but why not, and why should market-salesmen be preferred? Gardeners who have to pack a great deal of their produce are as capable as any salesman of packing well for travelling long distances. But here my critic is wrong, for gardeners were not the judges, but a gardener and a gentleman who may be termed one of the best authorities on the subject, as he not only offered a prize for packing, but sent examples of properly-packed fruit; indeed, his fruit, owing to the superior packing, obtains a better price in the market than that of other growers, and he grows largely for market. Another point is the distance the fruits are sent. I am not sure that Mr. Harris can mean this seriously, Devon and Cornwall being as far to send as Ledbury, but I do not think the distance is so important a point as my critic appears to do. Most of us who have to send fruit, know that it will travel 300 miles equally as well as 20; indeed, a short distance with several changes is worse than a longer with only one, or perhaps none at all. As regards the fruit here, I pack much of the choicer fruits, and they have to travel more than 300 miles, with three changes during transit, and therefore I know something of the subject. Now, as to the two boxes tied together, the judges at first were not sure if they did right in noticing the boxes at all; it may be convenient to tie several boxes together, but it is certainly not fair to fasten a heavy box to a light one; for instance, Grapes to Pears, or Apples to Peaches, for by that means the heavier box, to a certain extent, protects the lighter one. This matter was thrashed out a few years ago at the Chiswick competition; and each package should be separate. Mr. Harris would do well to look back at previous shows, and I certainly say that it is a fault, and we are not always to consider the market question entirely. The Royal Horticultural Society and others gave these prizes as special or open prizes, and my critic was 3rd in one class, and because he failed in the other, he rushes into print, condemning the judges, who have other than the question of packing for market to consider; and in a competition of this kind they must interpret the sense of the schedule. We could have disqualified some exhibitors by reason of their not stating the cost of grading, boxes, &c., and materials used, and being thus lenient, we are condemned. If we had not considered cost, Mr. McIndoe would have been an easy 1st, as his packing was splendid, but costly; whereas that of Mr. Harris was the reverse, as his fruits were tightly wedged in with moss, and, I should think, difficult to get at. Packing of this sort renders it difficult for salesmen to judge of the quality of the fruit without taking it out of the box, and this trouble, in a busy time, is not liked by the trade. Peaches packed in moss never have a nice appearance when the lid is taken off, and wood-wool or paper-shavings are preferable, as it allows of ready inspection. I should say that the best packing is that which is done readily, and with the least labour and cost. My colleague, who also judged with me last year, expected to find a distinct advance; but if any, it was but slight,

and I may inform Mr. Harris that the Peaches in the prize list, packed in moss, would have failed to receive an award had others complied with the schedule, as in one, a very good box, there was one bad fruit. We may have been wrong in our decision, but we think there is a much neater material for packing choice fruits than common moss. *One of the Judges.*

OUR BEST AND THE MOST POPULAR VARIETIES OF APPLES.—One of the most pleasing features of the recent great fruit show of the Royal Horticultural Society at the Crystal Palace was the extreme popularity of our two best dessert Apples. The only two that exceeded a hundred dishes were Cox's Orange Pippin and the Ribston Pippin. The former was represented by 122 dishes, the latter by 111. The fact speaks volumes for the appreciation of these two excellent varieties, and also for the solid advance of Apple culture within the last quarter of a century, and especially in the latter portion of it. King of the Pippins, too, fights stoutly for a supremacy that it seems to have attained at one time, and staged ninety-eight

Golden Reinette among the single dishes. Can it be that the Ribston Pippin to-day is valued at 122 to 1 as against either of these three golden Apples? *D. T. F.*

FRUITING OF MUSA CAVENDISHII.—I have been repeatedly told that this could only be accomplished by planting out; but this is evidently an error, as we have successfully grown and finished a 7 lb. bunch from a pot plant. The "fingers" weighed six to the pound, and the bunch was cut as soon as the leaves began to turn yellow, the fruit ripening about a week after it was cut. The fingers were short, plump, and perfect in flavour, and the whole matter was so simple and successful, that the statement as to the prime necessity of planting-out is evidently a mistake. Beds in tropical houses are such an unmanageable harbour for vermin, that we have done away with them entirely, and it is evident that they are not a necessity. The fresh crop of Cocoa-nuts is now in, and those who are interested in curiosities will be pleased with the result if they obtain one with the outer husk on, place it on its side, half buried in a large pot filled with Cocoa-fibre or sand.

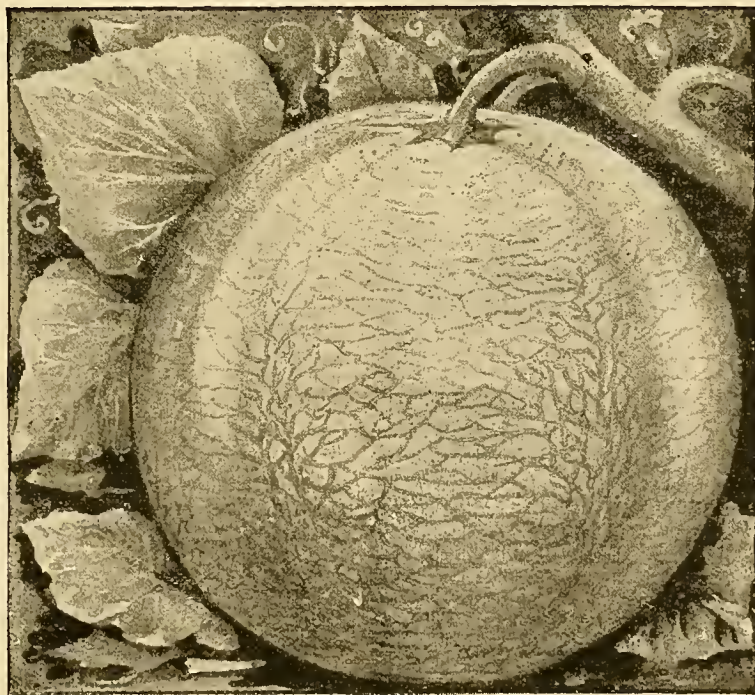


FIG. 97.—THE LADY MELON. (SEE P. 554.)

dishes. From this stage, size rather than sterling quality led through several varieties, thus strongly asserting its force and power. Fortunately, however, it did not assert its footing until the fourth place was reached, and then that wonderful Apple whose origin and progress read like a popular romance, leaped up to an entry of seventy-nine dishes. This has proved a record year for this fine Apple, which by not a few is highly prized for eating as well as for cooking. The number of dishes rapidly fell from the seventies to thirties, through such sorts as Warner's King, Cox's Pomona, Lord Suffield, Emperor Alexander, 50; Worcester Pearmain, Prince Albert, Bismarck, Blenheim Orange, 32; Wellington, 29. From the thirties we speedily sank to the tens, through such popular sorts as Tower of Glamis, Alfriston, Margil, Lord Grosvenor, Queen Caroline, Gloria Mundi, Annie Elizabeth, Duchess of Oldenburgh, &c. Out of the 200 varieties of Apples shown in the 2000 dishes, forty-five varieties were shown in quantities ranging from ten dishes to over a hundred dishes of one sort; and, as we have already shown, and repeat with peculiar pleasure and emphasis, Cox's Orange Pippin, the Ribston Pippin, and King of the Pippins, headed the list. Over ninety Apples were also represented by single dishes; and it will startle not a few growers to find Golden Pippin, Golden Russet, and

If placed in a warm-house in any corner, or under the stage, it will start growing in about five or six months; when about 2 feet high, it makes an exceedingly handsome and curious decoration for an entrance-hall during the summer months. *Thos. Fletcher, Grappenhall, Cheshire.* [Our correspondent's bunch was a very small one, and did not weigh so much as the tip of a bunch of a planted-out *Musa*, which gardeners usually cut off because it seldom affords fruit of creditable size. *Ed.*]

MORELLO CHERRY-TREES AT SCONE PALACE GARDENS, PERTHSHIRE.—With reference to the above, Mr. Ward and Mr. Fish will, I am sure, regret to hear that the splendidly-trained trees which for many years adorned the north wall of the south kitchen garden here, and which they and so many other old Scone men look back upon with so much pride and pleasure, died some years ago. When I took charge of the gardens fifteen years ago, there was only one remaining, and, as it was in a very sickly condition, it was taken out and a young tree put in its place. The wall at present is furnished with clean healthy trees which bear abundant crops of excellent fruit every year. With one or two exceptions, they were all planted before I came here; how long before I am unable to find out, but they at present appear to be about twenty-five years old,

and as already stated, are in excellent health. This year the crop was exceptionally heavy, and the quality of the fruit above the average. As stated by Mr. Fish, the aspect is almost due north, the divergence being towards the east. The whole wall was originally 15 feet in height, but 3 feet was added to the western half when the large curvilinear orchard-house referred to by Mr. Ward was built about thirty years ago. The garden occupies a low-lying situation, the southern portion having a decided slope towards the north. The soil is a heavy retentive loam, from 18 inches to 2 feet deep, resting on a bed of stiff yellow clay of unknown depth. In this soil and situation fruit trees and bushes are late in coming into blossom in spring, which, in our somewhat changeable climate, is, in my opinion, rather an advantage. The drainage, which is very imperfect, consists of old-fashioned stone or rubble drains, about 2½ to 3 feet deep, and placed at wide intervals. The border in front of the wall is 12 feet in width, and was planted with Lilies of the Valley about twenty years ago, and has never been renewed since. They cover the surface of the ground with a dense mass of foliage every summer, and, like the Morellos, thrive admirably, and bear a heavy crop of fine strong blooms annually. With the exception of careful pruning and training in the usual way every winter, the Morellos are left pretty much to take care of themselves. No manure of any kind is applied at any time, unless it be an occasional watering with liquid from the farm-yard during the summer months; but this is given more for the sake of the Lilies than for the Cherries. We have never examined the borders to see where the roots are, but I have no doubt they have penetrated the stiff clayey subsoil long ago, and judging from their healthy appearance and the fine crop they produce annually, they seem to like it. We therefore let well alone. *A. McKinnon.*

A BOYCOTTED INDUSTRY.—When, some score of years since, the late Dr. Bull and his compatriots adventured into the north of France from Hereford, taking with them the finest specimens of Apples and Pears, and the cyder and perry produced from English orchards, they left behind them a grand industry, and showed our French friends how very far we have advanced in both directions—the growing of the fruit and the manufacture of as good a pair of beverages as it is possible to bring together for the benefit of either tired or thirsty souls, and yet, almost ever since that time, not the demand or the liking for, but the sale of both cyder and perry has been declining—and even now scarcely is the legend "Cyder on draught here" to be found pasted on the windows of London, or other, public-houses or restaurants. Instead thereof, but in quite separate establishments, one can get questionable tea, coffee, and cocoa, &c., and most unquestionable mineral waters—about which there is no doubt whatever, as being well suited for "scouring and dying," this latter, an industry not at all contemplated by the caterers for refreshments. And so it has come to pass nowadays that the humble and thirsty wayfarer must either go thirsty on his way, or assist in swelling the "bills of mortality" all unwittingly. And why is this? why should the good old English beverages of cyder and perry be unobtainable in the land our Bung rules? The great mass of our old hosteleries—the modern public-houses are in the hands of brewers and distillers—are, as it is said, "tied-houses"—and they will have no rivals at the bar. Only what they make and supply is allowed to be sold; and so cyder and perry are boycotted. In years past the Legislature has been doing what it can to make things smooth for "the trade," and in their gratitude they shut out all attempts at competition. It is not for us to point the way to a remedy—that lies without our province; we can only say that it is worse than "hard" that so promising a field for well-doing by occupiers of the land should be spoiled, ruined for the sake of such a questionable substitute. *E. C.*

VIOLET PERFUME.—In a *Tour Round my Garden*, by Alphonse Karr, translated by Rev. J. G. Wood, the reader is told that "the Violet alone refuses to separate its odour from itself; it is to be met with nowhere but in its own corolla. Perfumers are obliged to make, with the root of the Florentine Iris, a certain false and acrid Violet odour, of which every returning spring compels us to acknowledge the insufficiency." I would like to know if this is still the case, or if the difficulty has been overcome? *William Cuthbertson, Rothsay.*

RIPE STRAWBERRIES.—Some two or three weeks ago, I noticed in the pages of the *Gardeners' Chronicle* that a correspondent had been gathering ripe Strawberries from outdoor plants, which is certainly of extremely rare occurrence in the month of October. We have at the present time a magnificent crop of ripe fruits on two of our Strawberry beds, and hope to continue picking for at least another week, should the weather keep mild. *Geo. Burrows, Berwick Gardens, Shrewsbury, October 21.*

CHOU DE BURGHEY.—Your correspondent, W. Jones (on p. 463), draws attention to this conical-shaped Cabbage. I have grown the vegetable for some years, but more because it is a good autumn Cabbage than for obtaining—what shall I say, a Cauliflower-Cabbage. I have never detected the slightest tendency to form a Cauliflower, though I have sown and grown it at all seasons. It is very hardy, and makes a good dish all through the early winter. The second week in June is a very favourable time to sow the seed. A short time ago, when visiting the seed grounds of one of our largest seed-growers, I was informed that this vegetable was by no means a popular Brassica. I grow it largely because it is liked here, and is ready to cut at a favourable time for making a change. One cannot have too many kinds of vegetables wherewith to make variety. *W. A. Cook, Compton Bassett, Calne.*

LATE RASPBERRIES.—I have never known autumn Raspberries so plentiful as they have been this year. We have been gathering daily for some time, and even after 5° of frost. This fruit is not only obtained from the so-called autumn varieties, but from summer fruiters as well, notably Carter's Prolific, and the fruits are of large size, and excellent flavour. It is uncertain whether or not this will affect the crop next season. Of course, the forward buds which the tropical weather during the month of September developed, will have already exhausted themselves, but I find the fruit is from the very uppermost buds, which in our case, would have been pruned away. The effect will be awaited with a certain measure of anxiety. *W. A. Cook.*

SHARPE'S VICTOR AND VALE OF CLEVELAND POTATOS.—I was much interested in "R. D.'s" informing note on this matter on p. 464, as during my courses of lectures in Camba, I strongly recommended Victor as the earliest and best early, for small gardens especially. I read "R. D.'s" letter with special attention on this account, to see if this Vale of Cleveland was the yellow-fleshed Victor. Finding this to be the case, the mystery of the two being distributed under different names becomes the greater. But both seedsmen being honourable men, the matter will doubtless be satisfactorily explained. My chief object in noticing this interesting incident is to caution all concerned against growing the white-fleshed Victor, which in every case I have met with, is decidedly inferior, alike in quality and quantity, to the yellow-fleshed Victor. New varieties of Potatos are often given to sport, and run away rather widely from their original size, colour, constitution, and quality. Messrs. Sharpe and Short, or the representative of the latter, will probably be able to say whether the white or yellow-fleshed Victor was the original kind. Messrs. "R. D." and "A. D." must in the rich experience of their Potatolore have met with numerous sports more striking than the change of the yellow Victor into the white, or *vice versa*. *D. T. Fish.*

COLOUR IN APPLES.—At a recent meeting of the Fruit Committee, as duly reported at the time, Mr. Miles, of Southampton, sent a good-sized and richly-coloured Apple, which he described as a Blenheim Pippin, the remarkably high colour shown being produced by frequent applications of sulphate of iron and soot to the roots of the tree during the past few years. Naturally, this statement was received with some incredulity. To me the Apple represented a moderate-sized, roundish *Mère de Mésage*, and on comparing it later with others of that name, I could discern no difference. Can the sender have been, after all, the victim of a mistake, or has he really discovered a method whereby generally green Apples can be made as red as *Quarrendens*? Perhaps Mr. Molyneux, who is often at Southampton, may be able to solve the problem. *D.*

GRAPE CLASSES AT THE CRYSTAL PALACE.—As a grower of Grapes and a gardener by profession, I would like to know the reason why Gros Maroc and Gros Colmar are bracketed in Royal Horticultural autumn show schedules, as in their habit of growth, time in finishing, and character of the finish,

the two varieties differ very widely. As to flavour, how can that be compared in two Grapes so widely apart in the time they require to finish their bunches perfectly? I can always have Gros Maroc finished and fit for eating six weeks before Gros Colmar, all other points being equal. To my idea, if we must bracket Grapes, Alicante would go much better with Maroc, as they take in ripening and colouring about an equal amount of time, while flavour is not so very wide apart. Cultivators of Gros Colmar are greatly handicapped by the present schedule arrangement. *Robt. Grindrod.*

A DRILL HALL SHOW.—Any person not familiar with an ordinary Drill Hall gathering would naturally assume, on reading the reports so admirably furnished in the press, that these shows must be of a very extensive nature. But if they be not so extensive, they well repay visits by the exceeding variety found in them of most interesting objects. I overheard a remark on the 15th that the show was a small one. I could but think that the observation was singularly misplaced. For an October show, collected without a single penny as remuneration being offered, I thought it a remarkable one, and essentially representative. How many objects of the greatest interest Fellows, as well as the general public, lose who do not attend the Drill Hall meetings! One year's regular attendance constitutes a liberal education in horticulture. Pity it is, that being so attractive, they are as a rule not more popular. *Fellow.*

DIPLOSI PYRIVORA.—Can any of your entomological readers who have studied the above pest render any useful information relative to the prevention of one's Pear trees from being attacked by this insidious and destructive little midge, *Cecidomya sub-genus Diplosia*? Our blossoms seem to be worse attacked by them year by year, and that, too, notwithstanding the precautions taken, viz., last autumn we removed all the loose surface soil to a depth of about 2 inches from around the garden Pear trees, wheeling it right away and replacing with maiden loam, &c.; but the attack was just as bad as ever the following spring. We then used fresh hot gas-lime all round about and underneath the trees, just about the time the first chrysalids began to fall; moreover, we collected all the fallen tiny Pears, and burnt them. I should like to know what more can be done to annihilate the enemy, or whether I may expect to be again tormented by fresh attacks from *Diplosia*, bred on my neighbour's premises, because if so, Pear cultivation, if the plague be not stayed, must soon be reduced to a low ebb, owing to the repeated destruction of the crop. From five to twelve is about the average number of larvæ found in each little Pear, but I have counted as many as sixty in one fruit; and sometimes only one of the larvæ is found in a fruit, but this is sufficient to destroy that fruit. In some cases, every blossom on an entire tree is infested, and the consequent failure of crop. Any scrap of practicable information will be gratefully received by fruit growers and *W. Crump*. [Have you tried spraying the blossom? *Ed.*

TOMATOS.—For some years it has been my practice to make a sowing of Tomato seed about this date for early fruiting in the vinery that is started about New Year's Day. These plants set plenty of fruits before the shade from the Vines becomes heavy. Most gardeners have their favourite varieties for early cropping, and I find Ham Green Favourite excellent for fruiting under Vines. The seed is sown in well-drained pots in rather sandy soil, sandier than that I make use of in the spring, the seedlings being apt to damp off at this season. The seedlings are grown on without check, and with but little water, especially until the pots fill with roots. A place on a shelf near the glass in the plant-stove or other house having a temperature of 55° to 60° will suit them. The plants should not be allowed to grow without support being given the stems, and they must not be over-potted. It is surprising what fine strong plants may be grown in 32's up to the time of affording them their last shift in the spring. *H. Markham, Mereworth.*

CRAB TREES—I am glad to see in your columns that various writers are extolling the beauties of the Crabs. Crabs in the garden look very well when planted on opposite sides of a path, and the stems trained over it, so as to form a covered arched way. When the trees so planted come into bearing, and thousands of fruits hang down from them, the sight once seen is never forgotten. *J. Macers, Marazion.*

SOCIETIES.

NATIONAL CHRYSANTHEMUM.



CHRYSANTHEMUMS at the Aquarium on November 5, 6, and 7, exhibited under the auspices of the National Chrysanthemum Society, were well up to the average in quantity and in quality. It is doubtful if finer Japanese blooms have ever been staged than the best of those exhibited this week in the principal class for blooms of this section. Incurred blooms were also commendable, being in our opinion of better quality depth and finish than those shown last season. Other sections such as reflexed, Pompon, Anemone, and single-flowered, were exhibited well in the few classes devoted to them. Plants were about average in quality, certainly not better than those exhibited on the last occasion of the annual show. On the 1st day of the exhibition, the usual dark character of the building was accentuated by gloomy wet weather, but fortunately on Wednesday circumstances were much more favourable. Reporters for the press always labour under unusual difficulties when reporting a show held in the Aquarium, and the arrangements this year were very far from satisfactory. No doubt much of this inconvenience is unavoidable in such a building, but we state the case, as being our apology for any inaccuracies or omissions that may appear in our report.

CUT BLOOMS.

A SOCIETY'S CLASS.

The battle of the Horticultural Societies for honours in the class for forty-eight blooms, distinct, Japanese and incurred varieties in equal number, was engaged in by five competitors, and the 1st prize of £10 and the Challenge Trophy was won by the SOUTHGATE AND DISTRICT CHRYSANTHEMUM SOCIETY, but the whole of the blooms were furnished by one of its members, viz., Mr. W. H. Lees, gr. to E. A. BEVAN, Esq., Trent Park, Barnet. As this competent exhibitor entered in other large classes under his own name, the unaided efforts he made on behalf of the society were very great. Of the Japanese blooms in this stand we may notice Madame Carnot, Van der Heede, Ed. Molyneux, Thos. Wilkins, Mrs. W. H. Lees, Vivian Morel, Louise, Chas. Davis (capital colour), Sunflower, Era Knowles, Mutual Friend, Col. W. B. Smith, Miss Rita Schroeter, and *Madlle. Théa Bay*, all of which were of excellent character. The Incurred, generally good, included excellent blooms of Empress and Golden Empress of India, Lord Alcester, J. Agate, C. H. Curtis, Queen of England, Jeanne d'Arc, Lady Harding, and Mrs. Heale. The BROMLEY AND DISTRICT CHRYSANTHEMUM SOCIETY were successful in taking 2nd place, and their exhibit was very praiseworthy. Included was the best coloured bloom of Hairy Wooder we remember to have seen. 3rd BRIGHTON AND SUSSEX HORTICULTURAL SOCIETY.

OPEN CLASSES.

Incurred Blooms.—There were but two exhibits in the class for thirty-two blooms, incurred, distinct, and the 1st prize, viz., Challenge Cup and £10, was taken by Mr. W. H. LEES, who again had first-class blooms. The varieties were—*Back row:* J. Agate, Globe d'Or, Mans, B. Bhanant, Empress of India, Prince Alfred, C. Curtis, Lord Wolseley, Queen of England, Baron Hirsch, Miss Haggas, W. Tunnington, J. Lambert. *Middle row:* Lady Harding, Princess of Wales, J. Doughty, Golden Empress, Jno. Salter, Empress Eugénie, Violet Tomlin, Mrs. Heale, Alfred Salter, Lord Alcester, Robert Pettiford, Lord Rosbery. *Front row:* Madame F. Mistral, Jardin des Plantes, Nil D'esperance, Mrs. Coleman, Princess Beatrice, Madame Darier, Chas. Gibson, M. P. Martignac, Lucy Keadal, Hero of Stoke Newington, Befulgence, and Jeanne d'Arc. Though the only other exhibitor, the 2nd prize was well deserved by Mr. W. MEASE, gr. to A. TATE, Esq., Downside, Leatherhead; his stand, however, would have appeared brighter had more light-coloured varieties been included. Globe d'Or, Lord Alcester, Alfred Salter, Empress of India, Princess of Wales, Alfred Lynes, and Jeanne d'Arc, were most noticeable.

The best twenty-four incurred blooms distinct, were from Mr. B. CALVERT, gr. to Col. ARCHER HOUBLON, Hallingbury Place, Bishop's Stortford. The flowers were not very heavy, but were compact and pretty. The heaviest were J. O. Doughty, Jno. Lambert, and Lord Wolseley. There were also pretty blooms of Alfred Salter, Lady Harding, Jeanne d'Arc, Lord Alcester, and Jardin des Plantes. Mr. T. ROBINSON, gr. to W. LAWRENCE, Esq., Elmsfield House, Hollingbourne, was 2nd. His flowers were smaller. The best were Miss M. A. Haggas, and Mrs. S. Coleman. 3rd, Mr. W. E. TIDY, Brockhampton Nurseries, Havant; and 4th, Mr. H. A. PAGE, gr. to F. CRISP, Esq., White House, New Southgate.

Mr. J. H. WALKER, gr. to the Exors. of the late J. MASHALL, Esq., Goldbeaters, Mill Hill, N.W., staged the best twelve blooms, and the exhibit was a commendable one. The varieties were J. Agate, Baron Hirsch, Lord Alcester (very fine), Jno. Lambert, Golden Empress, Jno. Doughty, Jeanne d'Arc, Alfred Lyne, Madame Darier, Brookleigh Gem, Empress of India, and Novelty. 2nd, Mr. R. RIDGE, gr. to C. SWINLEN

EADY, Esq., Otlands Lodge, Weybridge. His best blooms were Princess of Teck and Jeanne d'Arc. Mr. R. JONES, gr. to C. G. SMITH RYLAND, Esq., Barford Hill, Warwick, was 3rd; his blooms were wide but not deep. 4th, Mr. A. JONES, gr. to Miss WYBURN, Hadley Manor, Barnet.

The best incurred blooms of one variety were exhibited by Mr. J. H. WALKER, who selected Jeanne d'Arc, which he showed very well. 2nd, Mr. B. CALVERT, who had Alfred Salter in very good form; and 3rd, Mr. H. A. PAGE, who chose Madame Darier as his variety. There was considerable competition.

Japanese Blooms.—The opinion was generally felt that the Japanese blooms were of better quality than the incurred, although the latter were better than last year. The leading class was unusually strong, and apart from the 1st prize exhibit, the collections caused considerable difficulty to the judges. Mr. W. H. LEES, gr. to F. A. BEVAN, Esq., Trent Park, Barnet, was an easy 1st for the Challenge Cup and £10, and his blooms were fine without exception. The varieties were:—*Front row*: Mrs. W. H. LEES, Reine d'Angleterre, Phœbus, Miss Dorothy Shea, International, Chas. Davis, Mons. Panckoucke, Van der Heede, Madame Ad. Moulin, Ed. Molyneux, Viviani Morel, W. G. Newett, Chas. Shrimpton, Thos. Wilkins, Mrs. C. H. Payne, and Madame Carnot. *Middle row*: Wm. Seaward, Louise, Madame M. Ricard, Mephisto, Wm. Tricker, Mons. G. Biron, H. L. Sunderbrück, G. C. Schwab, Madame Ad. Chatin, M. Ad. Grand, Mutual Friend, Beauty of Castlewood, Viscountess Hambleton, Rich. Deau, Rose Wynne, Deuil de Jules Ferry. *Front row*: Colonel Smith, President Borel, Guirlande, Eva Knowles, Madame A. de Galbert, Mrs. Falconer Jameson, Sunflower, Jno. Shrimpton, Miss Rita Schroster, Mons. Chas. Mollie, Souvenir d'unpetite amie, Hairy Wonder, G. W. Childs, Puritan, Henri Jacotot Fils, and Mlle. Thérèse Rey.

The judges had difficulty in awarding 2nd and 3rd places. Eventually, Mr. W. M. MEASE was awarded 2nd prize; and Mr. W. WELLS, Earlswood Nurseries, Redhill, 3rd.

In the former exhibit, blooms of Miss Dorothy Shea, Silver King, Viviani Morel, Robert Owen, and Mlle. Marie Hoste, were especially fine.

The best collection of twenty-four blooms, distinct, was shown by Mr. W. MESSENGER, gr. to H. A. BERNERS, Esq., Woolverstone Park, near Ipswich. He had an excellent lot of blooms, of which the following were the best, Mrs. C. Harman Payne, Étoile de Lyon, Waham, Mlle. Thérèse Rey, M. Panckoucke, Madame Carnot, M. Grayer, Mrs. G. J. Beer, and Miss D. Shea (a Silver Cup, given by Mr. Jones), accompanied the 1st prize. The 2nd place was given to Mr. G. W. DRAKE, Cathays Nurseries, Cathays Terrace, Cardiff, colour and freshness were remarkable in these moderately-sized but fairly deep blooms. The following were the best, Mrs. H. Payne, Lord Brooke, Madame Carnot, Dorothy Shea, Madame Zurich, Viviani Morel, and Ed. Molyneux, 3rd, Mr. W. M. ALLAN, Gunton Park Gardens, Norwich; and 3rd, W. HERBERT FOWLER, Esq., Claremont, Taunton (gr., Mr. C. Hart). There was some dissatisfaction expressed with the result of the judging in this class.

The best collection of twelve blooms, distinct, was shown by Mr. J. AGATE, Chrysanthemum Nurseries, Havant, and of commendable merit they were, the weakest bloom being Miss Ethel Addison, which showed the centre somewhat. 2nd, Mr. H. A. PAGE, gr. to F. CRISP, Esq., White House, New Southgate, N., whose exhibit very nearly approached the 1st one. 3rd, Mr. J. SANDFORD, gr. to G. W. WRIGHT-INGLE, Esq., North Finchley. 4th, Mr. H. LEVEY, gr. to M. LOW, Esq., Warwick.

Six blooms of any white Japanese variety were best from Mr. R. JONES, who showed Mlle. Thérèse Rey in good character. Mlle. Marie Hoste, shown by Mr. J. SANDFORD, gr. to G. W. WRIGHT-INGLE, Esq., Wood House, North Finchley, was a good stand for 2nd place; and Mr. B. CALVERT, again showing Mlle. T. Ray, was 3rd; 4th, Mr. T. LODGE, gr. to Rev. J. MENET, Hockerill, Bishop's Stortford.

Mr. R. C. NOTCUT, Broughton Road Nurseries, Ipswich, had the best six blooms of any variety other than white, exhibiting a new one called Edith Tabor, a broad-petalled, pale yellow variety, of fine merit; 2nd, Mr. B. CALVERT, who had Col. Smith, very good; 3rd, Mr. J. SANDFORD, with Viviani Morel; and 4th, Mr. C. COX, gr. to Jno. TROTTER, Esq., Brickendon Grange, Hertford.

The leading place in the class for six Japanese blooms, incurred, distinct, was taken by Mr. R. JONES, gr. to C. A. SMITH-RYLAND, Esq., Barford Hill, Warwick; his varieties were Miss Ethel Addison, Col. W. B. Smith, Louise, Ricard, Lord Brooke, and Préfet Roberts; 2nd, Mr. T. CARTER, gr. to A. G. MEISSNER, Esq., Weybridge, who was a very close 2nd.

Hairy-petalled varieties.—The best six Japanese blooms, hairy-petalled varieties, were shown by Mr. W. WELLS, Earlswood Nurseries, Redhill, Surrey. His varieties were—Louis Behmer, White Plum, Lady of the Lake, Hairy Wonder (very wide, but thin bloom), Mrs. Higginbotham, and Mrs. W. J. Godfrey, a pretty white variety; Mr. H. LOVE was 2nd. King of the Hirsutes, a yellow one in this stand, is a good variety.

Reflexed Blooms, large-flowered.—Twelve large-flowered reflexed blooms, in five varieties, were shown by Mr. R. C. NOTCUT, Broughton Road Nursery, Ipswich. But few additions are made in this section. The varieties staged were Pink Christine, Golden Christine, Peach Christine, Dr. Sharpe, Cloth of Gold, King of Crimson, Phidias, White Christine, and Cullingfordi. 2nd, Mr. J. H. WALKER who included blooms of King of the Crimson, R. Smith, and Chevalier Damage; 3rd, Mr. C. BROWN, gr. to R. HENRY, Esq., Langley House, Abbots Bromley.

Anemone blooms, large-flowered.—The class for twenty-four blooms, Japanese Anemones included, was won by Mr. W.

Skeggs, gr. to A. MOSELEY, Esq., West Lodge, Barnet. There was considerable competition in this class, and the 1st prize exhibit was very fine indeed. The varieties were, Duchess of Westminster, Fleur de Marie, Thermidor, Mrs. J. Benedict, Nekon, Grande Alveole, Fabian de Mediana, Gladys Spaulding, Cincinnati (very pretty), Jno. Bunyan, Le Deuil, Acquisition, Mons. Ch. Lebasqz, Mrs. Leven, Enterprise, Descartes (splendid), Jeanne Marty, Queen Elizabeth, Madame Lawson, M. Dupanloup, Delaware, W. W. Astor, Mlle. Natalie Brun (very attractive lilac and rose coloured variety), and Sir Walter Raleigh. Mr. A. IVES, gr. to E. C. JUKES, Esq., Hadley Lodge, High Barnet, was a good 2nd; and we noticed in his stand very good blooms of M. Dupanloup, Sabine, and others. 3rd, Mr. J. MILNER, gr. to Mrs. W. A. HIGGS, Willenhall Park, Barnet.

Mr. W. SKEGGS was the winner also of the 1st prize for twelve large-flowered Anemones, excluding Japanese, and again showed well, but his collection was lacking coloured varieties; Mr. A. IVES was 2nd, and the 3rd place was taken by Mr. Jas. Maule, gr. to H. T. MATTHEWS, Esq., The Mount, Hadley.

Anemone Japanese.—The class for twelve blooms, distinct, gave another 1st prize to Mr. SKEGGS, and his blooms were very large, and most of them good in other respects. His selection was the following:—Le Deuil, Jno. Bunyan, Nelson, Enterprise, Queen Elizabeth, Descartes, Jeanne Marty, Sir Walter Raleigh, Madame Lawson, W. W. Astor (with poor centre), Mlle. Cabrol, and M. Dupanloup. The 2nd place in this competition was taken by Mr. J. JUSTICE, gr. to Sir R. TEMPLE, Bart., The Nash, Kempsey, Worcester. He had a decidedly commendable collection, and was followed by Mr. J. MILNER.

Anemone Pompons.—Twelve Anemone Pompons, distinct, three flowers of each variety in bunches. Mr. C. BROWN staged a very pretty collection in this class, and had 1st prize. His varieties were Francis Boyce (rather too large in comparison with the others), Madame Leutier, Antonius, Madame Montels, Magenta King, Madame Chalonge, Miss Nightingale, Mr. Astie, Regina, Emily Rowbottom, Queen of Anemones, and Bessie Plight; 2nd, Mr. J. MYERS, gr. to the Earl of SANDWICH, Hinchingsbroke, Huntingdon. There were only two exhibits in this class, and both were of good quality.

Pompons.—Mr. C. BROWN was the winner in the class for twelve Pompons, distinct, three flowers of each variety in bunches; his exhibit was decidedly praiseworthy, the blooms being even and good; Mlle. Elise Dordan is still the prettiest flower in this section, but W. Westlake, Black Douglas, Harry Hicks, Mrs. Bateman, and Chas. Dickens, are also capital diverse varieties. 2nd, Mr. B. CARYER, whose collection was but little behind the other one in quality; 3rd, Mr. J. MYERS.

Single-flowered Varieties.—The show of single-flowered varieties was very attractive indeed. The winner of the 1st prize in the class for twelve varieties in bunches or sprays was Mr. J. MYERS, and the whole of the flowers were so good that we append their names:—Jane, Purity, Snow Wreath, Bessie Conway, and Oceana, white; Gold Star and Admiral Symonds, yellow; Mrs. D. B. Crane, a very pretty pink; Nora and Foxhunter, coloured ones; and Miss M. Wilde, rose and white. 2nd, Mr. W. C. PAGRAM; 3rd, Mr. W. WELLS.

AMATEURS' CLASSES.

The best collection of twenty-four blooms of Japanese in not fewer than eighteen varieties, was shown by Mr. JAMES STREDWICK, Silverhill, St. Leonard's-on-Sea. A Silver Cup presented by J. M. COPPEN, Esq., was added to the 1st prize in this class. Mr. STREDWICK'S exhibit was an excellent one, and included good flowers of International, Chas. Davis, Viviani Morel, Miss D. Shea, Wm. Seaward, and others. Mr. C. A. JESSOP, Mildenhall Workhouse, Suffolk, also had an excellent collection, which we considered equal to the one already noticed. The flowers in this case were very fresh-looking, bright, and of large size, Thomas Wilkins, Chas. Davis, Puritan, and Hairy Wonder, were the most noticeable; 3rd, Mr. H. LOVE, 9, Melville Terrace, Sandown, Isle of Wight.

Mr. W. AMES, South Ashford, Kent, was 1st in the class for twelve incurred blooms, distinct, but the flowers were only poor. The 2nd and 3rd prizes were taken by Mr. G. R. CROWNE, Long Ditton, Surrey.

The exhibits of six blooms of incurred, distinct, were better. The 1st prize was taken by Mr. CHAS. E. WILKINS, Wellington, Swanley Junction, and his best blooms were Globe d'Or, Lord Wolseley, and Nil Desperandum. G. D. WELLS, Esq., Hertford Cottage, Hertford Road, East Finchley, was 2nd; and Mr. J. STREDWICK 3rd.

Mr. JAS. STREDWICK took the 1st prize for twelve Japanese blooms, distinct. He had exquisite examples of Charles Davis, Viviani Morel, Miss A. Hartshorn, Col. W. B. Smith, Autumn Tint, &c. Mr. H. LOVE was a good 2nd, and showed fine blooms of Good Gracious, Viviani Morel, Charles Davis, &c. 3rd, Mr. ARTHUR STAMMERS, The Knowles, Maldon, Essex.

Mr. C. H. MARTIN won 1st for six Japanese blooms, distinct, and his specimens of Charles Davis, Sunflower, Van der Heede were praiseworthy; 2nd, Mr. W. PERRIN; 3rd, Mr. J. KNAPP.

For the best six Japanese blooms, of one variety, Mr. H. LOVE was again 1st, showing very well-coloured Sunflower; 2nd, Mr. J. STREDWICK, with splendidly-coloured Viviani Morel; 3rd, Mr. W. AMES, with Chas. Davies.

SINGLE HANDED GARDENERS' CLASSES.

Mr. S. J. COOK, gr. to J. H. HARRIDGE, Esq., Holewood, Hendon, was the only exhibitor of twelve incurred blooms, distinct. The best of these were Baron Hirsch, Jeanne d'Arc, and G. Glenny.

The best six incurred blooms were from Mr. W. C. PAGRAM, whose Jeanne d'Arc, Baron Hirsch, and Brook-

leigh Gem, were fairly good; 2nd, Mr. C. E. WILKINS; 3rd, Mr. C. H. MARTIN, gr. to R. H. LANGTON, Esq., Raymead, Hendon, N.W.

The Japanese blooms were shown better, and the collection of twelve blooms, distinct, from Mr. W. PERRIN, gr. to C. W. RICHARDSON, Esq., Sawbridgeworth, were very good, Madame Carnot, Mlle. T. Rey, Mrs. F. Jameson, and C. Cox especially; the last-named bloom was extra deep, and the only one of the kind we noticed in the exhibition. 2nd, Mr. W. C. PAGRAM; Colonel Chase and Good Gracious were remarked in this stand. 3rd, Mr. C. H. MARTIN.

Mr. H. LOVE had the best six Japanese blooms, distinct, and all the blooms were fairly good, Golden Gate, if not large, was very pretty; 2nd, Miss ANNIE L. GAUNT, Hildersborough, South Tottenham, Madame Carnot, Viviani Morel, and Niveum, were nice in this stand; 3rd, Mr. JAS. STREDWICK.

METROPOLITAN CLASSES.

These are restricted to growers residing within the district governed by the London County Council. The best twelve incurred blooms, distinct, and the only exhibit in this class, came from FRANK BINGHAM, Esq., 6, Bethune Road, Stoke Newington, and his blooms were very commendable for town-grown plants.

Mr. J. BROOKS, gr. to REYNOLDS, Esq., The Grove, Highgate, beat three other competitors in the class for six incurred blooms, with a very nice half-dozen blooms; FRANK BINGHAM, Esq., followed; and Mr. W. Noble, gr. to H. T. PITT, Esq., Stamford Hill, 3rd.

Mr. J. BROOKS was a very good 1st for twelve blooms of Japanese, distinct, which included fine examples of Mrs. Dr. Ward, W. G. Childs, and W. H. Lincoln; 2nd, Mr. W. DAVIES, gr. to W. F. DARNELL, Esq., Devonshire House, Stamford Hill; 3rd, Mr. W. NOBLE.

The best six Japanese, distinct, were from Mr. W. DAVIES, and he was very closely followed by Mr. J. BROOKS; 3rd, Mr. G. TOLTON, 20, Albion Gardens, Hammer Smith, W.

Six large but not extra well-coloured blooms of Charles Davis won the class for six Japanese blooms of any one variety for Mr. W. FARROW, gr. to G. R. PEEBLESS, Esq., Park Hill, Streatham; Col. W. B. Smith (very fine in colour), shown by Mr. W. DAVIES, won the 2nd place; and the same variety from Mr. J. BROOKS, was 3rd.

SPECIAL CLASSES.

These were for prizes offered by trade growers and others for particular exhibits determined by the donors of the prizes. Mr. H. J. JONES, Rycroft Nursery, Lewisham, offered prizes for six acres of exhibition Japanese Chrysanthemums, distinct, three blooms of each, one variety only in a vase, with not less than 1 foot of stem above top of vase, quality of blooms to be the leading feature.

The most successful exhibitor was Mr. D. M. HAYLER, gr. to W. HANNAFORD, Esq., Tenterden Hall, Hendon, whose exhibits staged with foliage and stem were very pretty. The 2nd prize was taken by Mr. C. H. MARTIN; PERCY WATERER, Esq., Fawkham, Kent, was 3rd. The class for three blooms was won by Mr. N. DAVIS; and Mr. T. CARYER was 2nd.

For the special prizes offered by Messrs. B. S. WILLIAMS & SON, for six blooms of the new Philadelphia, there were numerous competitors, some of the blooms being very poor, others excellent. The 1st prize was taken by Mr. W. KING, gr. to J. COLMAN, Esq., Gatton Park, Reigate; Mr. W. MEASE was 2nd; gr. to NORMAN DAVIS, Camberwell, 3rd; and Mr. G. FOSTER, gr. to HANMOND SPENCER, Esq., Glendaragh, Kingmouth, 4th.

GROUPS.

There was only one class provided for groups, that in which the special 1st prize offered by the President, Sir EDWIN SAUNDERS, was competed for. Two of these exhibits were arranged side by side at one end of the building, and they were both of great excellence, each being very effective, but in style of arrangement quite different. Mr. H. J. JONES, Rycroft Nursery, Lewisham, was awarded the 1st prize, and no fault could be found with the decision of the judges. This group was forced of two bays, arranged in an undulating manner, each of which presented a bold front, the centre also being imposing, the recess between the two bays at the front being varied with highly-coloured Crotons, these also followed around each side, and an edging of Isoplepis at the margin. The varieties were chiefly chosen of the Crotons, those with massive foliage, whilst here and there between the taller Chrysanthemums were narrow-leaved varieties, the background being relieved by Cocos Wedelliana, well-furnished with healthy leaves. The Chrysanthemums themselves were the picture of health, with large, massive blooms, the greater part of which were fit for exhibition boards; a few dwarf plants would possibly have added to the general effect in the front, but nevertheless it was a grand group. The varieties most noticeable were Charles Davis, Sunflower, Avalanche, Madame Thérèse Rey, International, Reine d'Angleterre, and W. Seaward. Mr. NORMAN DAVIS, nurseryman, Camberwell, was the other competitor, and he worthily won the 2nd prize; this group did not present so imposing an appearance as the former, the flowers being on the whole perceptibly smaller, yet of first-class quality. The centre at the back was somewhat weak, a tall erect Juniper doing service where a Cocos plumosa or a Bambusa gracilis would have greatly added to the effect. Crotons and Dracenas were here used to give variety, the latter a trifle too freely (D. terminalis the variety), instead of which a few Eulalia japonica would have been better; Cocos Wedelliana, however, told with good effect. The front was well finished off with dwarf plants of Japanese varieties; thus, most prominent throughout the group were Chas. Davis, Madame Carnot (extra fine), Viviani Morel, and Louise. The 3rd prize was awarded to

Mr. French, gr. to Mrs. BARCLAY, Ambleside, Wimbledon Park, for a group more in the old-fashioned style, the front being, however, well finished off with very dwarf plants.

SPECIMEN PLANTS (TRAINED).

These were grouped around the two fountains at either end of the building, being thus seen to the best possible advantage. The plants were not, perhaps, quite so large as usual, but this, instead of being any detraction from, rather added to their appearance. Better all-round specimens could not be possibly desired than those shown in the three following classes by Mr. Donald, gr. to J. G. BARCLAY, Esq., The Green, Leyton, Essex, in each of which he was awarded the 1st prize, viz., for six named specimens of large-flowered varieties, Japanese included; these were of globose form, averaging 4 feet in diameter, the varieties being Chinaman, bright purplish-violet—very fine; *Gloriosum*, distinct—very pretty; W. Tricker, good; White and Pink Christines, both excellent plants, well-flowered; Dr. Sharp, rich in colour, a fine plant.

For six trained specimens (Pompons), with remarkably fine plants, not nearly so dwarf as usual, but all the better, the varieties were Golden Madame Marthe and the white or original form, both densely flowered; William Kennedy, dark rich red, with large flowers; Sœur Mélanie, of similar good quality; and Black Douglas, well known as one of the finest dark varieties.

For six standard (trained specimens), with plants having dense spherical heads on clean stems, each densely clothed with flower; here the varieties were Chinaman, Stanstead Surprise, extra good; La Triomphante, the flowers of good quality; W. Tricker, and Cleopatra, both good plants; and Madame B. Rendalier, very clean and fresh.

Mr. DONALD was also an easy winner for one specimen plant, any type, pyramidal trained, with a well-balanced example of Margot, full of fine blooms. Mr. Davey, gr. to C. C. PAIN, Esq., Cedar Hoase, Stamford Hill, being 2nd with a pretty plant of Elsie.

The latter exhibitor was also 1st for four trained specimens, any varieties, a specially fine plant of Dr. Sharp being his best, as well as let for four standard-trained specimens, here he had a very fine plant of Colonel Smith, clearly proving the value of this variety for specimen culture.

TABLE DECORATIONS, VASES, &c.

These were amply provided for in one of the galleries, and a keen competition was evidenced in nearly every class save the two first in the schedule. In either of these cases the prizes were good, whilst the object of the Committee in providing such classes is a most laudable one, inasmuch as it should be the means of popularising the Chrysanthemum in ways not so frequently adopted. Mr. H. J. JONES staged a magnificent display in the class for a table of cut blooms of Chrysanthemums, any type, shown in any manner the exhibitor thinks best; 18 feet by 6 feet. The wall at the back had, to commence with, been draped with a pale green material, thus forming a good background for the flowers; these comprised splendid blooms of high-class exhibition quality. Some were arranged at the back on tall arcade-like arches; these chiefly consisted of yellow varieties. On each side were two tall vases appropriately filled with large blooms and such foliage as the Oak with its rich autumnal tints, also Bracken, Grasses, Virginian Creeper, &c., all blending most harmoniously together. Other and somewhat similar but shorter vases were employed in front of these, these being filled with equally fine flowers, whilst at the front were three lines of specially fine blooms arranged in glasses fixed into a fire-frame, thus forming an excellent substitute for the more orthodox boards. The best kinds noted were Chas. H. Curtis, a valuable addition to the incurved section, with rich deep canary yellow almost globular blossoms; Madame Carnot, the finest of the white Japanese; Chas. Davis, of rich colour; and Amy Shea. Dwarf well-coloured Crotons as C. Baronne James de Rothschild, with Ferns, added to the effect, as did several fine cut fronds of *Goniophlebium subauriculatum*. One vase was filled entirely with incurved varieties; the excellent arrangement proving that in good hands, these more formal flowers may be well displayed. The Gold Medal of the Society was most deservedly awarded to this fine exhibit.

Mr. R. J. CHARD was the only exhibitor in the next class, for a table of bouquets, wreaths, sprays, &c., to illustrate the decorative value of the Chrysanthemum. This was, on the whole, scarcely up to this well-known exhibitor's standard; more time spent in the arrangement would have remedied this. The best things, but in questionable taste, were the anchor of bronzy-yellow blooms, the wreath, and the harp with several good sprays. A Silver Medal was awarded.

Mr. Hayler, gr. to W. HANNAFORD, Esq., Tenterden Hall, Hendon, was 1st for three vases of twelve blooms in each, with the addition of other foliage; this exhibit was bold and effective, the flowers being informally arranged (quality here was also conspicuous), with the addition of very suitable foliage, as *Cyperus alternifolius*, *Pteris argyrea*, and *Myrsiphyllum asparagoides*; had these vases stood in a better position, they would have been considerably improved in appearance. Mr. PREWETT, Swiss Nursery, Hammersmith, had three somewhat similar vases, between which and the former exhibit there was not much to choose; the flowers, however, scarcely showed to such advantage, but a good use had been made of autumnal foliage. Mr. CHARD followed with much taller vases, the additional height not being any improvement in effect, but rather the reverse.

For three epergnes, there were six exhibits, these showing considerable diversity in taste and arrangement. Mr. PREWETT, Swiss Nursery, Hammersmith, was, however, an easy 1st, his exhibit being a pleasing combination of pale rosy-pink and deep bronzy-red varieties; the design of these stands

was a practical one when placed upon a dinner-table, which is more than can be said in every case; the larger flowers were confined to the base, graduating upwards to the top, whilst not any too much room was taken up by them. Mr. MERIDEW, gr. to Dr. PAUL, Camberwell, came 2nd, four colours being employed here; white and yellow were the two additions to the foregoing, the arrangement being light and effective. Some of the stands of other exhibitors were dressed on the face, the back part being incomplete.

For two vases of Pompons or Anemone Pompons arranged in vases, not lower than 12 or more than 18 inches in height, Mr. WEBSTER, gr. to E. T. PRESTON, Esq., Kelsey Manor, Beckenham, was a most creditable 1st, with rather tall pyramidal arrangements, one of yellow flowers with bronzy foliage, and another with white with green foliage and berries. Mr. MERIDEW was 2nd again in this class, with arrangements of more globular form.

In the class for two hand-bouquets, some excellent examples were displayed, Mr. WEBSTER winning with two very tasteful bouquets, one consisting chiefly of single varieties of light colours intermixed with choice bits of autumnal and other light foliage, the other being composed of yellow and bronze colours. Mr. NEWELL, gr. to Sir EDWIN SAUNDERS (the President of the Society), Fairlaw, Wimbledon, came in a close 2nd, the chief difference being that larger flowers were employed, but with good taste, one of yellow and bronze, and another of pink and red, being the choice of colours; the leaves of *Aspidistra lurida variegata* were used with the latter colours to a good purpose.

A class for ladies only, brought out some capital displays, notably in the 1st-prize exhibit of Mrs. NEWELL, Victoria Road, Wimbledon, who evidently understands the correct principles of decoration, her basket being held, yet free in style. The 2nd prize was taken by Mrs. W. GREEN, JUN., with a smaller arrangement.

In the class for six blooms of any one variety of Japanese, with foliage of any kind, set up in vases less than 18 inches in height, Mr. FELGATE, gr. to the Duchess of WELLINGTON, Burhill, Walton-on-Thames, was a distinct 1st with an arrangement made of the variety Suoflower, both quality and effect being conspicuous. Mr. COOK, gr. to J. H. HARTRIDGE, Helwood, Hendon, was 2nd with another yellow variety.

In the corresponding class for amateurs only, Mr. EDWARD JONES, 25, Malvern Road, Hornsey, was a most worthy 1st with the best arranged vase in this section, it affording an excellent example of a vase arrangement; the variety was Vivian Morel, of pale colour, but fine flowers, grouped with *Azalea pontica* foliage and *Smilax*, &c. The 2nd prize went to Mr. R. E. WILSON, 32, Magravine Gardens, W., the variety being Mrs. Harman Payne; the effect also good.

As a hand-basket of natural autumn foliage and berries arranged for effect, Mr. JOHN MANSEY, gr. to S. H. SMITH, Esq., staged a very tasteful exhibit with considerable variety, and likewise harmonious blending of autumnal tints, the common *Berberis* in fruit, *Mahonia aquifolia* of deep bronzy-red, and *Clematis Vitalba* in seed were all used with good effect. Mr. WM. GREEN, JUN., followed again in this class with another good exhibit, rather more packed than in the 1st prize basket.

FRUIT AND VEGETABLES.

Grapes were not largely shown, but were very good. Mr. W. TIDY, gr. to W. K. D'ARCY, Esq., Stanmore Hall, had the best white, in pretty clear-berried and medium-sized Muscat of Alexandria; Mr. W. TAYLOR, gr. to C. B. BAYER, Esq., Forest Hill, was 2nd, with larger but less-finished bunches; and Mr. J. BURY, Byfleet, Surrey, was 3rd.

In Blacks, Mr. BURY was 1st, with good-sized, handsome, well-finished Alicante; Mr. TAYLOR coming 2nd with large but somewhat ungainly bunches, though well-coloured; Mr. CALVERT, gr. to Colonel ARCHER HOUBLON, Bishop's Stortford, was 3rd.

With Gros Colmar *Grapes*, Mr. T. HALL, gr. to W. GARDINER, Esq., Merstham, was well 1st, his bunches being handsome, well coloured, and with fine berries; Mr. TAYLOR came 2nd; his clusters were larger, though lacking colour.

Pears were very fine and plentiful. Mr. W. ALLAN, of Gunton Park, who always shows these fruits well, was let, with fine samples of Pitmaston Duchess, Marie Louise d'Uccle, Darondeau, Doyenô du Comice, Marie Louise, and Emile de Heyst; Mr. Goldsmith, gr. to Sir E. J. LONER, Horsbam, was 2nd, having also very fine clean fruits of Pitmaston Duchess, Souvenir du Congrès, General Todleben, Marie Louise, Burreil Diez, and Doyenô du Comice; Mr. H. LINAY, gr. to W. M. LOWLEY, Esq., Warwick, was 3rd.

Apples.—There were eleven collections of six dishes of dessert Apples, the majority very fine, handsome, rich-coloured, and of the best quality. Mr. GOLDSMITH was 1st, having beautiful Ribston, Cox's Orange, and King Pippins, American Mother, Adams' Pearmain, and Blenheim Pippin. Mr. T. TURTON, Earley, was 2nd, having very handsome Jeffersons, Rosemary Buset, Adams' Pearmain, and Ribston, Cox's Orange and King Pippins. Mr. C. ROSS, Welford Park, Newbury, was 3rd.

There were also eleven collections of six dishes of kitchen Apples, these being generally very fine. Here Mr. TURTON was 1st, with very large, handsome, and rich-coloured Mère de Ménaag, Emperor Alexander, Cox's Pomona, Lane's Prince Albert, Peasgood's Nonsuch, and Bedfordshire Foundling. Mr. GOLDSMITH was 2nd, having also very fine Gloria Mundi, Peasgood's, Emperor Alexander, Gascogne's Scarlet, Lord Derby, and Warner's King. Mr. W. T. STOWERS, Sittingbourne, was 3rd.

Very fine collections of Apples and Pears were set up by Messrs. W. CUTBUSH & SONS, Highgate; Messrs. C. LEE & SONS, Hammersmith; and Messrs. SPOONER & SONS, Houghlow, all of whom had splendid samples, and in great variety, also very effectively staged.

Vegetables.—These important products seem at this show to have somewhat fallen from their former high estate, perhaps because these products are not found at their best in November. For the valuable prizes offered by Messrs. SUTTON & SONS, Reading, for collections of nine distinct kinds, the quantities in each case being too severely limited; only five lots were staged. Mr. C. J. Waite, gr. to the Hon. Col. TALBOT, Esher, was 1st, having small Cauliflowers, Brussels Sprouts, rather fair Tomatoes; good, but spotted, Celery; fair Ailsa Craig Onions, Prizetaker Leeks, pretty Satisfaction Potatoes, handsome new Intermediate Carrots, and Peerless Cucumbers. Mr. R. LYE, gr. to the Hon. Mrs. KINGSMILL, Newbury, was 2nd, having very good samples indeed, especially of Tomatoes, Leeks, Onions, Parsnips, and Potatoes; and Mr. J. GIBSON, gr. to E. W. WATTS, Esq., Chiswick, was 3rd.

The Society's classes for Potatoes were well filled, an old exhibitor in the person of Mr. E. S. WILES, now of The Rookery, Farnborough, Kent, coming to the front in the class for twelve varieties, he had very handsome seedling Kidney, Snowdrop, Supreme, Perfection, Satisfaction, Lord Tennyson, Reading Ruby, The Dean, Purple Perfection, Pink Perfection, &c. Mr. CHEPPING, of Sittingbourne, was 2nd, having handsome but less fresh samples; and Mr. C. OSMAN, Sutton, was 3rd. The same three took the prizes in similar order in the class for six kinds; Mr. WILES having Windsor Castle, Snowdrop, Satisfaction, Lord Tennyson, Pink Perfection, and Purple Perfection.

Mr. EMPSON, gr. to the Hon. Mrs. WINGFIELD, Amptill, sent a collection of five clean Carrots in several varieties, as sent out by Messrs. Sutton & Sons, which firm showed a wonderful collection of Potatoes, including five tubers of Satisfaction, Triumph, Windsor Castle, and Magnum Bonum, and large dishes of Early Regent, Ashleaf Kidney, Reading Hero, Perfection, Harbinger, Reading Russet, Reading Ruby, First and Best, and many others, there being with seedlings and Fir-apple examples, about eighty varieties. Mr. J. BERRIDGE, gr. to W. L. UNWIN, Esq., Southall, had a very interesting collection of vegetables, the central figure being a number of plants of the popular climbing Bean, Tender-and-True, in pots, fruiting finely, and numerous Parsnips, Carrots, Potatoes, Beets, Onions, and other roots, also green stuffs, in great variety.

MISCELLANEOUS.

Honorary exhibits were fairly numerous; notice was taken of those following:—Mr. NORMAN DAVIS, nur. Eryman, Camberwell, exhibited a few blooms of Chrysanthemums, representing some new varieties for 1895; Mrs. J. SHRIMPTON was one of the best of these; it is a large buff Japanese, with broad flat petal, very high centre; Jno. SEWARD is a large yellow Japanese, and Dorothy SEWARD a large pale red Japanese, of some promise.

Horticultural sundries were exhibited on a stand by Mr. J. GEORGE, 14, Redgrave Road, Putney, S.W.; and the JADOO Co., Limited, had a group of good Chrysanthemums in bloom which had been grown from the cutting stage in the Jadoo Fibre.

A capital group of Chrysanthemums in bloom was put up by Messrs. JAS. VEITCH & SONS, Royal Exotic Nursery, Chelsea, in which some old and many new varieties were well shown.

Nine Chrysanthemum blooms, in as many varieties, were sent by Mr. ALFRED CHANTRIER, Casa Caradoc, Bayonne (Basses-Pyrénées), but none of them were very noteworthy.

Messrs. H. CANNELL & SONS, Swaleby, Kent, had a large table magnificently furnished with sprays of zonal Pelargoniums of bright colour, and a quantity of Chrysanthemum blooms in considerable variety. Amongst the latter, some bunches of Yellow Source d'Or were conspicuous, and blooms of a good white incurved Japanese, Kentish White.

Mr. W. PIERCY, 39, Beadnell Road, Forest Hill, S.E., exhibited bunches of decorative varieties of Chrysanthemum.

Mr. W. E. TIDY, Brockhampton Nurseries, Havant, furnished a large table with decorative and other varieties of Chrysanthemum blooms.

A grand lot of novelties in Chrysanthemums were shown by Mr. ROBERT OWEN, Maidenhead, including a good chestnut-coloured Japanese, named Beauty of Sholing, and a tiny-flowered yellow Pompon, named Dolly.

Mr. H. SPOESMITH, Claremont Nursery, Woking, had forty-eight blooms of newer varieties of Chrysanthemums.

Messrs. WM. CUTBUSH & SONS, Highgate Nurseries, London, N., showed a miscellaneous group of flowering and foliage plants, and some plants in flower of the white Japanese Chrysanthemum Mrs. Chas. Bick, &c.

Mr. W. J. GODFREY, Exmouth Nurseries, had about a hundred blooms, representing for most part English seedlings raised by himself or others.

A pretty group of Orchids and miscellaneous flowering and foliage-plants was staged by Messrs. B. S. WILLIAMS & SON, Victoria and Paradise Nurseries, Upper Holloway, N. Twelve blooms of the Chrysanthemum Philadelphia were also shown by Messrs. WILLIAMS.

Messrs. D. and W. BUCHANAN, Forth Vineyards, had naturally-tinted Vine leaves, and a few Grapes and Tomatoes.

HAVANT CHRYSANTHEMUM.

OCTOBER 29.—To this Society belongs the honour of opening the cycle of Chrysanthemum shows, and this, the twelfth it has held, was in no respect behind those it has previously held in regard to good quality.

The cut bloom classes were liberally provided for in the schedule, and for twenty-four Japanese varieties, Mr. PENFOLD, gr. to Sir F. FITZVINGRAM, Bart., M.P., Leigh Park, Havant, was 1st, with large well-developed choice varieties 2nd, Mr.

TIDY, Brockhampton Nurseries, Havant. For eighteen and twelve Japanese, Mr. AGATE, of the Chrysanthemum Nurseries, was 1st, with remarkably fine blooms in both of the classes.

In the incurred section, Mr. PENFORD won in the class for twenty-four, and Mr. AGATE in that for twelve varieties, both exhibitors staging very creditably. Anemone-flowered and reflexed varieties were shown in but moderate numbers, but the Pompons and single-flowered varieties formed an admirable feature. In the first of these classes, Mr. H. SNOOK, 5, Fitzroy Street, Fratton, was 1st for single-flowered; and Mr. AGATE was 1st with some really beautiful varieties shown as triplets in bunches.

Mrs. CONWAY, Havant, was an easy 1st in the dinner-table decorations, in which Chrysanthemums formed the major part. The Hall was rendered quite gay with a number of plants in pots, Mr. TIDY being 1st in the two classes.

Fruit formed also a creditable display, the prizes for Grapes falling to Mr. PENFORD and Mr. W. MITCHELL, gr. to J. W. FLEMING, Esq., Chilworth Manor.

Mr. Cheuton, gr. to Sir W. PINK, Shrover Hall, Cosham, was invincible in the vegetable classes, winning two 1sts.

Mr. W. E. TIDY, who is also the Secretary, had a quantity of cut blooms of Chrysanthemums and other plants not in competition, which were greatly admired.

WATFORD CHRYSANTHEMUM.

OCTOBER 29, 30.—This exhibition, the tenth, was held at the Clarendon Hall, Watford, on the above dates. It was of the usual high character, the exhibits throughout being of the best quality, and the entries fell but very little short of those in former seasons. The fruit was the finest display that has been shown for some years.

GROUPS.

In Division I., the group of Chrysanthemums were conspicuous for their effective arrangement; the first award for a group on a space not exceeding 50 feet was secured by Mr. C. E. KEYSER (gr., Mr. Gleason), while the 2nd passed to Mr. W. K. D'ARCY (gr., Mr. Tidy). The prizes for a group of miscellaneous plants on a like space fell to the latter gentleman and Lord ESHER (gr., Mr. Brown).

In Division II., open to members only, the Chrysanthemum group awards went to Mr. BRAITHWAITE (gr., Mr. Wearing), and the hon. secretary, Mr. C. R. HUMBELL (gr., Mr. Harvey).

Mr. C. G. MOTT (gr., Mr. Plummell), had the best group of Chrysanthemums in Division III., open to members not employing more than three gardeners, and Mr. SHERRY (gr., Mr. Tibbles), 2nd.

In Division IV., open to members employing one gardener, Dr. BRETT (gr., Mr. Camfield) was 1st for a Chrysanthemum group; while Mrs. PART (gr., Mr. Hill) secured 1sts for six Japanese and six incurred blooms, three table plants, and three Primulas. The other bloom prizes were given to Mr. WHELON and Mr. ROWLANDS.

The best vegetable collection in Division IV. was shown by the latter gentleman, while the fruit trophies passed to Mr. BRAITHWAITE, Mrs. J. F. HILL, and Messrs. A. and J. WILD.

CUT BLOOMS.

The open first classes for twenty-four Japanese and twenty-four incurred cut blooms were both well won by Mr. C. E. KEYSER. Both were very good, the finest incurred specimen being a Charles H. Curtis, which was the winner of the special prize for the best incurred variety in the show, and a similar award for the finest Japanese bloom was given to a Madame Carnot. Other very noticeable blooms were Empress of India, Madame Drier, Golden Empress, Cecil Wray, Duchess of Devonshire, Mrs. Harman-Payne, and Souvenir d'une petite amie. In the other cut bloom classes the chief prize-takers were Lord BROWNLOW (gr., Mr. Lowe), Mr. V. M. MARTIN (gr., Mr. Wooster), Rev. H. J. H. BURCHELL-HERNE (gr., Mr. Fowler), Mr. J. LARKIN (gr., Mr. Fortuon), Mr. T. E. BLACKWELL (gr., Mr. Dinsmore), and Mr. BOSANQUET.

The best cut blooms in Division III. were exhibited by Mr. A. ROWLANDS, Mr. G. T. SKILBECK (gr., Mr. Roberts), Mr. F. TAYLOR (gr., Mr. Sharpe), and Mr. R. T. PROWSE (gr., Mr. Bottom), the best Pompons being produced by Rev. H. F. H. BURCHELL-HERNE. For Primulas, Mr. W. F. D. SCHREIBER (gr., Mr. Davis), and Rev. H. E. H. BURCHELL-HERNE were the leading exhibitors. The fruit winners were Mr. A. ROWLANDS, Mr. F. D. THOMAS, and Rev. F. H. HODGSON.

The best incurred and Japanese cut blooms in Division II., not fewer than eighteen varieties, both came from Mr. C. E. KEYSER, the 2nds being Mr. W. K. D'ARCY and Mr. T. E. BLACKWELL. The chief blooms exhibited in these classes were Chas. Davis, International, W. H. Lincoln, Col. W. B. Smith, John Lambert (2), Madame Drier, and Empress of India.

For twelve Japanese blooms, Mr. R. HENTY was 1st; the same gentleman was successful in carrying off both premier awards for twelve bunches of Pompons and twelve bunches of Anemone Pompons.

TABLE PLANTS, &c.

Mr. V. M. MARTIN captured both prizes for twelve table plants, pots not to exceed 6 inches. Mr. S. T. HOLLAND was declared the winner for six Primulas, whilst the 1st prize for Primulas went to Mr. P. BOSANQUET, Mr. R. F. TODDUNTER, and H. H. GIBBS, Esq., M.P.

For the sixth year in succession Messrs. SCRIVENER, whose exhibits were first-class in every detail, were the winners of the 1st prizes for wreaths, crosses, and bouquets. The bouquet of Orchids shown by them was a special feature of the show, and was greatly admired by the judges. The same firm also

obtained the special prize for a bouquet of Chrysanthemums, which contained some very choice flowers. Mr. W. B. KETTLE and Mr. PROWSE took 2nds. Mr. H. H. GIBBS, M.P., won the special awards for vegetables, with Mr. R. HENTY and Rev. F. H. HODGSON as 2nd. Among the amateur cut-bloom winners were Mr. J. FOX, Mr. E. MANSFIELD, Mr. J. DAY, and Mr. H. L. SELL.

The best cottager's exhibit of six Chrysanthemum blooms was that of Mr. J. WOODGATE, Mr. CHILD taking 2nd; and Mr. SHUTLER was the winner of the mixed bunch. Other winners were G. W. KENTISH, E. MANSFIELD, C. CHILDS; while the special awards for vegetables were obtained by W. GOLDING (two), W. HALL, J. PERCIVAL, E. TOWERS, T. J. BURDETT, and G. W. KENTISH.

In the division open to ladies, for single stand of cut flowers and foliage, Miss K. MEAD was 1st; and the same competitor was also successful in carrying off two other 1sts for sprays of flowers and three button-hole bouquets of Violets, as well as 2nd for six button-holes. Miss J. H. SMITH and Miss M. D. SMITH shared the other ladies' prizes.

FRUIT.

Grapes were shown well, the honours being equally divided between Mr. W. K. D'ARCY and HOB. A. HOLLAND-HIBBERT (gr., Mr. Cox). The open vegetable collection prizes were taken by H. H. GIBBS, Esq., M.P. (gr., Mr. Beckett), and Mr. R. HENTY (gr., Mr. Brown).

Messrs. CUTEHUSH's specials for 2lb. of Mushrooms fell to Mr. S. T. HOLLAND (gr., Mr. Richardson) and Mr. H. H. GIBBS, M.P.

TORQUAY AND DISTRICT GARDENERS' ASSOCIATION.

OCTOBER 30.—The Torquay Horticultural Society having ceased to exist, the gap has been filled by the Gardeners' Association this year. It is gratifying to all concerned in the new venture to record that the show proved a most successful one, notwithstanding the unfavourable character of the summer and autumn. The collection of plants and cut blooms which constituted the show held on the above date was a very superior one, and reflected great credit on those who raised them.

There were ten competitive classes, and no fewer than four of the 1st prizes went to the Rev. TALBOT GREAVES, whose box of six incurred varieties was greatly admired. Dr. W. FORD EDGECLOW was awarded 1st prizes in the classes for twelve and six Japanese varieties, besides gaining premier honours in large groups.

The Right Hon. W. H. LONG, M.P., in addition to other prizes, was placed 1st for table decorations.

A very fine collection of Ferns and foliage plants was sent by the committee of the ERITH HOUSE INSTITUTION; and Mrs. RAWSON, Bramhope.

An interesting exhibit was the collection of vegetables raised by the pupils of the Technical Class for Gardening. Some of the samples raised by scholars ten and eleven years of age caused expressions of wonder and surprise to appear on the faces of some of the older amateurs. The collection was kindly presented to the Torbay Hospital.

Messrs. VEITCH & SON, of Exeter, displayed fifty dishes of Apples, and a small but choice collection of Orchids. This firm also had on view some most brilliantly-coloured Cannas, and a new Aster from Colorado.

Mr. W. B. SMALE had a charming collection of Chrysanthemums, Ferns, and foliage plants, which presented a very pretty sight. Amongst the newest varieties were Colonel Chase, a creamy-pink; John Machar and Wilfred Marshall, new yellows; Creole, the nearest approach to blue yet produced; International, Comte F. Lurani, pink; Charles Davis, bronze; and Mrs. Ford Hillier, primrose. Messrs. CURTIS, SANFORD & Co., Limited, had a large exhibit consisting of Chrysanthemums and other plants, and a large collection of fruit, amongst which were a number of fine examples of Apples, the second crop of some trees at the South Devon Fruit Farm; Pears, Raspberries, Grapes, and a number of dishes of Apples. Mr. SMALE contributed some charming bouquets and floral devices.

Messrs. JARMAN & Co., Chard, displayed a quantity of Onions, and dishes of Apples; Mr. W. J. GODFREY, boxes of Carnations, including several very beautifully-tinted blooms of his own raising; and Messrs. TUPLIN, Newton; BEACHEY, JENKIN & Co., Kingskerswell; H. HORN, St. Marychurch; and W. ALLWARD, Torquay, staged miscellaneous collections, possessing considerable merit. The arrangements in connection with the show were admirably carried out by the committee.

ROYAL AGRICULTURAL AND HORTICULTURAL SOCIETY OF JERSEY.

HORTICULTURAL DEPARTMENT.

OCTOBER 30, 31.—The annual fruit exhibitions held by this Society are worth a long journey to see, and that held on the above dates was, if anything, superior to any of previous years. The island has long since been famed for its Pears; and the even quality of the grand collection shown on this occasion proves that the island still holds its own in that respect. Apples have also vastly improved of late, but hardly as yet come up to the standard of large English shows. The show was held in the Society's

Pavilion, a building admirably adapted for the purpose; and the weather on the first day was fine.

GRAPES headed the list, but somehow the Channel Islanders do not excel in this particular line, for the quality was not certainly anything like what is usually seen at an average English show. It being rather late in the season for Black Hamburgs, there were but two exhibitors, 1st going to Mrs. BRAYN (gr., Mr. Boubry); and 2nd to Mr. A. DAVIDSON. The last-named exhibitor was also 1st with good bunches of Gros Colmar, but lacking in colour; 2nd going to Mr. J. DUPRÉ, with smaller bunches. In the any other variety of black, Mr. DAVIDSON deservedly headed the list with certainly the best exhibit in the Grape classes, viz., three bunches of that new Grape, Appley Towers. The centre bunch was perfect in colour and bloom, though rather small; the 2nd went to Mr. H. BECKER for Black Alicantes, small both in bunch and berry, but of good colour. Muscats were poor indeed. Baskets of Grapes were numerous shown, Mrs. BRAYN winning 1st for Black Hamburgs. Mr. DAVIDSON and Mr. BECKER were equal 1st for any other black variety, the former with Appley Towers, and the latter with Alicante. Baskets of white call for no special mention. Baskets of mixed Grapes, Mr. BECKER, Mrs. BRAYN, and Mr. DAVIDSON, were 1st, 2nd, and 3rd respectively.

APPLES were, probably, for colour, size, and quality, the best ever before witnessed in the island. The splendid sunshine throughout the month of September had doubtless something to do with this.

In collections of dessert Apples, six varieties, Mr. H. BECKER was *facile princeps* with Ribston, Cox's Orange, and King of Pippins (splendid), Rosemary and Pile's Russets, and Cornish Gilliflower. Mr. T. DE FAYE was 2nd, with Requette de Caux, Golden Requette, Ribston Pippin, Court of Wick, Cornish Gilliflower, and Hammond's Seedling. Collectors of three varieties: Mr. BECKER was again to the fore, and Mr. E. G. MARETT 2nd.

In six culinary varieties, Mr. T. DE FAYE was 1st, with splendid samples of Warner's King, Waltham Abbey Seedling, Striped Beefing, Requette du Canada, Erabant, Belle Fleur, and Blenheim Orange.

Mr. BECKER and Mr. E. G. MARETT were equal 1st, the former with Calville St. Sauveur, Blenheim Orange, Gloria Mundi, Golden Noble, American Crab, and Requette du Canada; and the latter with Rismarck, Lane's Prince Albert, Hollandbury, Emperor Alexander, Pearmaine, and Requette du Canada. The above collections, both of dessert and culinary sorts, were splendid, far above what is usually shown here.

In the classes for single dishes, Ribston, Cox's Orange, and King of Pippins were represented by specimens of unusual size and colour. Cornish Gilliflower was also of superior merit, and the same may be said of Court of Wick, Pigeonnet (remarkably pretty), Golden Requette, Wellington, Requette du Canada, Royal Russet, Hawthornden, Emperor Alexander, Alfriston, Gloria Mundi, Hollandbury (grand colour), Requette de Caux, Warner's King (splendid), Lane's Prince Albert, Cox's Pomona, &c.

PEARS, as a rule at these shows, are a special feature. There were no phenomenally large specimens, as usually exhibited at these shows, but size and quality ruled throughout. For collections of dessert fruits, six varieties, Mr. J. DAVENPORT was 1st, with large and well-coloured specimens of Doyenné du Comice, Duredeau, Chaumontel, Glou Morceau, Duchesse d'Angoulême, and Baurré Diel; Mr. DE FAYE was 2nd, with equally large and shapely fruit, though not so highly coloured, of Marie Louise, Doyenné du Comice, Maréchal de la Cour, Duchesse d'Angoulême, Baurré Bachelier, and Chaumontel; equal 3rds went to Mr. T. A. NEIL and Mr. BECKER.

In the class for three varieties, the 1st and 2nd in above changed places; equal 2nd and 3rd going to Mr. GLENEN and Mr. BECKER respectively.

For collections of culinary Pears, three varieties, Mr. BECKER was 1st, with Belle de Jersey, Lieutenant Poitoin, and Catillac; 2nd, Mr. DE FAYE, with Baurré Clairgeau, Belle de Viré, and General Todleben.

For twenty-five Chaumontels, 1st, good size and fair colour, Mr. DAVENPORT; 2nd, Mr. C. TALLIS, somewhat smaller than the 1st; 3rd, Colonel TURNER.

Mr. J. DUPRÉ won the 1st in the class for twelve Chaumontels; with Mr. DAVENPORT 2nd, and Messrs. L. P. LE MASURIER and GLENEN equal 3rds. For five Chaumontels, Mr. DAVENPORT was again to the fore, with grand fruit; 2nd, Mr. L. P. LE MASURIER, better colour, but smaller.

The class for twenty-five Glou Morceau was a fine one, as also were the classes for twelve and five. Messrs. T. A. NEIL, DAVENPORT, TALLIS, and ASHELFORD, were the prize-winners. Doyenné du Comice is becoming immensely popular, and threatens to supersede some of the older sorts; Mr. NEIL's 1st prize twenty-five were grand in size, shape, and exquisitely coloured, and the classes for twelve and five were also splendid, and the competition was close indeed. Mr. J. COUTANCHE'S (gr., Mr. Lane) twelve and five Belle de Jersey were marvels of superior culture, very large, perfect in shape, and the colour excellent, these easily scored 1st in each class. Catillac, though fine, were not so large as sometimes seen, but Mr. J. W. THELLAND deservedly won 1st for both twelve and five specimens.

The classes for single dishes were hotly contested, the entries being numerous, and the quality even, made it no sinecure for the judges. The following varieties were represented by large and beautiful fruit, viz., Duchesse d'Angoulême, Pitmaston Duchess, Van Mons, Genl. Todleben, Baurré Bachelier, Durondeau, Marie Louise, Maréchal de la Cour, Baurré Diel, Baurré Superfin, &c. The heaviest Pear was a Belle de Jersey, weighing 3 lb. There were two entries for a collection of fruit collected in the Island, and here Mr. H. BECKER, F.R.H.S., of the St. Saviour's Nurseries, put up a

collection such as seldom seen. The most popular Pears were exhibited in baskets, and there were some hundred or more dishes of splendid coloured Pears, Apples, Peaches, Plums, &c., together with a stand of three bunches of admirably coloured black Alicante Grapes, the whole having a background of Palms and fine foliage plants, the *tout ensemble* having a splendid effect. Mr. Ph. BAILLACHE was 2nd with a collection of Apples only, amongst which were a number of local seedlings, and varieties of inferior quality.

CHRYSANTHEMUMS.

The Chrysanthemum Show was also held at the same time and place. Groups were the principal feature, and the arrangement in most cases was very effective, especially those in which fine foliage was allowed. Mr. G. LE HUQUET won the special for the best in this class; and Mr. T. L. DE FAYE, 2nd. In the class for groups with an edging of green foliage plants only, Mr. LE HUQUET again won the special prize offered; with Mr. A. J. DE ST. CROIX, 2nd; and Mr. A. J. LE QUESNE, 3rd. Trained plants were far behind what is usually seen here, but cut flowers were splendidly shown by Mr. N. ALLAIN, who entered in almost every class of incurved, Japanese, and Pompons, with the result that he won the National Chrysanthemum Society's Silver Medal, and carried off the bulk of the 1st prizes with splendid blooms.

Mr. GLENN, of the Springfield Nurseries, was awarded 1st for a very tastefully arranged table decoration; and Bouvardias and Orchids were exhibited by the Hon. Treasurer, Mr. C. J. NICOLLE, and Mrs. ROBIN.

HIGHGATE AND DISTRICT CHRYSANTHEMUM EXHIBITION.

OCTOBER 31 AND NOVEMBER 1.—The exhibition held on the above dates was one of the best yet held by the Society, a keen competition reigning throughout. The entries and exhibitors were in excess of last year, whilst the blooms were characterised by high finish, quality, and not merely by size, points which the judges duly considered. An improvement might be made another year in the naming of the plants. The trained specimens were placed on stages; a long stake with the name inserted at top was placed in each pot. We would suggest that, in future, boldly-written, correctly-spelt labels be used, and in the line of vision; this arrangement would much add to the convenience and information of those engaged in reporting, and be of material assistance to that not small section of the public which attends such exhibitions for educational purposes.

Groups of Chrysanthemums, arranged in a space of 60 square feet, general effect, formed a leading feature, and in this division Mr. J. Brooks, gr. to W. REYNOLDS, Esq., The Grove, was 1st, with a very finely-flowered and well-arranged lot of plants. Mr. H. Eason, gr. to R. NOAKES, Esq., made a good 2nd; whilst a very creditable arrangement secured the 3rd place to Mr. G. Saunders, gr. to W. HAYES, Esq. Messrs. BROOKS and EASON gained the principal prizes in the classes for six trained plants—Pompons and large-flowering—with examples of high cultural skill. For a single specimen plant (any class), Mr. BROOKS gained premier honours with a finely-flowered example of Maiden's Blush.

A good and interesting class was that for three untrained plants (Pompons). Here the leading prizes were taken by Messrs. J. WRIGHT and T. JACKSON.

Cut blooms, twenty-four Japanese, not fewer than eighteen varieties.—Some fine flowers were shown in this section, and Mr. J. Burch, gr. to J. SMITH, Esq., The Priory, Mill Hill, was adjudged the winner of the 1st prize. Some of his principal flowers were J. Shrimpton, C. B. Smith, W. Tricker, and Alfred Marshall; a close 2nd was Mr. Rowbottom, gr. to H. R. WILLIAMS, Esq. Here were noted good blooms of Vivand Morel, Phœbus, Sunflower, and Eda Prass.

Thirty-six cut blooms, distinct, eighteen Incurved and eighteen Japanese.—A very fine class. 1st, Mr. W. J. BURCH, Mill Hill. Amongst the Japanese specially fine were Mrs. C. H. Payne, Etoile de Lyon, Van der Heede, Phœbus, Vivand Morel, and Madame Isaacs; incurved, Violet Tom'in, Queen of England, Baron Hirsch, and Annie Hoste. A capital lot of flowers gained the 2nd position for Mr. ROWBOTTOM.

Twelve Japanese.—1st, Mr. A. PAGE, gr. to A. TAYLOR, Esq., Priory House, his noteworthy flowers being Princess May, Sunflower, C. Shrimpton, and Colonel W. B. Smith; 2nd, Mr. S. J. COOK, gr. to J. H. HARTRIDGE, Esq., who had, amongst others, fine blooms of Avalanche and Mrs. H. Payne.

Six Japanese.—1st, Mr. C. H. MARTIN, gr. to Mrs. F. C. R. LANGTRY, and whose stand contained some fine blooms of Colonel W. B. Smith and W. H. LINCOLN; 2nd, Mr. A. PAGE, Avalanche in this lot being very fine.

Six White Japanese.—1st, Mr. H. A. PAGE, gr. to F. CRISP, Esq.; here were beautiful blooms of Madame Carnot, Madame Thérèse Rey, and Rose Wynne. 2nd, Mr. J. BROOKS, gr. to W. J. NEWMAN, Esq., who, amongst other fine flowers, had a very fine bloom of Madame A. Moullin.

Six Japanese (white excluded).—1st, Mr. E. ROWBOTTOM, with Colonel W. B. Smith; 2nd, Mr. W. J. BURCH, who had Sunflower.

Twelve Incurved and Twelve Japanese.—An attractive class, in which the first honours were gained by Mr. H. A. PAGE. Amongst incurved, he had fine flowers of Mrs. Henle, Madame Darier, and Nil Desperandum; Japanese, Madame Thérèse Rey, Vivand Morel, Etoile de Lyon, and Edwin Molyneux.

A good 2nd was Mr. ROWBOTTOM, some of whose best flowers amongst the incurved varieties were Queen of England, Golden Empress, and Lord Alester; Japanese, Sunflower, and Utopia.

Thirty-six Pompons, twelve varieties, in threes.—A beautiful and interesting class, in which some fine blooms were staged. 1st, Mr. F. MATTHEWS, Myrtle Lodge, Muswell Hill; noteworthy blooms were Adonis, White Madame Marthas, and Wm. Westlake. 2nd, a fine lot from Mr. S. J. COOK; here were good flowers, amongst others, of Sœur Mélanie, and President.

Twelve Anemones.—Another good class. 1st, Mr. A. JONES, gr. to Miss WYBURN, Barnet, the W. W. Astor and Gladys Spaulding being specially noticeable; 2nd, Mr. J. SANDFORD.

Twelve Incurved, in six varieties.—Some highly-finished blooms gained 1st honours to Mr. J. H. WALKER, Gold Beaters, Mill Hill; Alfred Lyne, Jaane d'Arc, and Brookleigh Gem were shown well. 2nd, Mr. H. A. PAGE, whose best flowers were Jaane d'Arc and Novelty.

Six Cut Blooms, of any Variety (Incurved).—1st, Mr. J. H. WALKER, with a fine bloom of Baron Hirsch; 2nd, Mr. H. A. PAGE, who showed Madame Darier extremely well.

MISCELLANEOUS.

A pretty and attractive class was that for a hand-basket of cut blooms, arranged with Ferns, grasses, and foliage, the principal prize-takers being Messrs. WARD and ROWBOTTOM.

Button-hole bouquets of Chrysanthemums, arranged with Ferns, grasses, &c., brought out some elegant compositions, the leading positions being taken by Messrs. PARKINS and COOK.

For a dinner-table decoration of Chrysanthemums, &c., an effective class, the principal prize-winners were Messrs. SAUNDERS and HAYLES. A very interesting class was that for twelve blooms with foliage, and exhibited without cups or artificial dressing, the prizes being taken by Messrs. BROOKS and WALKER. Some boldly-arranged and very pretty exhibits were staged in response to the prizes offered for two vases of Japanese Chrysanthemums, arranged with any foliage for decorative effect. 1st, Mr. J. BROOKS; 2nd, Mr. E. ROWBOTTOM. Table plants, principally well-coloured Crotons, were well displayed by Messrs. EASON, HAYLES, and TUBBS.

Messrs. B. S. WILLIAMS & SON, Upper Holloway, sent a beautifully freely-flowered group of Chrysanthemums, not for competition, contributing also some fine Palms for the decoration of the hall in which the exhibition was held.

Messrs. M. HUNT & SON, Highgate, sent a very fine non-competitive collection of fruit. Messrs. D. & W. BUCHANAN, Stirling, also sent—not for competition—an excellent exhibit of Grapes, Tomatos, and very large coloured Vine-leaves artistically displayed.

Tomatos, here of fine quality, were shown by Mr. S. J. COOK and Mr. H. A. PAGE. Black Hamburgh and Muscat Grapes by Mr. J. Tubbs, gr. to H. RIGNAUT, Esq., and Mr. J. SANDFORD, gr. to G. W. WRIGHT-INGLE, Esq. Pears and dessert and kitchen Apples were well shown by Messrs. SANDFORD, TUBBS, and WALKER.

The show was well-managed by Mr. W. E. ROYCE, the Hon. Secretary of the Society.

THE CRYSTAL PALACE CHRYSANTHEMUM.

NOVEMBER 2.—The annual exhibition of Chrysanthemums, held on the above date under the auspices of the Crystal Palace Co., was a very successful one, and quite dispelled any fears that may have existed that exhibited blooms, at any rate, will be poor this season. If the exhibits generally had been at all equal in quality to some of the first-prize collections, the exhibition would have been one of the finest ever held in the Palace.

In the first class, for example, that for thirty-six Japanese blooms, in not fewer than twenty-four varieties, the blooms staged by Mr. W. H. LEES, gr. to F. A. BEVAN, Esq., Trent Park, New Barnet, were superb in quality. Nor did the varieties used show any lack of selection. Of yellows we noticed Phœbus, H. L. Sunderbruch, M. Panckoucke, Thos. Wilkins, Sunflower, and Pallanza. The last-named was in the back row, Sunflower in the front. Of whites there were Mrs. W. H. LEES, Mutual Friend, Mlle. Thérèse Rey, and Madame Carnot. International was shown very fine, and exhibited the characteristic rose marking in the petals, which to our mind are desirable, providing the bloom is not a rough one at the same time. Then there were Madame Ad. Moulin, E. Molyneux, Chas. Shrimpton, G. W. Childs, M. Geo. Biron, Miss Dorothy Shea, Col. Smith, Mons. C. Molin, Chas. Davies, and Vivand Morel. Next came the collection from Mr. J. W. McHattie, gr. to His Grace the Duke of WELLINGTON, Strathfieldsaye, Mortimer, whose excellent blooms would have made a good 1st in the absence of Mr. Lee's stand. Among new ones, Mr. McHATTIE included, were Madame Carnot, Duchesse of Wellington, Mephisto, M. Chas. Molin, Pallanza, W. H. Lincoln, and M. Geo. Biron; the 3rd prize was taken by Mr. C. J. SALTER, gr. to T. B. HAYWOOD, Esq., Wood-hatch, Reigate, and there were three or more other collections.

The class for twenty-four incurved flowers, in not fewer than eighteen varieties, also fell easily to Mr. W. H. LEES, his blooms were of excellent build and colour, and being good at this early show, the promise for fine incurved blooms is a good one. Two fine blooms of Chas. H. CURTIS were very effective and pretty, and Jaane d'Arc, Lord Alester, Empress and Golden Empress of India, the new Globe d'Or, Miss M. A. Haggas, Lord Wolseley, Princess of Wales, Violet Tomlin,

Madame Darier, Jno. Salter, &c., were all good; Mr. J. Dumble, gr. to Sir C. PHILLIPS, Bt., Picton Castle, Haverrfordwest, was 2nd; and Mr. C. J. SALTER, 3rd.

The prize for eighteen incurved, distinct, was won by Mr. T. ROBINSON, gr. to W. LAWRENCE, Esq., J.P., Elsfeld House, Hollingbourne, Kent. Of new varieties, D. B. Crane, old-gold-coloured, rather small compact bloom, was included, but the quality in this class was of less merit than in the preceding one. Mr. Jas. Wyatt, gr. to J. PERRY, Esq., Bradenhurst, Caterham Valley, was 2nd; and Mr. T. Caryer, gr. to A. G. HUBBUCK, Esq., Weybridge, 3rd.

The quality of the blooms entered in the class for twelve incurved, distinct, was fairly good. Mr. H. BUTCHER, gr. to C. BUSSE, Esq., Lodge House, Ashford, Kent, was 1st. He had included no novelties, and his best blooms were Jaane d'Arc and Brookleigh Gem. Mr. A. Start, gr. to L. COHEN, Esq., Round Oak, Englefield Green; and Mr. W. COLLINS, gr. to J. W. CARLILE, Esq., Ponsbourne Park, Hertford, were 2nd and 3rd respectively.

The best incurved variety in six blooms was Baron Hirsch, shown by Mr. BUTCHER; and Mr. JAS. WYATT, with the same variety, was 2nd.

The class for eighteen blooms of Japanese, distinct, had about a score of entries, and the quality was high. Mr. C. COX, gr. to J. TROTTER, Esq., Brickendon Grange, Hertford, was 1st, and he included the following new ones:—International, Commandant Blusset, Miss Ethel Addison, Thos. Wilkins, Louise, H. L. Sunderbruch, and a seedling, a large flower, with broad florets recurving at tip, yellow, with marks of rose, rather rough as shown; 2nd, Mr. W. COLLINS; and 3rd, Mr. A. JONES, gr. to Miss WYBURN, Hadley Manor, Barnet.

Twelve Japanese blooms, distinct, were best from Mr. G. SMITH, gr. to R. W. INGLIS, Esq., Craigcudowie, Reigate Hill. He had Ethel Addison, E. G. Hill, Sunflower, and Col. Smith, very good. Mr. H. BUTCHER was 2nd, and Mr. L. Budworth, gr. to E. HILL, Esq., Rockhurst, West Hoathly, Sussex, 3rd.

Vivand Morel was the best Japanese exhibited in the class for six blooms, and they were shown by Mr. W. ROBINSON, gr. to Lord Justice LOPES, Heywood, Westbury. He had four excellent blooms, the other two being unequal; Mr. C. COX followed with Col. W. B. Smith, in fine form; and Mr. G. SMITH with E. Molyneux was 3rd.

In the class for eighteen reflexed and Japanese reflexed blooms, distinct, the exhibitors were disqualified for including blooms in the opinion of the judges, which were not reflexed. Extra prizes, however, were awarded to Mr. C. J. SALTER, Mr. R. C. NOTCUT, Broughton Road Nurseries, Ipswich, and to Mr. W. ROBINSON. This is a class which, as at present arranged, may at any time result in dissatisfaction.

The best eighteen Anemones and Japanese Anemone blooms (distinct) were shown by Mr. H. PRICKETT, gr. to J. M. HARVEY, Esq., Bohm Lodge, East Barnet, and the quality of his collection was admirable, M. Dupanloup, Jno. Bunyan, W. W. Astor, Sir Walter Raleigh, and Dame Blanche, were noticeable. Mr. J. Milner, gr. to Mrs. W. A. HIGGS, Willenhall Park, Barnet, beat Mr. G. Steer, gr. to A. MARDEN, Esq., Stone House, Reigate, for 2nd place.

In the class for twelve Pompons, three blooms of each, distinct, Mr. C. J. SALTER was a very easy 1st, and showed admirably, and he also won the class for twelve Pompon Anemones; being followed in each instance by Mr. H. HARRIS and Mr. J. KNAPP.

Mr. J. Milner, gr. to Mrs. W. A. HIGGS, Willenhall Park, Barnet, won for twelve Japanese Anemone blooms, and the new Descartes, together with W. W. Astor and Rodolph Raçonier were especially fine; 2nd, Mr. H. Y. PRICKETT; 3rd, Mr. J. Justice, gr. to Sir R. TEMPLE, Bart., The Nash, Kempsey, Worcestershire.

Class 13 was an exceedingly pretty one, being arranged for the neglected single varieties. Mr. W. WELLS, Earlswood Nurseries, Redhill, was 1st, and he had some very attractive flowers indeed; Mr. W. C. PAGRAM, gr. to J. COURTENAY, Esq., The Whim, Weybridge, was 2nd.

GROUPS AND PLANTS.

There was little competition in the classes for groups arranged for effect and in those for trained plants.

The best group of 100 feet square was put up by Mr. WELLS, but its arrangement was not of exceptional character. The variety Souvenir d'une petite amie, as single blooms or dwarf plants, helped largely in the effect.

The smaller group (Amateur), upon 50 square feet, was won by Mr. W. Webster, gr. to W. HIGGS, Esq., 19, Bunfield Road, Clapham, S.W., and the exhibit was commendable.

One of the most important group classes was that for a group of Japanese varieties (Amateur), arranged on an oval space, with foliage plants, both coloured and green. Mr. W. Howe, gr. to H. TATE, Esq., Park Hill, Streatham Common, very well carried out this idea; and he was followed by Mr. T. W. WILKINS, gr. to C. RALPH, Esq., Cranbrook Villa, Upper Norwood; and Mr. Chas. Turner, gr. to G. W. BIRD, Esq., Manor House, West Wickham.

The best-trained specimen plant of Chrysanthemum was W. H. LINCOLN, shown by Mr. W. Leake, gr. to J. M. DOUGLAS, Esq., "Kuparra," College Road, Upper Norwood; and the best dozen trained specimens were from Mr. G. H. COOPER, nurseryman, Sydenham Road, Croydon.

The best arrangement of cut blooms of Chrysanthemums was a table from Mr. W. D. ASPHARD, florist, Crystal Palace.

MISCELLANEOUS.

Mr. H. BRISCOE-IRONSIDE exhibited novelties in Chrysanthemums, including a single-flowered one named Vigoni, a fairly large many petalled bloom with golden yellow disc,

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degree of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Table with columns: DISTRICTS, TEMPERATURE (Above 42°, Below 42°, Accumulated), RAINFALL (No. of Rainy Days, Total Fall, Percentage of possible Duration), BRIGHT SUN. (Percentage of possible Duration). Rows for districts 0-10.

The districts indicated by number in the first column are the following:— 0, Scotland, N. Principal Wheat-producing Districts— 1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending November 2, is furnished from the Meteorological Office:—

"The weather was very changeable during the earlier part of this period, with frequent showers of rain, hail, or sleet in all districts, and occasional thunder and lightning at some of the south-western and southern stations. Towards the end of the week, however, a decided improvement took place, fair dry weather being experienced generally. "The temperature was again much below the mean, the deficit ranging from 5° in Ireland and the Channel Islands, to 6° or 7° over Great Britain. The highest of the maxima were recorded either on November 1 or 2, and ranged from 58° in 'England, S.W.' and 57° in 'England, E. and S.', to 49° in 'Scotland, N.' The lowest of the minima were registered between the 27th and 29th, when the thermometer fell to 19° in the 'Midland Counties and England, N.W.', to 29° in 'England, S.W.', 21° in 'England, S. and Scotland, E. and W.', and to between 22° and 25° in all other districts excepting the 'Channel Islands,' where the lowest reading was 34°. The lowest values reported from thermometers exposed on the grass were 15° at Workop, 16° at Loughborough, 20° at Oxford, and 21° at Stamford and in London. "The rainfall exceeded the mean in the 'Channel Islands,' and just equalled it in 'England, S.,' but was rather less than the normal in nearly all the other districts, and considerably so in the 'Midland Counties.' "The bright sunshine varied considerably in amount over different parts of the Kingdom, but exceeded the normal in most districts. The percentage of the possible duration ranged from 44 in the 'Channel Islands,' 42 in 'Ireland, N.,' to 24 in 'Scotland, N.,' and 13 in 'England, N.W.'"

MARKETS.

COVENT GARDEN, November 7.

Table with columns: PLANTS IN POTS.—AVERAGE WHOLESALE PRICES. s. d. s. d. Adiantum, per doz. 4 0-12 0 Ferns, various, doz. 5 0-12 0 Aspidistra, per doz. 12 0-30 0 Ficus elastica, each 1 0-7 6 — specimen, each 5 0-15 0 Foliage plants, doz. 12 0-24 0 Chrysanthemums, p. Liliun Harrisii, per doz. pots ... 18 0-36 0 — (specimens), p. Marguerites, p. doz. 6 0-12 0 plant 1 6-3 0 Mignonette, p. doz. 4 0-8 0 Cyperus, per dozen 4 0-10 0 Palms, various, ea. 2 0-8 0 — specimen, ea. 10 6-84 0 Dracana, each ... 1 0-7 6 Primula sinensis, per dozen ... 4 0-6 0 — various, doz. 12 0-24 0 Solanum, per doz. ... 9 0-12 0 Ericas, various, doz. 9 0-24 0 Spiraes, per doz. ... 9 0-12 0 Evergreen Shrubs, in variety, doz. ... 6 0-24 0 Ferns, small, doz. ... 1 6-3 0

OUT FLOWERS.—AVERAGE WHOLESALE PRICES. s. d. s. d.

Table listing prices for various flowers: Arums, p. 12 blooms 3 0-6 0; Azalea, 12 sprays 0 9-1 0; Bouvardias, per bun. 0 6-1 0; Carnations, 12 blms. 1 0-3 0; Chrysanthemums, per 12 blooms ... 1 0-4 0; Chrysanthemums, per 12 bunches 3 0-6 0; Eucharis, per dozen 3 0-5 0; Gardenias, per doz. 3 0-5 0; Lapageria, per doz. blooms ... 0 6-1 6; Lilac, French, p. bun. 3 0-5 0; Liliun Harrisii, do. 3 0-6 0; Liliun lanceifolium, per dozen blooms 1 6-3 0; Lily of the Valley, doz. sprays ... 1 0-2 6; Maidenhair Fern, per 12 bunches ... 4 0-6 0; Marguerites, 12 bn. 1 0-3 0; Mignonette, 12 bun. 2 0-4 0; Orchids: Cattleya, 12 blms. 6 0-12 0; Odontoglossum crispum, 12 blms. 3 0-6 0; Pelargoniums, scarlet, per 12 bunch 4 0-6 0; — 12 sprays ... 0 6-0 8; Pyrethrum, 12 bun. 2 0-4 0; Roses, Tea, per doz. 1 0-3 0; — coloured, p. dr. 2 0-4 0; — yellow (Maréchal), per doz. 3 0-6 0; — red, per dozen 1 0-1 6; Stephacotis, 12 eps. 2 0-4 0; Tuberoses, 12 blms. 0 3-0 6; Violets, 12 bunches 1 6-2 0; — Parme, French, per bunch ... 3 0-5 0; — Czar, do. ... 2 6-3 0; — Mimosa or Accia, do. ... 1 0-2 0

FRUIT.—AVERAGE WHOLESALE PRICES. s. d. s. d.

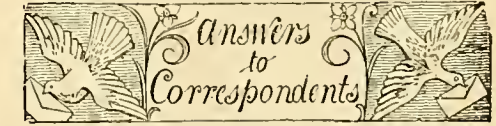
Table listing prices for various fruits: Apples, Ribstone, per bushel ... 3 6-6 0; — Blenheim, per bushel ... 3 0-5 0; — Kings, per bushel ... 3 0-4 0; — Cox's Orange, per bushel 3 6-8 0; — Cocking vars., per bushel 1 6-3 0; — From Nova Scotia, per barrel ... 11 0-14 0; — Cob, per 100 lb. ... 30 0-35 0; Grapes, Gros Colmar, 1st quality p. lb. ... 1 6-1 9; — Gros Colmar, 2nd quality, per lb. ... 10-1 3; Grapes, Alicante, 1st quality, p. lb. 1 3-1 6; — Alicante, 2nd quality, p. lb. 10-1 0; — Muscat, 1st quality, p. lb. ... 3 0-3 6; — Muscat, 2nd quality, p. lb. ... 1 9-2 0; Pears, Doyenné du Comice, 1/2 ave. 9 0-10 0; — Duchess, half-sieve ... 4 0-5 0; — Beurré Diel, per half-sieve ... 3 0-4 0; Pine-apples, St. Michael, each ... 3 0-6 0; Prunes, half-sieve ... 2 0-2 0; Quinces, half-sieve ... 2 0-2 6; walnuts, French, Grenoble, p. bag ... 4 6-6 0

VEGETABLES.—AVERAGE WHOLESALE PRICES. s. d. s. d.

Table listing prices for various vegetables: Cauliflowers, p. doz 3 0-3 6; Mushrooms, per lb. 1 0-1 6; Cucumbers, per doz. 2 6-3 0; Onions, Dutch, per cwt. bag ... 3 0-; — English, bush. 2 0-; Tomatoes, Home-grown p. doz. lb. — Smooth " 5 0-6 0; — ordinary " 2 6-3 6; — Gurnsey " 2 0-3 0

POTATOS.

The trade during the past week has been quiet, and prices not so firm; and stocks at the depot have slightly increased. J. B. Thomas.



*Owing to the large increase in our circulation, we are under the necessity of going to press some hours earlier. Our contributors will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.

BOOKS: T. B. We know of no book treating of stove plants only. Other question next week.

BULBS: E. J. The condition is the result of some injury to the base of the bulbs by wire-worm, or some other cause.

CLEMATIS GRAFTING: Rosa, C. flammula, C. vitalba, or any strong-growing species of which seedlings can be raised. Grafting on the roots is done in February and March in gentle bottom-heat in a close house or in a frame within a warm house.

DWARF KIDNEY BEANS: Mignon. These are never grown in this country in cool greenhouses in the winter season, nor could they be so grown. The plant needs a minimum warmth of 60°, and the day temperature should not be less than 70° in bright, or 60° in sunless, weather. Good varieties are Syon House, which does with little attention; Negro Longpodded, Ne Plus Ultra, and for large pots and where space is of no account, Canadian Wonder (Red-seeded Flageolet).

FRUIT STORING: Hopeful. The books dealing with this matter were both right and wrong in their teaching. As a matter of fact, a fruit-room can scarcely be too cold, short of letting the frost get in, as no fruit should be allowed to get frozen. To keep the fruit-room "air-tight" from the first is not the right practice, the fruits on being gathered parting with a good deal of their moisture, and means for the escape of this must be adopted, or the excessive amount of moisture in a close place would certainly cause great loss from decay being set up. Therefore, keep the windows open

and paler yellow ring round same, the remaining part being closely spotted red; Locarno, a large golden yellow coloured Japanese, and others were very good. Mrs. Briscoes-Ironside is a pretty incurved Japanese bloom of attractive flesh colour. All the blooms were shown on the exhibitors' revolving circular flower stand. Messrs. D. & W. BUCHANAN, Kippen, near Stirling, exhibited naturally-coloured Vine leaves, and fine Grapes and Tomatos. Mr. R. C. NOTOUT had blooms of a good yellow Japanese Chrysanthemum named Edith Tabor; and Miss MARY JACKSON, Upper Norwood, had florist's arrangements. Mr. T. S. WARE, Hale Farm Nurseries, near Tottenham, had a large group of plants representing decorative varieties of Chrysanthemums; and Messrs. JNO. LAING & SONS, Forest Hill, London, S.E., had a miscellaneous group of ornamental foliage and flowering plants.

BRIGHTON AND SUSSEX.

NOVEMBER 5, 6.—The thirteenth annual exhibition of this Society was held in the Dome and Corn Exchange on the above dates. Considering the great competition caused by other shows, there was room for congratulation upon the quality and the number of the exhibits. A new departure was made in the groups, and instead of being semi-circular, as before, they were arranged in circles running up the centre of the Corn Exchange. This kind of arrangement calls for more skill in placing the plants, and met with general approval from the visitors.

PLANTS AND GROUPS.

Mr. G. MILES, Victoria Nursery, Dyke Road, Brighton, was 1st for the largest group; and he was followed by Mr. H. HEAD, The Drive Nursery, Brighton; but all of the larger groups were too densely put together as regarded their contents, and not so prettily arranged as the 1st prize group in a class of which the condition was that it must not exceed 9 feet in diameter. Here Mr. J. THORPE, 20, West Hill Road, Brighton, staged a very pretty lot.

For twelve plants, including Ferns and other greenery added for effect, Mr. G. MILES was again placed 1st; Mr. J. Turner, gr. to Sir GREVILLE SMYTHE, Wick Hall, Hove, 2nd, whose group showed better arrangement, but the plants were of inferior quality.

PLANTS.

Mr. E. MEACHEN was 1st for four standards, Mr. T. FAIRS 1st for four pyramidal, and Mr. J. HILLS 1st for four dwarf plants. The last-named exhibitor was a good 2nd in both of the previous classes. Table plants, Cyclamens, and Solanums were good, but not so numerous as usual.

CUT FLOWERS.

In a class for thirty-six Japanese, a Challenge Silver Cup and £5 for the premier prize, brought out a good number of competitors, and the Cup went finally to Mr. STANDING, whose flowers were magnificent. Among the best were E. Molyneux, C. Davis, Sunflower, and Miss D. Shea; Mr. J. Hart, gr. to H. HEAD, Esq., Shoreham, 2nd; and Mr. A. SLAUGHTER, Steyning, 3rd. Mr. M. Standing, gr. to Mrs. JOAD, Patching, near Worthing, also came well to the front in a class for twenty-four Japanese; Mr. M. Tourle, gr. to F. BARCHARD, Esq., Little Horsted, being 2nd in this case. Mr. J. B. Heseman, gr. to Mrs. OXLEY, Fen Place, Turner's Hill, beat Mr. STANDING for twelve incurved varieties.

A class for twelve Japanese varieties brought out a very close and keen competition. Mr. G. Duncan, gr. to C. T. LUCAS, Esq., Warnham Court, Horsham, was 1st; he being followed by Mr. C. Sayers, gr. to the Misses COOK, Nutley, Uckfield. Equal lots would here not have been out of place.

FRUIT.

For three bunches of white Grapes, Mr. G. DUNCAN best Mr. W. TAYLOR, his berries being better finished. Mr. W. Taylor, gr. to C. BAYER, Esq., Tewkesbury Lodge, Forest Hill, was well in front for three bunches of a black variety. The competition for four dishes of dessert Pears was strong, Mr. GOLDSMITH, winning from Mr. HEASMAN here; but in an equally strong class for four dishes of dessert Apples, Mr. A. Kemp, gr. to C. R. SCRASE-DICKENS, Esq., Coolhurst, Horsham, was in front of Mr. GOLDSMITH, who was again 1st for four dishes of culinary varieties.

VEGETABLES

were up to the usual good quality, but they were not quite so plentiful as heretofore. The chief stands—not for competition—were Messrs. W. BALCHIN & SONS, Brighton and Hasocks; and Messrs. J. CHEAL & SONS, Crawley, who had in both instances some grand dishes of Apples and Pears.

ENQUIRY.

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

COKE v. ANTHRACITE COAL.—Will any of your readers kindly inform "N. F. P." the relative cost of coke and anthracite coal, say, for three, six, or twelve months (the latter preferred)? An opinion from one who has kept an accurate account of the cost in each is alone desired. The use of ashes, &c., would vitiate the comparison.

night and day, unless during very damp or foggy weather. After the lapse of a month or five weeks from the time of putting the bulk of the fruit into store, the amount of ventilation should be lessened by degrees, the fruit being examined from time to time to ascertain if there is any moisture being still deposited in any quantity on it, and if there is, then a moderate amount of air must continue to be admitted. In the third week in November, the room may be closed, and daylight quite excluded. It will be necessary to afford air occasionally after that date, if the quantity of fruit in the store is a large one, and the doors and windows fit closely. It is a good plan to have a few ventilating clappers in the roof or upper part of the walls, for the purpose of letting out the moisture after this date. Very hard, late-keeping varieties of Apples and Pears may be kept in boxes and large plant-pots, or barrels, but the choicer or softer-fleshed varieties keep best when spread thinly on the shelves with nothing between them and the wood. Never use straw, hay, or brown-paper on the shelves. When cider fruit is laid in heaps out-of-doors and in barns, straw is sometimes thrown over them as a protection against frost, and also spread on the ground so as to keep the fruit clean; but in the fruit-room nothing of the kind is required. Straw, hay, and brown-paper, if they are dry at the first, soon become moist, and in this state they are readily infested by moulds which may attack the fruit, and the first two certainly impart mustiness to it.

GROS GUILLAUME VINE AS A STOCK FOR DOXE OF BUCCLEUCH IN AN EARLY VINEY: *F. S.* Not as a general rule (except experimentally) advisable, as it would affect the early ripening of the Grapes, but not much. If you think it desirable, as affording a longer succession of Grapes from the early Vines, it might be worth doing. The stock, if of a black variety, slightly affects the colour of a white one worked upon it, and sometimes the flavour, which may be a good or a bad influence according to variety. The form of the bunch may also be affected somewhat, as well as the keeping qualities of the Grapes; early varieties that may not be good keepers when growing on their own roots, having a longer season of use when grafted on long-keeping varieties. We may, therefore, infer that there is a slight thickening of the skin, or a greater proportion of tannin is present in the latter. The subject is full of interest, and requires working out fully.

INSECTS: *W. C.* The caterpillar is that of the common Cabbage Moth (*Mamestra brassicae*); it will feed on almost anything. Try an application of soot or gas-lime close to the stems of the plants. *R. McL.*—**INSECTS ON GRAPES:** *G. W. Hunt.* In one of the Grapes we found the pupa of a small two-winged fly, impossible to say of what species. It may be that the berries are attacked by something else in the first instance, and that the flies are attracted by the exuding juice. The berries were much crushed, so that examination was difficult; a few grubs separately in a small brass or glass tube would stand a better chance. *R. McL.*

MARKET FLOWERS: *A. B.* Carnations, Pyrethrums, Gladiolus, Schizostylis coccinea, herbaceous Peonies, Crocus, Snowdrops, Scillas, Narcissus, Tulips, Roses, Lilies, especially longiflorum, japonicum, elegans, candidum, and aureum; Lily of the Valley, Solomon's Seal, the best varieties of Michaelmas Daisies, and many more.

*• PLANTS, FRUITS, ETC., TO BE NAMED.—The applications to name flowers, and especially fruit, are so numerous at this season as severely to tax our resources. They entail an expenditure of time, labour, and money, of which our readers can have no idea. We are always willing to oblige our correspondents as far as we can, but the editing of the *Gardeners' Chronicle* is our business, to which everything else must give way. Correspondents are respectfully requested to observe the rules that not more than six specimens can be dealt with at a time. If more are sent, it would be a graceful act on the part of the sender, to send also a small contribution to the *Gardeners' Orphan Fund*. Specimens should be good ones, carefully packed and numbered. Leaves only, or Florists' varieties cannot, as a rule, be named. Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week.

NAMES OF FRUITS: *W. B.* 1, Emile de Heyst; 2, not recognised; 3, Triomphe de Jodoigne; 4, Beurré Clairgeau; 5, Soz-tte de Bayay; 6, Bergamot Esperen.—*G. S.* Fruits all much decayed. 1, probably Doyenné du Comice, too much decayed to say positively; 2, 3, 4, seems to be different forms of Beurré Diel, but much damaged.—*Vigo.* Apple, Ringer.—*T. Bartlett.*—Pears, three fruits,

Marie Louisa; 2, fruits, Doyenné du Comice.—*G. Howes.* 1, Beespool; 2, Kerry Pippin; 3, Fearn's Pippin; 4, Cox's Orange Pippin; 5, Scarlet Nonpareil; 6, Mère de Ménaage.—*F. W.* 1, King of the Pippins; 2, striped Bæfing; 3, Cox's Pomona.—*G. J. Hazlewood.* 1 and 11, New Hawthornden; 10, Manke's Codlin; 12, Rymer; 14, Warner's King; 13, Pear, Catillac.—*A. Chapman.* Apple, Duchesse's Favourite; Pear, Van Mons Léon Leclerc.—*Claud Lonsdale.* 1, Damelow's Seedling; 2, braised beyond recognition; 3, Marie Louise; 4, Autumn Bergamot; 5, Beurré Diel; 6, Catillac.—*W. H. D.* 1, Beauty of Kent; 2, Betty Geeson; 3, Beauty of Kent?; 4, Damelow's Seedling; 5, A friston; 6, French Crab.—*G. D.* Apples, 1, Bienheim Orange; 2, Stone's; 3, Mère de Ménaage; Pear, 1, Vicar of Winkfield; 2, Beurré Bosc; 3, not known.—*A. L.* 1, Lane's Prince Albert; 2, Bienheim Orange; 3, Sweeney Nonpareil; 4, King of Tompkins Co.; Pear, Duchesse d'Angoulême.—*J. M. P.* 1, Pear not known; 2, Manke's Codlin; 6, Trumpington; others so small, cannot recognise them.—*John Sandland.* Apples, 1, Marie Louise d'Uccle; 2, Marie Louise.—*J. D.* You are right; the Pear should have been sent earlier; and through insufficiency of packing material also, we are unable to name it.—*Henderson & Son.* Pear, Glou Morceau. A worse specimen could scarcely have been sent for identification. We cannot say what are the brown spots on the rind, it was brown all over.—*M. P. R.* Kindly send again.—*Wm. W.* Pear much too over ripe.

NAMES OF PLANTS: Correspondents not answered in this issue are requested to consult the next number.—*P. H.* 1, Rhamnus cathartica; 2, Prunus lusitana, var. azorica. *E. J.* Botley. Crataegus Crus-galli, var. pyracanthifolia.—*J. W.* Cosmos bipinnatus.—*J. W. B.* 1, Cracianella stylosa; 2, Anacyclus tomentosus; 3, Scutellaria altissima; 4, we do not recognise, send again when in flower.—*W. G.* Cypripedium × polyetigmaticum (Spicerianum × venustum).—*E. J.* 1, Maxillaria picta; 2, Cypripedium venustum; 3, Iresine Herbstii; 4, Sida Sieboldii; 5, Festuca ovina.—*R. J. G.* A Golden Rod, perhaps Solidago canadensis. Our wild *S. virga-anea* is sometimes called Aaron's Rod.—*P. H.* 1, Picea; 2, perhaps Abies Nordmanniana; 3, Abies; 4, Pseudotsuga Douglasii; 5, Larix; 6, Picea Menziesii; 7, Abies nobilis; 8, Picea; 9, Abies Webbiana; 10, Abies nobilis; 11, Taxodium distichum. It is mere guess work naming Conifers without the cones. You send more than six.—*J. B. S.* A, Lactea lepida; 2, Nephrodium molle corymbiferum.—*Hortis.* The Orchids you mention are remarkably fine. *C.* is *Ocoidium prætextum*, not *O. crispum*. *E.* *Lælia cinnabarina*. The *Primula obconica* does not appear to be remarkable.—*H. F.* sends *Ocoidium prætextum* and *Cattleya lateola*.—*W. M.* *Cattleya labiata*, autumn-flowering variety, a plant now tolerably plentiful in gardens.—*Northleigh.* 1, Stapelia Rafines, *Bot. Mag.*, 1676; 2, Callicarpa purpurea; 3, Corydalis lutea.

ORCHID CULTURE: *S. H.* All the species you mention may be grown in the cool-house all the year, but they might be benefited by a slightly higher temperature while growing. Dendrobiums of the *D. densiflorum* section as enumerated, often flower on the imported pseudo-bulbs. They should be kept cool and tolerably dry during the winter. In some gardens a position in one of the fruit-houses is found to suit them. *D. Findlayana* should be reared like *D. Wardiana*, after the growths are fully made up. You might get *Burberry's Amateurs' Orchid-Cultivator's Guide*.

PTERIS: Fern. It is not disease which causes the brown markings on the Pteris sent. It is known to growers of these plants for market that a certain strain, which was originally named *Pteris cretica magnifica*, invariably gets affected in that manner in autumn and winter. It does not stand cold or damp, as do the other varieties. Growers can pick it out by the hard feel of the fronds, and the prominence of the veining running from the mid-rib. It is better to get spores of another strain.

RHODODENDRON LEAVES BITTEN OFF THE PLANTS: *W. L.* The work of mice or weevils, probably; we cannot say with certainty. Set mouse-traps. Examine the window-boxes at night for the weevils. The latter are active little beetles, bolting at the merest glimpse of a light.

ROSE BUSHES: *Rosa.* The bushes may be thinned of their shoots at this season or at the proper pruning

time, March. It is advisable not to prune at this season, for should the winter be a mild one, many of the buds would start to grow very early in the spring, and there is always a risk that these will be nipped by spring frosts.

ROSE GRAFTING: *Rosa.* At the end of the month of December and early in January, on potted stocks, gradually forced into growth. The temperature should not exceed 60° by day or 50° by night.

STRELIZIA AUGUSTA: *Munches.* We should think that if you do not re-tab the plant for a year or two, but merely surface the ball after removing some of the old soil, keep the drainage right, and give the plant a good rest in the cooler part of the stove, reducing the quantity of water at the root at that time it will show flowers. The plants should not be afforded much heat, as the temperature of an intermediate-house suits them in the winter; and in summer, in warm parts of the country, they will do well out-of-doors, or in the greenhouse; but with you it will be better to keep them always under glass. Loose potting leads to strong growth, and is therefore unsuited for the plant when it must be grown in houses of the usual size.

TEA ROSE STOCKS: *Rosa.* Seedling Dog-rosea (*Rosa canina*), or plants taken out of hedgerows, &c. The true *Rosa polyantha* is said to make an excellent stock. Tea Roses need no special kind of stock. Some of the strong growers are better on their own roots, and in all cases the union of stock and Rose should be under-ground, otherwise very severe frosts might destroy the entire budded part of the plant.

TRAASTEEN APPLE: *Hibernia.* There is no Danish Apple named Traasteen, but the Danish name of the German Apple Gravenstein is Graasten. Probably, the "G" in some way has been exchanged for a "T." Some varieties of Gravenstein are of a comparatively new date, and all of them are very fine, at least when grown in our northern climate. *N.*

TOMATOS, FRUIT, AND VEGETABLES: *J. Grainger.* Your communication has not been received.

WATER LILIES IN AN OPEN POND: *R. W. A.* *Johannesburg.* *Nymphæa cœrulea* (stellata) having succeeded, shows that the nature of the water is not at fault; but *Nelumbium speciosum* may require to have the seeds sowed in flower-pots in warm water under glass, and the plants put into the pond after the water in the latter has become warmed by sun-heat. This may be done by placing the pot and plant intact into a basket filled with rich loamy soil, and sinking it to the bottom of the pond. The soil in the basket should be covered with stones, so as to keep the soil in its place. Some of the more tender species of Water Lily succeed only near the margins of a lake where the water is warm, refusing to grow at all in deep water, in that which is distant from the bank. Meears, Siebrecht & Wadley, 409, Fifth Avenue, New York, would be enabled to furnish the required seeds.

WHEN TO TAKE SHOOTS OF HARDY PLANTS FOR GRAFTING: *Rosa.* In mid-winter, laying them singly in the earth to two-thirds of their length in a cold place, so as to retard all sap movements to the latest date.

COMMUNICATIONS RECEIVED.—*J. H. Wheeler.*—Fred. Smale, much obliged, but the report was already to hand.—*F. W. Meyer.*—Subscriber.—*F. Novik.*—*J. Backhouse*, with many thanks.—*F. W. B.*—Institute of Civil Engineers.—*M. Georges Mantin*—*G. N.*—*W. W.*—The Linnean Society.—*A. S.*, Reading.—*H. H. D'O.*—*J. C. F.*—*W. W.*, Kew.—*E. M.*—*J. R. J.*—*A. B. R.*—*Dr. Dammer*, Berlin.—*J. L. Barham*—*Prof. Kränzlin*, Berlin.—*W. R.*—*J. D.*—*A. P.*—*A. D.*—*R. L. H.*—*G. W.*—*S. T. W.*—*A. H.*—*W. G. S.*—*F. R. T.*—*Coomber*—*W. H. W.*, received with thanks.—*J. H. C.*—*E. B.*—*J. W.*—*R. C.*—*Sir J. B. Laves*,—*E. C.*—*T. W. H.*—*W. W.*, Bromley.—*J. G. C. S.*—*R. Grindrod*,—*H. J. C.*—*H. M.*—*H. May*,—*J. B.*—*A. O.*—*H. C. P.*—*J. D. K.*, next week.—*M. Cock*, too late for insertion.

PHOTOGRAPHS, SPECIMENS, &c., RECEIVED.—*J. B.*—*M. Nautin*,—*W. W. Hanbury*,—*C. de Murard*,—*J. L.*

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—The Publisher has the satisfaction of announcing that the circulation of the *Gardeners' Chronicle* has, since the reduction in the price of the paper,

Increased to the extent of more than 80 per cent., and that it continues to increase weekly.

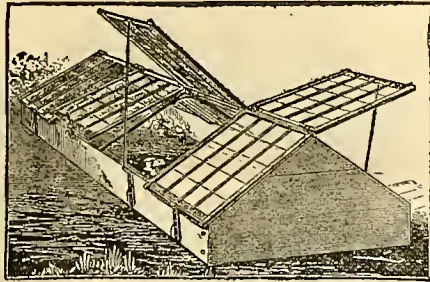
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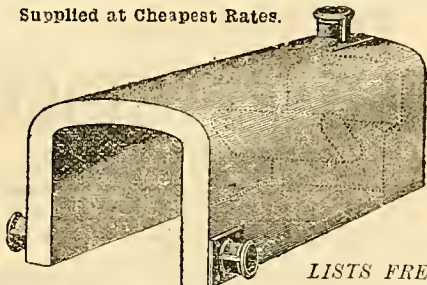
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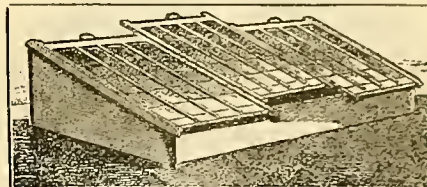
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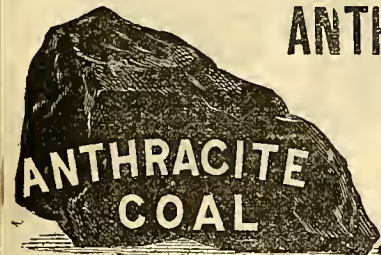
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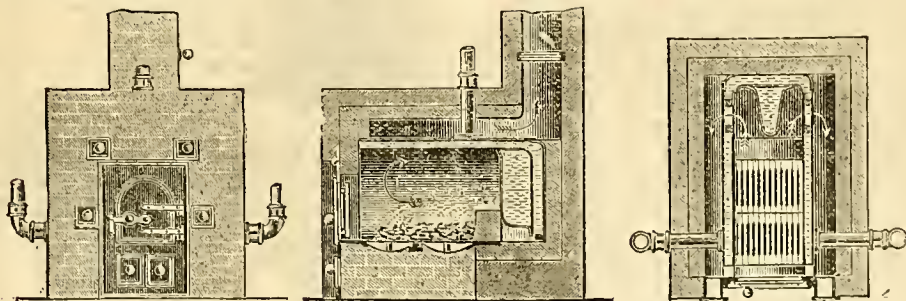
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WE MAKE ALL OUR OWN BOILERS, BOTH IRON and STEEL.

MUNICIPAL PATTERN BOILER—THE BEST EXTANT.



—FRONT ELEVATION—

—LONGITUDINAL SECTION—

—SECTIONAL PLAN—

Prices from £3 10s. upwards.

ESTIMATES GIVEN FOR HEATING APPARATUS.
SEND FOR LISTS and TESTIMONIALS.



STOCK SIZES—in inches.

12x10 | 14x12 | 18x12 | 18x14 | 20x14 | 20x16 | 24x16 | 22x18
14x10 | 16x12 | 20x12 | 18x14 | 20x15 | 22x16 | 20x18 | 24x18
21-OZ. Foreign, of above sizes, 100 and 200 feet boxes, 3rds and 4ths qualities, always in stock. 15-OZ. Foreign similar current sizes in 200 feet boxes.

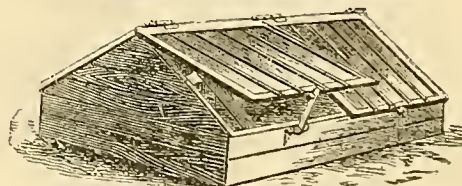
English Glass, cut to buyer's sizes at lowest prices, delivered free and sound in the country in quantity.

PROPAGATING and CUCUMBER GLASSES, &c.
PUTTY, WHITE LEAD, PAINTS, OILS, BRUSHES, &c.
PIT LIGHTS, cheap line of 21-OZ. 200 feet, 9 inches by 7 inches, and 10 inches by 8 inches.

GEORGE FARMILOE & SONS,
34, St. John Street, West Smithfield, London, E.C.
Stock Lists and Prices on application. Please quote Gard. Chron.

GREAT REDUCTION IN FRAMES

OUR WELL-KNOWN MAKE.



PORTABLE PLANT FRAMES.

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

Sizes and Prices, Glazed and Painted.		£	s.	d.
6 feet long, 3 feet wide	CASH	2	0	0
6 feet " 4 feet "		2	5	0
12 feet " 4 feet "	PRICES,	4	0	0
6 feet " 5 feet "		2	15	0
12 feet " 5 feet "	CARRIAGE	4	15	0
12 feet " 6 feet "		5	12	6
		PAID.		

Larger sizes at proportionate prices.

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

RICHARDS' NOTED PEAT.

(Trade supplied on best terms).

A large stock of the finest quality ORCHID PEAT. Also for Stove and Greenhouse Plants, Ferns, Rhododendrons, &c. By the sack, cubic yard, ton, or truck-load. Can be seen in bulk at London Wharf. Immediate despatch by any Rail or Steamer. Prompt and Special Quotations for delivery to any Station.
G. H. RICHARDS, Old Shot Tower Wharf, Lambeth, London, S.E.; Peat Grounds and Depôts, Ringwood and Wareham. Address all letters to London Wharf.

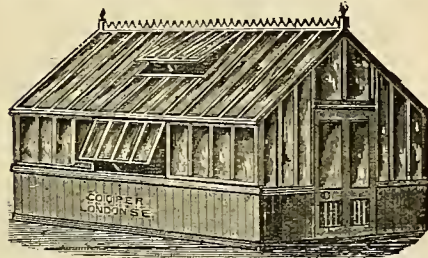
New Illustrated List, Post-free.

W. COOPER, LTD.,

755, OLD KENT ROAD, LONDON, S.E. (The Largest Steam Horticultural Works) in the World. Inspection Invited.

500 Houses in Stock to Select from.

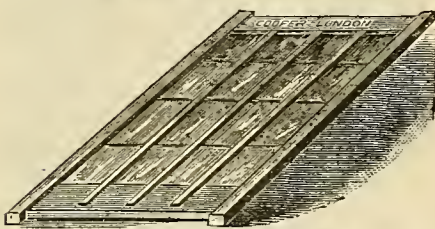
AMATEUR GREENHOUSES.



This illustration is an exact copy of our Amateur Span-roofed Greenhouses, which are made of well-seasoned red deal. Complete with ventilators, irons for opening, staging, glass, &c. Made in sections, so that they can be erected by any gardener or handy-man in a few hours. Simply screwed together. 7 by 5 ft., 5s.; 9 by 6 ft., £1; 12 by 8 ft., £6; 15 by 10 ft., £8 10s.; 20 by 10 ft., £12; 25 by 10 ft., £17. Any size made. Send for List, post-free.

GARDEN LIGHTS.

3000 Glazed Lights always in Stock.



These Lights are well mortised and jointed together, and made in a good workmanlike manner, and are well worthy of inspection. Framework made of 2-in. styles, and properly rabbeted for the glass, with good 2-in. sash-bars. The Glazed Lights are nailed and bedded in good oil putty. s. d. 3 ft. by 2 ft., painted and glazed ... 5 0 4 ft. by 3 ft., ... 6 6 6 ft. by 3 ft. 8 1/2 in. ... with 21 oz. 9 0 6 ft. by 4 ft., unglazed lights ... 3 6 Special quotations for large quantities.

CUCUMBER FRAMES.



These Frames are 22 in. high at back, 11 in. at front, and are made of 1 1/2-in. tongued and grooved boards. The lights are 2 in. thick, glazed with good 21-oz. glass, nailed and bedded in good oil putty, painted three coats, handles to sashes, and put on rail at the following sizes and prices: One-light Frames, 4 ft. by 3 ft., 17s.; ditto, 6 ft. by 4 ft., £1 8s. Two-light Frames, 6 ft. by 4 ft., £1 10s.; ditto, 8 ft. by 6 ft., £2 10s. Three-light Frames, 12 ft. by 6 ft., £3 10s. For other sizes and prices see Illustrated Lists, free.

POULTRY HOUSES.



Well and substantially constructed, warranted waterproof, complete with door, ventilator, and slide, from 20/-

Table listing poultry house sizes and prices: 5ft. by 4ft. ... 25/-, 6ft. by 4ft. ... 30/-, 7ft. by 5ft. ... 35/-, 9ft. by 6ft. ... 42/-

SEND FOR LIST.

FREE ON RAIL IN LONDON, Packages included.

GLASS

15 oz., 200 ft. 21-oz., 200 ft. 4ths ... 15s. ... 21s. 3rds ... 16s. ... 22s. 10,000 Boxes to select from.

PUTTY prepared especially for greenhouse work; best, 6s. 6d. per cwt.; 2nds, 5s. per cwt.; packages, 6d. cwt. PAINT, quality guaranteed, 7 lb., 3s.; 14 lb., 5s. 6d.; 28 lb., 10s.; 56 lb., 18s.; per cwt., 31s.

SPECIAL OFFER

OF

NURSERY STOCK.

AUTUMN, 1895.

Grown at our Feltham and Hanworth Nurseries.

INSPECTION INVITED.

Terms: Cash with Order. Trees and Plants free on rail. Seeds Carriage Paid.

FERNS, FOLIAGE PLANTS, &c.—Large, well-grown plants, in 5-in. pots, for immediate effect. Maidenhair, gold, ribbon, and crested Pteris tremula, serrulata, albo-lineata major and cristata, 5s. per doz.; Polypodium splendens silver tint, 7s. per doz.; Nephrolepis, very handsome and graceful, for baskets, 8s. per doz.; Aralia Sieboldii, extra fine, special value, 6s. per doz.; Cyrtus alternifolius (Umbrella plant), 4s. per doz.; Palms (Kentia and Latania), 24s. per doz.; do., do., in 4-inch pots, 5s. per doz.; Small Ferns, best varieties, including Gold Ferns and Maidenhairsts, in 2 1/2-in. pots, 10s. per 100; 94s. per 1000.

SPECIAL OFFER IN CREEPERS.—Immense Stock of large, well-grown, and matured plants in 5-in. pots.—Ampelopsis Veitchii (the small Virginia Creeper), self-clinging, with foliage turning a very rich deep crimson in autumn, 7s. per doz.; Ampelopsis Hederacea (the old Virginia Creeper), stronger and more vigorous than A. Veitchii, with green foliage, 7s. per doz.; Passiflora acerulea (blue Passion Flower), first-rate climber for outer walls greenhouses, &c., with about 4-ft. growths, 7s. per doz.; Passiflora grandiflora, larger flowers than above, 7s. per doz.

SPECIAL OFFER—MARECHAL NIEL ROSES.—We have this season an exceptionally fine lot of large, well-grown plants, which are especially suitable for covering walls, roofs of conservatories &c. Plants, 3 to 4 ft., 1s. 7d. each; 5 to 6 ft., 2s. 6d. each; 9 to 12 ft., 3s. 6d. each.

HYBRID PERPETUAL ROSES.—All strong healthy dwarf bushes, with good roots, ensuring an abundant display of bloom next season. Largest stock in the Kingdom, consisting of all the Exhibition varieties. 3 for 2s. 3d.; 6 for 3s. 6d.; 12 for 6s.; 100 for 42s.; 1000 for £19.

SELECTED GRAPE VINES.—Including such well-known varieties as Black Ham Turb, Black Alicante, Foster's Seedling, Lady Downes Seedling, Gros Colmar, Muscat of Alexandria, &c. Extra large fruiting canes, about 10 ft., 4s. 6d. each; planting canes, not selected as above, but same length, 3s. 6d. each; smaller samples, 1s. 6d. to 2s. 6d. each.

SEAKALE.—Extra large selected forcing; 2s. per doz.; 14s. per 100; large roots, 9s. per 100.

ASPARAGUS.—Strong 1-year-old roots, 2s.; 2-year-old, 3s. 6d.; 3-year-old, 7s. per 100.

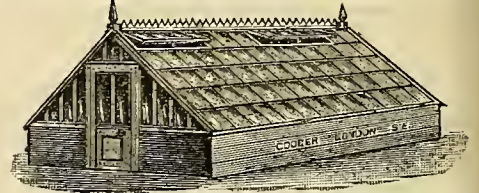
FRUIT TREES.—Our very extensive Stocks are this year in an especially fine condition, occupying many acres at our nurseries. Fruiting Trees of all kinds, and Trees developed to crop at once.

Table listing fruit trees: Apples, Pears, Plums, Cherries, Apricots, Nectarines, Peaches. Columns include Healthy Young Trees, Dwarf trained, Pyramids, and Standards with prices.

CHEAP OFFER OF PLANTS for PRESENT PLANTING.

—Old Crimson Clove, 3s. per doz.; Carnations in variety, our selection, 3s. 6d. per doz.; do., Ruby Castle (salmon pink), 2s. 6d. per doz.; Pinks, best named sorts, 2s. per doz.; Violas, best named sorts, 2s. per doz.; Pyrethrum (double), best named sorts, 3s. per doz.; do. (single), best named sorts, 3s. per doz.; Delphiniums, best named sorts, 3s. per doz.; Pentstemons, best named sorts, 3s. per doz.; Wallflowers (seedlings), every variety, 2s. per 100; do., do., Double German, 3s. per 100; Myosotis alpestris (seedlings), 2s. per 100; Saponaria ocyroides (seedlings), 2s. 6d. per 100; Pyrethrum (seedlings), single mixed, 2s. 6d. per 100; Pentstemon barbata (seedlings), 2s. 6d. per 100; Digitalis purpurea (seedlings), 2s. 6d. per 100; Pansies (seedlings), finest mixed, 2s. 6d. per 100; Antirrhinum (seedlings), Tom Thumb, 2s. 6d. per 100; Gaillardia grandiflora (seedlings), 3s. per 100; Polyanthus (Gold-laced) (seedlings), 3s. 6d. per 100; Campanula pyramidalis (seedlings), 4s. per 100; C. alliarifolia (seedlings), 4s. per 100; Platycodon grandiflora alba (seedlings), 4s. per 100; Heuchera sanguinea (seedlings), 4s. per 100; Dianthus barbatus (transplanted), 5s. per 100; do., do., nigrescens (transplanted), 5s. per 100; Iberis sempervirens (transplanted), 7s. per 100; Papaver bracteata, 1s. 6d. per doz.; Tritoma Uvaria (Red-Hot Poker) (transplanted), 4s. per 100; Iberis corifolia (transplanted), 6s. per 100; Lavendula spicata (transplanted), 5s. per 100; Geum coccineum (transplanted), 8s. per 100; Double White Daisies (transplanted), 4s. per 100; Arnicula alpina (transplanted), 8s. per 100; Lychnis chalcidonica (transplanted), 5s. per 100; Achillea (The Pearl) (transplanted), 5s. per 100; Hemerocallis flava (transplanted), 8s. per 100; Delityra spectabilis (transplanted), 8s. per 100; Doronicum, "Harper Crewe" (transplanted), 6s. per 100; Ceanothus macrocarpa (transplanted), 8s. per 100; Dactylis elegantissima (transplanted), 5s. per 100; Linum narbonense (transplanted), 5s. per 100; Hypericum Moserianum, 7s. per doz.

AMATEUR FORCING HOUSE.



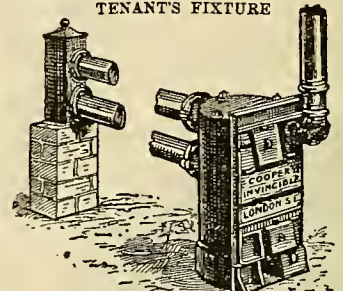
The utility of this house for forcing or cultivating Cucumbers, Tomatoes, Melons, &c., will be perceived at a glance, it being a structure constantly in request, but almost hitherto unknown. Seed for LIST, post-free.

"INVINCIBLE" HOT-WATER APPARATUS.

MOST EFFICIENT AND CHEAPEST IN EXISTENCE.

Made in six sizes.—No. 1 to drive 75 ft., £2; No. 2, 100 ft., £3 10s.; No. 3, 200 ft., £5; No. 4, 275 ft., £7; No. 5, 375 ft., £7 15s.; No. 6, 500 ft., £9; of 4 in. pipes.

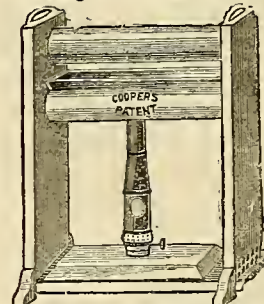
TENANT'S FIXTURE



Requires no sunk stovehole and no brick setting. Will last all night without attention. Will burn house cinders, therefore costs next to nothing for fuel. Anyone can fix it. A child can stoke it. Success guaranteed. Cost of complete Apparatus for Greenhouses with 4-in. pipes, flow and return along one side, cut and fitted, securely and carefully packed on rail, at the following respective prices: 7 ft. by 5 ft., £2 15s.; 9 ft. by 6 ft., £3; 10 ft. by 7 ft., £3; 12 ft. by 8 ft., £3 5s.; 15 ft. by 10 ft., £4 5s.; 20 ft. by 10 ft., £5 5s.; 25 ft. by 10 ft., £5 5s.

COOPER'S HYGIENIC HEATER.

Burning Paraffin or Gas Without Smoke or Smell.



These Heaters are constructed as a means of Heating by Hot Air without the use of hot-water or fires.

Table listing heater sizes and prices: No. Heats house £ s. d. 288 ... 7 by 5 ... 0 16 0, 287 ... 9 by 6 ... 1 4 0, 289 ... 12 by 8 ... 1 16 0, 290 ... 15 by 10 ... 2 12 0, 291 ... 20 by 10 ... 2 16 0, 292 ... 25 by 10 ... 3 4 0

THE RAPID PROPAGATOR.



The only perfect Propagator for raising Plants from seeds, slips, or cuttings.

Table listing propagator sizes and prices: 1ft. 8in. by 1ft. 6in. ... 16/-, 2ft. 6in. by 1ft. 10in. ... 20/-, 4ft. by 2ft. ... 40/-

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1-lb. tins Fertiliser, 4d. ... £0 4 0 per dozen. Cocoa-nut Fibre Refuse ... 0 1 0 per sack. Silver Sand, coarse or fine (2 cwt.) ... 0 2 3 .. Best Orchid Peat ... 0 3 0 .. Rhododendron Peat ... 0 1 9 .. Brown Fibrous Peat ... 0 2 0 .. General Peat ... 0 1 9 .. Loose Peat ... 0 1 9 .. Surrey Loam ... 0 1 9 .. General Potting Compost ... 0 1 6 .. Fern Compost ... 0 1 6 .. Bulb Compost ... 0 1 6 .. Leaf Soil, well decayed ... 0 2 0 .. Pure Wood Charcoal ... 0 2 8 .. Insecticide ... 0 0 3 each Tobacco Paper, 8d. per lb. ... 1 18 0 per cwt. Wonderful New Mushroom Spaw ... 0 2 8 per bush. All Sacks and Bags free. Send for List, post-free.

BEESON'S MANURE,
Crushed Bones and all High-class Fertilisers,
Genuine only from—
W. H. BEESON, Carbrook Bone Mills, Sheffield.

**THOMSON'S
FINE AND PLANT MANURE.**

The very best for all purposes.
The result of many years' experience. Largely
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Sole Makers:—WM. THOMSON AND SONS, LTD., Tweed
Inn-yard, Clovenfords, N.B.

Price Lists and Testimonials on application.
Analysis sent with orders of 1-cwt. and upwards.
SOLD BY ALL SEEDSMEN.

WINTER DRESSING.

Guaranteed to clear out Mealy Bug.

Cleanse and prepare your Fruit Trees and Plants, both
doors and out, for a healthy start next season, and destroy
the Mealy Bug, Red Spider, American Blight, and the Larvæ of
other insects, by using the

**ALL LIQUID INSECTICIDE WASH
(Patent),**

pure Nicotine Preparation (under a new system), from duty
free Tobacco. Absolutely safe, and no fear of injury to the
plants. In use goes twice as far as any other Insecticide.
Per Pint, 2s.; Quart, 3s. 6d.; 1/2 Gallon, 5s.; 1 Gallon, 10s.
Can be obtained from all Nurserymen, Seedsmen, Florists, and
Gardeners; or, direct from—

O. H. RICHARDS, Sole Proprietor, Old Shot Tower Wharf,
Commercial Road, Lambeth, London, S.E.
Further Particulars and Testimonials post-free on application.

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COCOA-NUT FIBRE REFUSE,
5d. per bushel; 100 for 30s.; track, loose (about 2 tons), 50s.
Bags, 4d. each.
SPECIALLY SELECTED ORCHID PEAT.
LIGHT BROWN FIBROUS PEAT, 5s. 6d. per sack; 5 sacks,
25s.; sacks, 4d. each.
BLACK FIBROUS PEAT, 5s. per sack; 5 sacks, 22s.; sacks,
4d. each.
COARSE SILVER SAND, 1s. 9d. per bushel; 15s. per half-
ton; 26s. per ton, in 2-bushel bags, 4d. each.
YELLOW FIBROUS LOAM, PEAT-MOULD, and LEAF-
MOULD, 1s. per bushel.
SPHAGNUM MOSS, 6s. 6d. per sack.
MANURES, GARDEN STICKS, VIRGIN CORK, TOBACCO
CLOTH, RUSSIA MATS, &c. Write for Price LIST.—
H. G. SMYTH, 21, Goldsmith Street, Drury Lane, W.C.

RUSSIA MATS
Best Archangel, 15s. per doz.
Taganrog, 10s. per doz.
Heavy Petersburg,
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Packing,
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per lb.

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JAMES T. ANDERSON,
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SACKS and SEED BAGS.
FLOWER STICKS & LABELS.
BAMBOO CANES.
HORTICULTURAL
SUNDRIES of every
kind.

STOVES!—STOVES!

ROBERTS'S (IMPROVED) PATENT.
TERRA-COTTA! PORTABLE! FOR COAL!
Pure and ample heat, 24 hours for about 1d.,
without attention.
For Greenhouses, Bedrooms, &c.
Pamphlets, Drawings, and authenticated Testimonials sent.
See in use at Patentee's,
THOMAS ROBERTS, 34, Victoria St., Westminster.

ORCHID PEAT; Best Quality; BROWN
FIBROUS PEAT for Stove and Greenhouse use. RHO-
DODENDRON and AZALEA PEAT. Samples and Prices of—
WALKER AND CO., Farborough, Haats.

ORCHID PEAT.

PREPARED, ready for use, all fibre, 10s. per sack; 5 for 47s. 6d.
SELECTED, in blocks, very fibrous, 6s. per sack; 5 for
37s. 6d. SECOND QUALITY, 5s. per sack; 5 for 22s. 8d.
BROWN FIBROUS PEAT, for Azaleas, Rhododendrons, and
Ferns, 4s. per sack, 5 for 18s.; and 3s. per sack, 5 for 12s. 6d.
PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM, each
2s. 6d. per sack; 5 for 10s. PREPARED POTTING COM-
POST, 4s. per sack; 5 for 18s. All sacks included.
Send Postal Order for Sample Sack. For Price List and Special
Quotations for large quantities, apply to—
D. CAMERON, Forester's Lodge, Mount Maschal, Bexley, Kent
Special Terms to the Trade.

EPPS'S selected PEAT.

A specially good stock now on hand of ORCHID PEAT, in
good condition; also for Stove, Greenhouse, and Hardwood
Plants, Rhododendrons, &c., in large or small quantities.
Rich Fibrous LOAM, SILVER SAND, excellent LEAF
MOULD, C. N. FIBRE, SPHAGNUM MOSS, CHARCOAL, &c.
Special cheap through rates to all parts.
EPPS & CO., The Peat Depot, Ringwood.

OSMAN'S PATENT HOLDER.

For Bouquets, Wreaths, Crosses, & Memorial Designs.
INDISPENSABLE TO EXHIBITORS AND FLORESTS.
Brass 15s. each.
Nickel Plated ... 18s. 6d. each.
To be obtained of all Seedsmen. Wholesale of—
**OSMAN & CO., 132, Commercial Street,
London, E.**
For illustrations see *Gardeners' Chronicle*, September 21.

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and HORTICULTURAL POTTERY.
CONWAY G. WARNE (Ltd.),
ROYAL POTTERIES,
WESTON-SUPER-MARE.
THE LARGEST MANUFACTURERS OF GARDEN
POTTERY IN THE WORLD.
MILLIONS IN STOCK. CONTRACTORS TO
H.M. GOVERNMENT.
30 Gold and Silver Medals Awarded.
Price Lists free on Application.

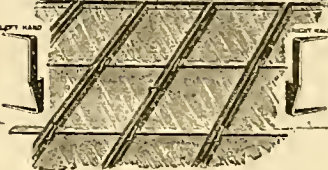
GLASS! CHEAP GLASS!

In Stock Sizes.
15-oz., per 100 ft., 7s. 6d. (12x10, 18x12, 18x14, 24x14
21-oz., " 10s. 0d. (14x12, 20x12, 18x16, 24x16
16x12, 16x14, 20x16, 24x18, &c.
1 1/2 x 3 Prepared Sash Bar at 5s. per 100 feet.
Flooring, 5/9 per square; Matching, 4/9; 2 x 4, at 4d. per
foot run. Garden Utensils, Trellis, Ironmongery, Paints, &c.
Catalogues free.

THE CHEAP WOOD COMPANY,
72, BISHOPSGATE STREET WITHIN, LONDON, E.O.

NO TOP PUTTY NEEDED IF YOU USE

**Thorpe's Patent
Glazing Staples.**

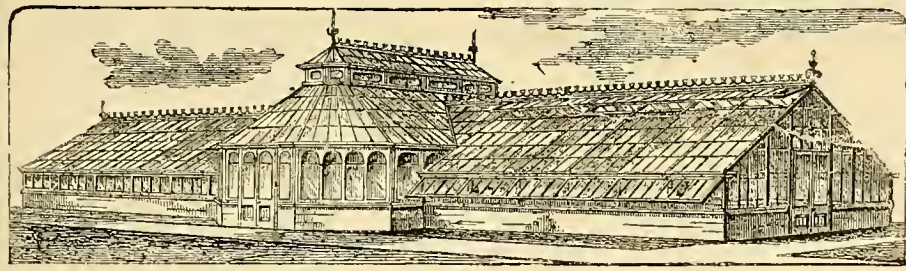


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placed instantly,
and without top
putty. Will not
rust. Practically
everlasting. Sample
gross assorted right
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SHOWING STAPLES AS FIXED.

The Marriott Cycle Co., Ltd., 71, Queen Street, E.C.,
Manufacturers of the "Marriott" Bicycles and Tricycles.
CATALOGUE on application.

awarded in open competition.



Five 1st Prize Medals recently
awarded in open competition.

R. HALLIDAY & CO.,

**HOTHOUSE BUILDERS and HOT-WATER ENGINEERS,
ROYAL HORTICULTURAL WORKS, MIDDLETON, MANCHESTER.**
Vineries, Stoves, Greenhouses, Peach Houses, Forcing Houses, &c., constructed on our improved plan, are the
perfection of growing houses, and for practical utility, economy, and durability cannot be equalled. We only do one class
of work, and that THE VERY BEST.
Conservatories and Winter Gardens designed architecturally correct without the assistance of anyone out of our
firm, from the smallest to the largest. Hot-water Heating Apparatus, with really reliable Boilers, erected, and success
guaranteed in all cases. Melon Frames, Sashes, Hot Bed Boxes, &c., always in Stock.
Plans, Estimates, and Catalogues Free. Customers waited on in any part of the Kingdom.
Our Maxim is and always has been—
MODERATE CHARGES. FIRST-CLASS WORK. THE BEST MATERIALS.

HEATING! HEATING!! HEATING!!!

THE THAMES BANK IRON COMPANY

Undertake the complete erection of **HEATING APPARATUS** for **GREENHOUSES, OFFICES, PUBLIC BUILDINGS, &c.** Have the
largest stock of **BOILERS, PIPES, and CONNECTIONS** in the Trade to select from, and invite inspection of same.
BOILERS of the latest and most approved class, including the
patent HORIZONTAL TUBULAR, with WATER BARS; CAST-IRON SADDLE, with WATERWAY-END, &c.;
VENTILATING GEAR AND VALVES.
AWARDED THE ONLY GOLD MEDAL at the **INTERNATIONAL HORTICULTURAL EXHIBITION, 1892,** for **HOT-WATER APPLIANCES.**
ILLUSTRATED CATALOGUE, 1s. PRICE LIST FREE.
UPPER GROUND STREET, BLACKFRIARS, LONDON, S.E.
Telegraphic Address—"HOT-WATER, London." Telephone. No. 4763.

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8 " ..	0 5 0	19 " ..	0 10 6
9 " ..	0 5 6	20 " ..	0 11 0
10 " ..	0 6 0	21 " ..	0 11 6
11 " ..	0 6 6	22 " ..	0 12 0
12 " ..	0 7 0	23 " ..	0 12 6
13 " ..	0 7 6	24 " ..	0 13 0
14 " ..	0 8 0	25 " ..	0 13 6

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Page, 2s; Half Page, 4s 10s.; Column, 5s.

GARDENERS AND OTHERS WANTING SITUATIONS.

26 words, including name and address, 1s. 6d., and 6d. for every additional line (about nine words) or part of a line. These Advertisements must be prepaid. This scale does not apply to announcements of Vacant Situations, Births, Deaths, and Marriages, 5s. each insertion.

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POSTAL ORDERS.—To Advertisers, Subscribers, and Others.—It is very important in remitting by Postal Order that it should be filled in payable at GREAT QUEEN STREET, London, W.C., to A. G. MARTIN, as, unless the number of a Postal Order is known, and it has been made payable at a particular office, and to a particular person, it is impossible to prevent any person into whose hands it may fall from negotiating it.

N.B.—The best and safest means of Remitting is by POST-OFFICE MONEY ORDER.

Advertisements for the current week MUST reach the Office by first post, Thursday morning.

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements, 41, WELLINGTON STREET, STRAND, W.C.

SUBSCRIPTIONS.

All Subscriptions payable in advance. The United Kingdom, 12 months, 15s.; 6 months, 7s. 6d.; 3 months, 3s. 9d. All Foreign Subscriptions, including Postage, 17s. 6d. for 12 months. Post-office Orders to be made payable at the Post-office, Great Queen Street, London, W.C., to A. G. MARTIN.

Subscribers who experience any difficulty in obtaining their copies regularly, are particularly requested to communicate with the Publisher (in cases of delay in the delivery by post, the cover should be forwarded with complaint).

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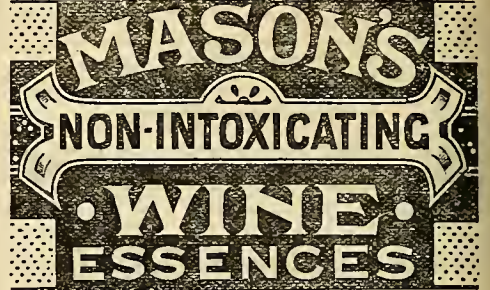
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HGMES	
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WANTED, AT ONCE, a HEAD WORKING GARDENER.—Practical knowledge of all branches of Gardening, Indoors and Out required. Married, no family. Must Attend Fires; reside on premises. Assistant kept. Highest testimonials essential.—Apply, by letter only, with age, photograph, and full particulars, experience, wages, &c., to W. S., The Laurels, Hastings, Sussex.

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WANTED, ASSISTANT SHOPMAN, for a large provincial house in the South of England.—Must have a good knowledge of Vegetable and Flower Seeds, be quick at counter work, and the execution of orders.—Apply, stating age, salary expected, &c., to P., Messrs. Hurst & Son, 152, Houndsditch, London.

WANTED, a young LADY as IMPROVER, for Cut Flowers Department, Indoors. State wages expected.—JONES AND SONS, Florists, Shrewsbury.

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WANT PLACES.

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

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

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GARDENER (HEAD), where more are kept.—Age 38; twenty-four years thorough practical knowledge in all branches. Twelve years Head. Has taken several prizes at shows this year.—W. DAVIS, Mount Lodge, Hfield, Sussex.

GARDENER (HEAD).—Mrs. T. NOTHARD can highly recommend her Gardener, who has been with her ten years, as excellent grower of choice Flowers and Fruit, &c. Awarded sixteen high-class prizes.—J. SLATER, 7, Elderton Road, Lower Sydenham.

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GARDENER (HEAD WORKING).—Age 32; thoroughly experienced in Orchids, Stove, and Greenhouse Plants, and Fruit, Flower, and Kitchen Garden. Excellent testimonials.—J. BROOKS, Hallow, near Worcester.

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GARDENER (good SINGLE-HANDED or Otherwise).—Age 25; leaving through change.—FOWLER, Westfurlong, Hurst, Hants.

GARDENER (good SINGLE-HANDED, or where one or two are kept).—Age 28, married when suited; thoroughly practical, experienced in all branches. References kindly allowed to Mr. G. Woodward, Barham Court Gardens, Maidstone.—T. N., Water Farm, Smeeth, Ashford, Kent.

GARDENER (SINGLE-HANDED, or SECOND).—Age 27; twelve years' experience in all branches. Seven years in present situation.—W. B. W., Busbridge Hall, Godalming, Surrey.

GARDENER, age 28.—Eleven years' experience in Fruit, Flower, and Kitchen Garden Work, Greenhouse, &c. Willing to be generally useful.—J. SHAW, Victoria Nurseries, Slieford.

MR. RIVERS, of The Nurseries, Sawbridge-worth, will be pleased to recommend the son of his Manager to anyone as GARDENER, where Fruit Growing was made a specialty, either for pleasure or profit. Satisfactory references from all points.—Write to Mr. CAMP, above address, for any particulars.

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GARDENER (UNDER, or SINGLE-HANDED).—Age 23; experienced Inside and Out. Good character from late and present employer.—C. W. HOWARD, Oakwood, Hayward Heath, Sussex.

GARDENER (UNDER), Inside or Out.—Age 22, single; three years' excellent character from present situation.—G. G., 41, Wellington Street, Strand, W.C.

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TO THE TRADE.—Advertiser desires a situation as MANAGER, FOREMAN, or TRAVELLER. Seventeen years with good firms; well up in all branches.—JOHN WINSER, Plummers' Place, Horsham.

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FOREMAN, or good JOURNEYMAN (FIRST), Inside.—Age 28; nine years' experience; two and a half years as First Journeyman in last place. Good character.—J. PECKHAM, Brookland Lodge, Lyndhurst, Hants.

FOREMAN (Inside), in good establishment. Age 24; good Decorator. Nine years' experience. Disengaged.—A. GOODMAN, High Street, Camberley, Surrey.

FOREMAN, or JOURNEYMAN (FIRST), Inside.—Age 27; ten years' experience. Two years as First Journeyman in last place. Well recommended from last and previous places. Abstainer.—F. BEESON, 18, Burreard Road, West Hampstead, London.

FOREMAN; age 25.—WM. LEWIS, Gardener to Thos. Oliverson, East Sutton Park, Staplehurst, Kent, highly recommends R. Bashford as above. Seven years' practical experience.

FOREMAN, Inside.—Age 26; Life experience in Plants, and Fruit. Well recommended.—WHEELER, Blackmere End, Kimpton, Welwyn, Herts.

To Nurserymen.

FOREMAN (Herbaceous, Alpine, and Carnation) or TRAVELLER (calling on trade preferred).—Age 31; has had good experience. First-class references.—E. H. HARRY, 35, Adelaide Road, Brockley, S.E.

FOREMAN, Inside, or General.—Mr. UNDERWOOD, The Gardens, High Firs, Harpenden, would be pleased to recommend a young man as above.

TRADE WORKING FOREMAN PROPAGATOR.—Age 28, Roses, Fruits, Clematis, and Vines. No objection to Soft-wood Collection.—Acer, 41, Wellington Street, Strand, W.C.

JOURNEYMAN.—Age 23; ten years' experience; two years in present situation; good references. Distance no object.—L. LUXFORD, Malcolm Cottage, Crown-hill, R.S.O., Devon.

JOURNEYMAN (FIRST).—HERDLEY WARREN, Gardener to Lady de Rothschild, Aston Clinton, Tring, wishes to recommend A. Cooper as above. Eight years' experience; two in present situation. At liberty when suited.

JOURNEYMAN.—Age 23; English; Pro-testaot, seeks re-engagement in good establishment for years' present situation; good references from present and previous employers.—D. CHILMAN, Beeborough Court, Cork.

JOURNEYMAN, Inside, or Inside and Out.—Age 20; good references. No objection to both.—F. SCHOFIELD, The Gardens, Bevingbrough Ball, York.

IMPROVER.—A young Man, age 20, with four years in Flower and Kitchen Garden, seeks a situation as above. Very highly recommended.—B. OTTLEY, Florist and Seedman, Oddington, Stow-on-the-Wold, Glos.

IMPROVER.—The GARDENER, Bill Hill, Wokingham, would be pleased to recommend a strong, active young man, age 18, as above.

MUSHROOM GROWERS.—Young Man wants situation as above, 8 years' experience; has grown large quantities for London Markets; can make own Spawn.—R. S., 108, Union Street, Borough, S.E.

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TO GARDENERS.—Young Man, age 22, seeks situation in Pleasure Grounds, Inside if required. Leaving through reduction. Good character from present and previous employers.—T. MANN, The Gardens, Leweston, Sherborne, Dorset.

TO NURSERYMEN.—Situation wanted in a Nursery. Age 23. Used to general routine of market work. References.—W. SPENCER, 1, Hope Villas, Hampton, Middlesex.

TO NURSERYMEN.—Young Man, age 25, well up in Cucumbers, Tomatos, Mushrooms, Grapes, Peaches, Pot Stuff, and the general routine of a Market Nursery.—F. SMITH, 29, Bondchurch Road, Hassocks, Sussex.

TO NURSERYMEN, &c.—Young Man (21), seeks situation. Used to Market Nursery, Tomatos, Cucumbers, Ferns, Cut Flowers, &c. Abstainer. Good references.—A. SMITH, 3, Heathfield Villas, Hampton.

TO NURSERYMEN.—Young Man wants situation. Quick at Potting, Tying, &c. Life experience. Good characters if required.—W. H., 11, St. John Row, Whetstone.

TO WHOLESALE SEED MERCHANTS.—The Advertiser offers his services for the season, either as ASSISTANT at the Counter, or as INVOICE CLERK.—J. ADAMSON, Saubury Park, Saubury-on-Thames.

TO FLORISTS.—Young Man, age 22, wants situation as BUNCHER and PACKER, and to fill up time in the houses; seven years' experience.—H., 159, Angel Road, Edmonton.

TO FLORISTS and SEEDSMEN.—Advertiser having finished his Apprenticeship in Nursery, requires a situation in Shop as ASSISTANT or IMPROVER.—ARTHUR PRATT, Messrs. W. Balchin & Sons, Florists, 87, Western Road, Brighton.

SHOPMAN.—Age 28; seeks re-engagement to the Nursery, Seed and Cut Flower Trade, Wreaths, Bouquets, &c.—A. G., "Venture," Woodside Road, Boscombe Park, Bournemouth.

SHOPMAN.—Situation wanted by Young Man, age 23, desiring change. Six years' experience; excellent references.—CROCUS, 41, Wellington Street, Strand, W.C.

Seed Trade.

SHOPMAN (HEAD).—Age 32; eighteen years' experience in Vegetable, Flower, and Farm Seeds; good knowledge of Plants; been used to a brisk Counter-trade. For references, &c, apply SCOTCHMAN, 41, Wellington Street, Strand, London, W.U.

SHOPMAN (ASSISTANT).—Age 23; five years' experience in good Provincial House in Flower, Vegetable, and Farm Seeds, &c.; good references.—RIMMINGTON, Handsworth, Sheffield.

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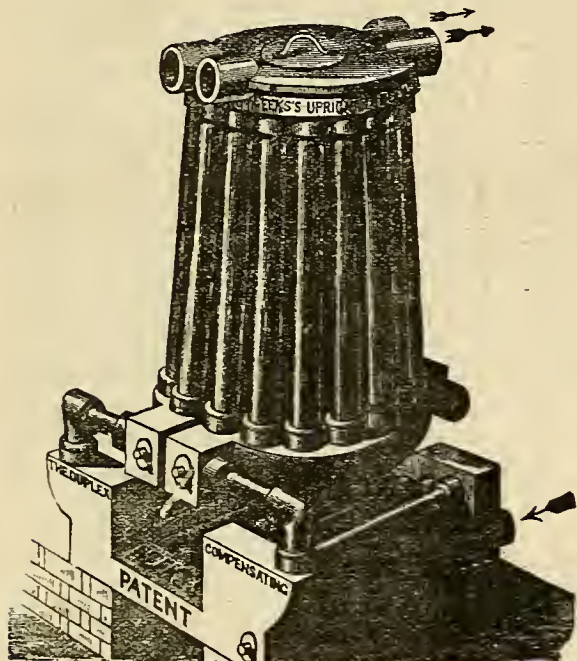
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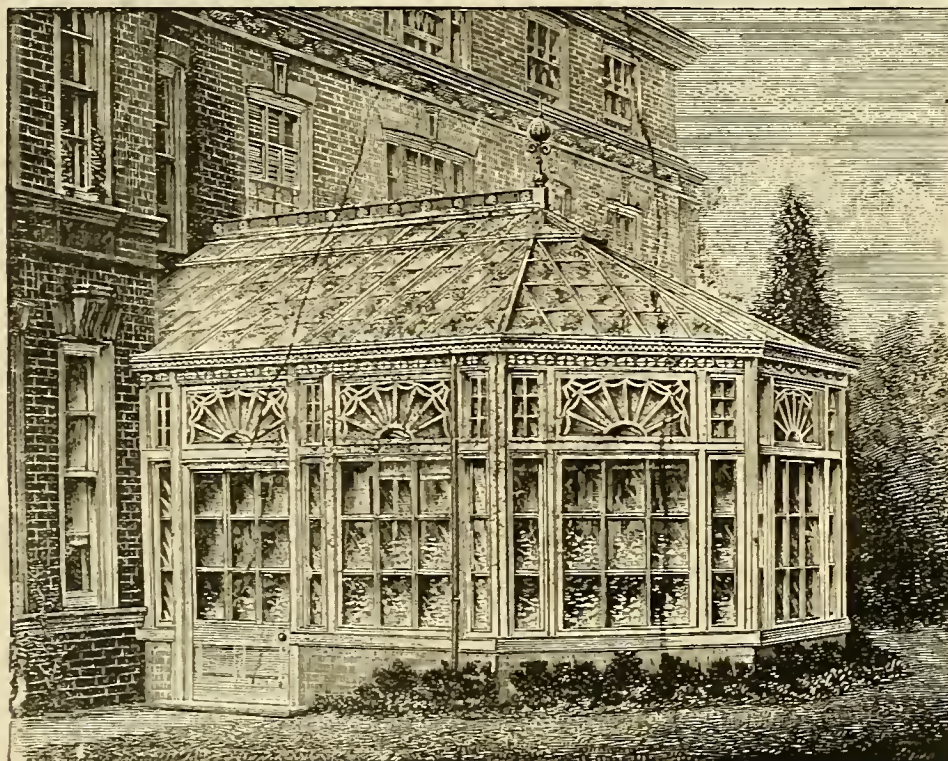
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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

Cannell's Exhibit.

ROYAL HORTICULTURAL SOCIETY.

The Daily News said:—"Florists have mastered the art of growing the finest flowers under the least favourable conditions of the weather. The exhibition held by the Royal Horticultural Society at Westminster will be regarded as wonderful for the time of year. Messrs. Cannell, of Swanley, had Zoal Pelargoniums as fine and showy as summer varieties to be seen at the great shows, and adjoining they had also a superb collection of Chrysanthemums, which included fine specimens of Kentish White, and the soft yellow Oceana. A Silver-gilt Medal was awarded."

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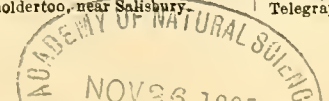
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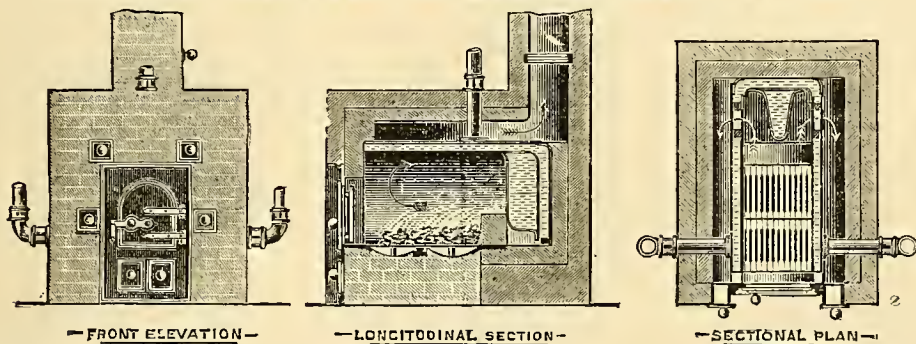
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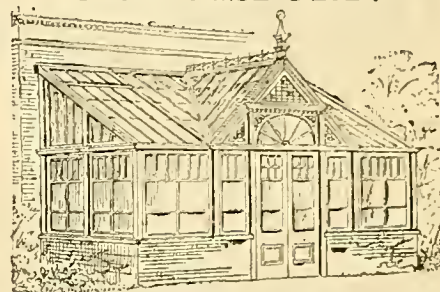
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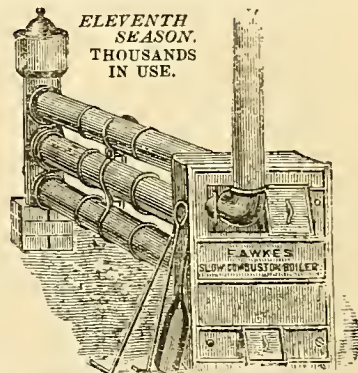
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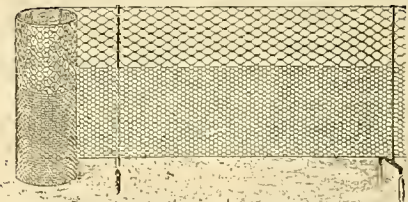


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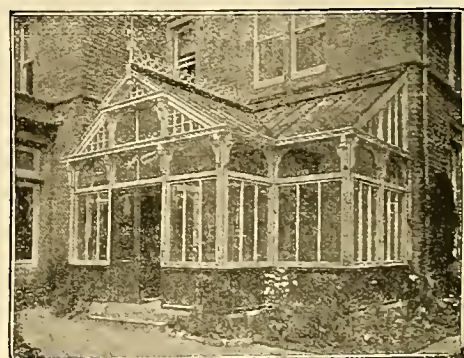
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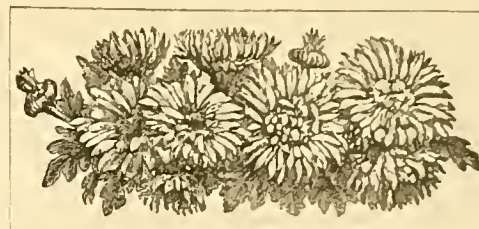
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THE

Gardeners' Chronicle.

SATURDAY, NOVEMBER 16, 1895.

JOHN EVELYN.

THE long roll of English amateur horticulturists contains no more attractive a name than that of John Evelyn—or "Silva Evelyn." Lucy Aikin described him as "that model of a meritorious English gentleman." "I know no man," says the poet Cowley, "that possesses more private happiness than you do in your garden, and yet no man who makes his happiness more public by a free communication of the art and knowledge of it to others. All that I am able yet to do is only to recommend to mankind the search of that felicity which you instruct them how to find and to enjoy." Columns might be filled with the things which Evelyn's contemporaries have said about him; but it is more particularly with Evelyn in connection with Sayes Court and the newly-established Deptford Park that forms part of the old estate that we are concerned.

The manor of Sayes Court, originally known as West Greenwich, has a very ancient history, which, indeed, goes back to the time of the Conqueror. But it is not at all necessary for us to penetrate very far into the dim mists of obscurity, and it must suffice us to point out that the name of the place dates from the early part of the twelfth century, when, by marriage, it passed into the possession of Geoffrey de Say, who was one of the most distinguished men of his time. The estate remained in possession of this family until early in the fifteenth century, when, in default of a heir male, it passed into the possession of Sir John Phillip. After various changes it was, towards the close of the sixteenth century, in the possession of the Browne family.

It will be interesting to quote the description of the place as it appeared to eye-witnesses in 1608 and in 1651, respectively. The survey, which bears the date of July 25, 1608, reports as follows in Sayes Court:—This house containeth eighteene severall roomes and two storis high, and nyne bayes and gardens, and orchards containing by estimation two acres and a halfe, also a stable on the west end of the stables and a loft or gardener of four bayes valued by the jury by the yeare (in good repaire), iiii l."

Forty-three years later, another survey—dated June 2, 1651—was made of the place, and from this it will be seen that its value, at all events, had considerably increased since 1608. The survey says:—"Manor house built with timber, with the appenances thereunto belonging commonly called Sayes Court, Deptford consistinge of one hall, one flor, one kitchen, one buttery, one larder, with a daryehouse, alsoe one chamber and three cellers. In ye second storie eight chambers with foure closetts, and three garretts, two stables, and one other little stable joyninge to the aforesaid manor howe, which aforesaid manor house, together with the

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said garden, orchard, and court yards, contained together two acres, two roodes, and sixteen perches. xiiij l."

Whilst in Paris during 1646-7, Evelyn became acquainted with the English Ambassador there, Sir Richard Browne, and on June 26, 1647, he was married to Mary, Browne's only daughter, and finally settled with his wife at Sayes Court in 1652. The Brownes held a lease from the Crown of the manor, which had been seized by the Parliamentarians. Evelyn obtained the King's leave to compound with the occupiers, the King also promising, in the event of a Restoration, to secure it to him in fee farm. He succeeded in compounding for £3,500; he also obtained leases from the King after the Restoration.

Although Sayes Court itself had only a comparatively small garden of a couple of acres attached to it, the manor itself would appear to consist of 260 acres, according to a letter which Evelyn quotes in his *Diary*, under date, October 21, 1642. The diary began to alter and improve the place soon after he took possession. Under the date January 17, 1653, Evelyn has an entry in his *Diary* to the following effect:—"I began to set out the oval garden at Sayes Court, which was before a rude orchard, and all the rest one entire field of 100 acres, without any hedge, except the hither Holly hedge, joining to the bank of the mount walk. This was the beginning of all the succeeding gardens, walks, groves, enclosures, and plantations there." The late Mr. Nathan Dews, the author of a very interesting and complete little *History of Deptford* states, that among the MSS. at Wotton, is the following notice of Evelyn's work at Sayes Court:—"The hithermost grove I planted about 1656; the other beyond it, 1660; the lower grove, 1662; the Holly hedge, even with the mount hedge below, 1670. I planted every hedge and tree not only in the gardens, groves, &c., but about all the fields and houses since 1653, except those large, old, and hollow Ems, in the stable court, next to the sewer; for it was before all one pasture-field to the very garden of the house; from which time also I repaired the ruined house, and built the whole end of the kitchen, the chapel, the buttry, my study above and below, cellars, and all the outhouses and walls, still-house, orangerie, and made the gardens, &c., to my great cost, and better I had don to have pulled all down at first, but it was don at several times." In *Sylva*, 1633, Evelyn further records:—"I planted all the out-limits of the garden and long walks with Holly—400 feet in length, 9 feet high, and 5 feet in diameter."

Evelyn's residence at Sayes Court extended from 1652 to May, 1694, a period of forty-two years. He was a pronounced Royalist, but occupied himself very little with public affairs during the Commonwealth, and confined himself, in fact, to the cultivation of his garden, to writing books, and to corresponding and associating himself with the learned men of the day.

It would require columns merely to enumerate the many celebrated men who visited Evelyn at his renowned retreat at Deptford. Among others, we may especially mention John Dryden, the poet; the Marquis of Argyll, who shortly after had the misfortune to lose his head on the scaffold; Lord Lothian, Earl of Southampton (Treasurer of the Navy), the Queen-mother, with the Earl of St. Albans, "and many great ladies and persons." Abraham Cowley wrote his six Latin books on plants during his residence at Deptford, and the gardens at Sayes Court are said to have helped him greatly in this. Mr. Leslie Stephen states that Evelyn was on friendly terms with John Wilkins, the warden of Wadham College, and afterwards Bishop of Chester; and with Robert Boyle, to whom in 1659, he addressed a letter proposing a scheme for building a sort of college near London, where a few men of science were to devote themselves to the promotion of experimental knowledge. The outcome

of this proposal was the Royal Society, the first meeting of which was held in January, 1660-1. Both Charles II. and James II. showed Evelyn much favour, which perhaps was a questionable sort of a compliment; Evelyn had no sympathy with the profligacy of the court of the former, and still less, if possible, with the rascalities of the latter. His attention and time became more and more devoted to scientific and other subjects apart from politics; and when the Revolution came, he retired entirely into private life.

The decadence of Sayes Court dates from the time when Evelyn left it to settle with his brother George at Wotton in 1694. While he was in residence at Sayes Court, Evelyn was constantly receiving distinguished visitors, as readers of the celebrated *Diary* are well aware. On April 30, 1663, Charles II. came "to honour my poor villa with his presence, viewing the gardens, and every room of the house, and was pleased to take a small refreshment. There were with him the Duke of Richmond, the Earl of St. Albans, Lord Lauderdale, and several persons of quality." Two years later, another distinguished diarist, Samuel Pepys visited Sayes Court, as the following entry in his *Diary* shows:—"1665, May 5. After dinner, to Mr. Evelyn's; he being abroad, we walked in his garden, and a lovely noble ground he hath indeed. And among other varieties, a hive of bees, so as, being hived in glass, you may see the bees making their honey and combs mightily pleasantly." Pepys' *Diary* contains frequent mention of Evelyn. An exceedingly fine series of unpublished letters from John Evelyn to Samuel Pepys was in the possession of Mr. S. J. Davey, of Great Russell Street, five years ago. One of these contains a very quaint request that Mrs. Pepys should call in "Plantar de choux herbari prietaream Sr. Roger L'Eitrange—anything but Sr. Politick." Another of these unpublished letters, dated 1668, has reference to America; in it he mentions a captain whom he had the pleasure of meeting when he last dined with Mr. Pepys, and suggests that, as this gentleman is about to take command of some forces in New England, he would do him a favour if he would collect for him some of the vegetables and natural productions growing in that country. He encloses a list of the names of the plants he requires, and also those growing in Virginia, and of which he is anxious that Captain Nicholson should obtain some seeds.

The Great Frost of 1683-4 dealt very hardly by Mr. Evelyn's sylvan retreat. In his *Diary*, under date of February 4, 1684, he writes:—"I went to Sayes Court to see how the frost had dealt with my garden, where I found many of the greener and rare plants utterly destroyed. The Oranges and Mirtles very sick, the Rosemary and Laurels dead to all appearance, but the Cypress likely to induce it."

The things which the Great Frost did not destroy were eventually exterminated by Admiral Benbow and Peter "the Great." "I went to Deptford," writes Evelyn, on June 1, 1696, "to dispose of our goods, in order to letting the house for three years to Vice-Admiral Benbow, with condition to keep up the garden." How far the last clause in the agreement was kept up, the following lines will show:—"I have let my house to Captain Benbow, and have the mortification of seeing, every day, much of my former labour and expense there imposing for want of a more polite tenant." In 1698, the final blow was given to the beauties of Sayes Court. The Czar of Russia, Peter the Great, "being come to England, and having a mind to see the building of ships, hir'd my house at Sayes Court, and made it his Court and Palace, new furnish'd for him by the king." One of the Czar's pleasant pastimes, it appears, was trundling of a wheelbarrow through Evelyn's favourite Holly-hedge, to which reference has already been made. "Is there," asks Evelyn, under the heavens a more glorious and refreshing object of the kind than an impregnable hedge of almost 400 feet in length, 9 feet high, and 5 feet in diameter, which I can still show in my ruined garden at Sayes Court (thanks to the Tzar of Muscovy), at any time of the year, glittering with its armed and variegated leaves, the taller standards at ordinary

distance, blushing with their natural coral. It mocks the rudest assaults of the weather, heats, or hedge-breakers—*et illum nemo impure lacessit*."

The damage inflicted on the place by this precious pair of tenants was appraised by a committee comprised of Sir Christopher Wren, Mr. Sewell, and George London, the king's gardener, at £350 9s, of which amount £55 was in respect of the garden. London reported that the "several disorders" here came under two heads, "one is what can be repaired again, and the other what cannot be repaired." London reported that (1) all the grass work is out of order, and "broke into holes by their [the Russian Court] leaping and shewing tricks upon it;" (2) the bowling-green is in the same condition; (3), all the ground which used to be cultivated for "eatible" plants is all overgrown with weeds, and is not manured nor cultivated, "by reason the Zar (*sic*) would not suffer any men to work when the season offered; (4), the wall fruit and "stander" fruit trees are "unpruned" and unnailed; (5), the hedges nor wilderness are not cut as they ought to be; and finally (6), the gravel walks are all "broke" into holes and out of order.

If this succession of calamities were insufficient to drive away the gentle Evelyn, he would have been more than human. He removed the remainder of his goods to Wotton on May 24, 1700, and Sayes Court has never since been inhabited by any member of the family. The subsequent history is soon told, and its vicissitudes might almost employ the pen of an elegiac poet. In 1759, the house was let to the vestry of St. Nicholas, Deptford, to be used as a workhouse. In 1820 the old building was in great part demolished, but the workhouse remained on the site till 1848. In 1881 all that survived of Sayes Court was converted by its owner, Mr. W. J. Evelyn, into the almshouses, for the accommodation of old residents on the Evelyn estate. In 1886, Mr. Evelyn gave part of the old grounds to form a public garden, with an endowment for keeping it in order; and in August last, the remainder of the grounds was added to this public garden, after being tastefully laid out from the designs of Mr. H. E. Milner, the well-known landscape gardener.

Of the gardens, therefore, which once formed the glory of Sayes Court, and the pride of John Evelyn, only 7 acres have entirely escaped the builder. But the inhabitants of Deptford may consider themselves exceedingly fortunate in possessing this most desirable breathing-place in the heart of this densely populated neighbourhood. That it is being appreciated is demonstrated by the fact that in a fortnight from the day of its informal opening (August 12, 1895), nearly 8000 people passed through its gates. Mr. Evelyn has had it laid out entirely at his own cost. At present a considerable variety of trees and shrubs is flourishing in the gardens, nearly all of them being deciduous, as the smoke and dirt of the place would scarcely permit of anything in the shape of evergreen shrubs or trees flourishing there. Several varieties of *Barberis*, notably *aquifolia*, *Aucubas*, *Laurels*, *Box*, two varieties of *Cotoneaster*, *Pyrus Malus*, *Cræægus*, *Lilac*, *Privet*, *Weigelas*, *Mountain Ash*, and *Philadelphus coronarius*, all flourish here in a highly satisfactory manner. The gardens are under the charge of Mr. Callaghan, who has been in Mr. Evelyn's employ for some years. The place presents much of the "unclothed" appearance of a newly-laid-out park; but in the course of the next five or ten years it will partake somewhat of the character it possessed two centuries and more ago—it will be "most bocareque," as one of John Evelyn's visitors then described it. The Elm, Poplar, and Plane trees have all been growing here for many years, and they thrive exceedingly well. Mr. Thankfull Stardee's photographs (fig. 98, p. 577; fig. 99, p. 579; and fig. 100, p. 581) give perhaps a more "bocareque" appearance than it really possesses, but beyond this they are faithful to nature.

Apart from this slice of an estate which must always remain famous in the annals of English horticulture, and a reminder of one of the most charming and lovable figures in the history of the seventeenth century, it may be pointed out that the

London County Council purchased, in 1894, of Mr. W. J. Evelyn, a space consisting of seventeen acres; this space is almost half-a-mile west of Sayes Court, adjoining the Grand Surrey Canal. The price paid for it was £36,000, and the place is now rapidly being formed into a public park. But this piece of ground formed no portion of the gardens in which John Evelyn so delighted, although it has been the property of the Evelyn family since they acquired the estate. *W. Roberts.*

(To be concluded.)

NEW OR NOTEWORTHY PLANTS.

MASDEVALLIA ECLYPTRATA, *Krzel., n. sp.**

This is a very singular-looking plant. The bright green leaves have petioles of about the same length. The flower-stalks bear on their summit a very large

excepting this very superficial affinity, all the main characters are as different as possible. Not even the petals and the lip are similar, though those parts never show such a variation as the sepals. The Royal Garden at Berlin flowered the plant in August of this year. About the home of the plant I am not quite sure, and I believe it is better to confess my ignorance on a point I am not responsible for, than to publish doubtful suppositions. *F. Kränzlín.*

KEW NOTES.

GUSTAVIA PTEROCARPA.—This is one of the handsomest of the dozen species of *Gustavia*, a genus of tropical American Myrtaceæ, remarkable for its large glossy leaves and handsome flowers, sometimes 6 inches across, and not unlike the Magnolias. *G. pterocarpa* was introduced about thirty years ago, and distributed under the garden name of *G.*

tropical countries, the Creoles counting it the most delicious of all fruits, and they ought to be judges.

DIOSPYROS KAKI.

Ripe fruits of this, the Chinese Date Plum, may now be seen on two plants in the succulent-house at Kew. They are as large as good-sized Oranges, and of a rich scarlet colour. The conditions of this house seem to suit these plants, which have fruited annually since they were planted in the border among the Agaves, where they get plenty of air and sunshine.

LYCORIS AUKEA.

The handsomest bulbous plant in flower at Kew in November is this *Lycoris*, of which there are about a dozen pots, each bearing three spikes of flower in the Begonia-house now (see fig. 94, p. 545). The flowers may be likened to those of *Nerines*, but they are three or four times as large as the largest *Nerine*, their colour being rich golden-yellow. At Kew the plants are grown in an intermediate-house all the winter and spring, and when they show an inclination to go to rest, they are stood outside in full sunshine, where they get whatever rain falls. In October they are removed into the house again, and a few are placed in a stove to induce them to flower early. Thus treated there have been flowers of this plant on exhibition in the houses for the past month or more. I am convinced now that this beautiful Chinese plant, which, by the way, was introduced into England over a hundred years ago, remains unknown to most cultivators, only because the few who have attempted its cultivation have failed through not giving it sufficient heat. In a tropical climate like that of Hong-Kong it is a popular garden plant, growing with the same freedom as *Daffodils* do here. *W. W., Kew.*

ORCHID NOTES AND GLEANINGS.

ODONTOGLOSSUM MACULATUM.

With reference to the remarks under *Odonoglossum crispum Devonianse*, at p. 503 of the *Gardeners' Chronicle* for 26th ultimo, I beg permission to say that I have at present in bloom a plant of *Odonoglossum maculatum* bearing three fine flower-spikes out of one bulb, two being on the apex, and one on the side. *C. B., The Acacias, Worthing.*

ORCHIDS AT THE DELL, EGHAM.

With the older plants of this grand collection of Orchids in unabated vigour, and the inclusion of every worthy new plant, either species or hybrid, it is not enprising that Baron Sir H. Schroder, at The Dell, Egham, attracts the gardener and the botanist from all parts of the world.

In the large commodious plant-houses a succession of floral displays is to be found, the component parts of which vary with the seasons. Early in the year we recall the splendour of the groups of *Masdevallias* and *Odonoglossums*, whose united money-value would represent a moderate fortune; then, a charming display of *Cœlogyne cristata*, usually set up with Maidenhair Ferns, the two most attractive specimens noted being a *Cœlogyne cristata alba*, some 5 feet across, and bearing upwards of 600 flowers; and a still larger Chatsworth variety of *Cœlogyne*, with about 1000 blooms. And so on in succession, each class of plant represented in such beauty and completeness as to leave a strong impression on the mind of the beholder.

At the present time it is needless to say that the main show is made up of those two admirable plants, the autumn-flowering *Cattleya labiata*, and the varieties of *Dendrobium Phalenopsis Schroderianum*, which everyone regards as being among the best introductions to gardens ever made. Of the *Cattleya labiata*, one of the new houses is filled with their glowing warm rose and crimson flowers, scarcely two of which, it may be remarked, are exactly alike. Among them is a very beautiful albino, *C. labiata Countess Fitzwilliam*, with flowers of snowy whiteness, with a chrome-yellow base to the labellum, the disc of which is pale pink or bluish-white. In the same house are some plants of The

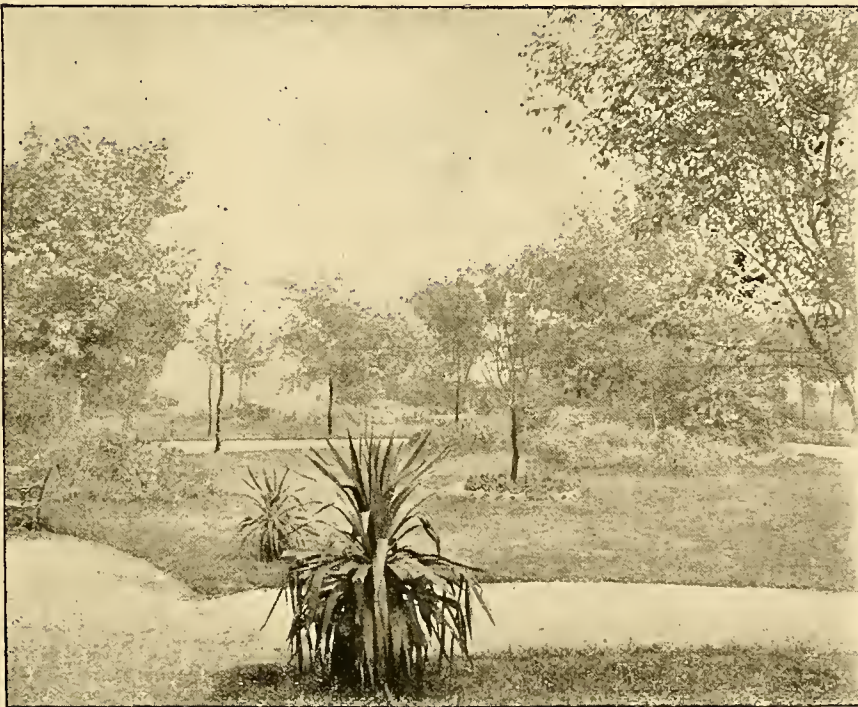


FIG. 98.—VIEW IN THE EVELYN PARK AT DEPTFORD. (SEE P. 576)

sheathing bract, which includes the basal half of the calyx. The dorsal sepal is very short, the lateral ones are united except at the very top, and exceed the dorsal by twice its length, or even more; all are contracted into filiform tails of 2 to 3.5 cm. in length. The colour of the principal part of the flower is a rich orange-yellow, more yellow at the base, more orange, or even brick-red, at the top. The mouth of the calyx is comparatively narrow.

The very large bract is like that of *M. eucullata*, Lind., and perhaps the plant may be here and there confounded with this species—the "Widow-flower" (*La vidna*) of the natives of New Granada, but

Leopoldi. A plant of it has long been in the Palm-house at Kew, where it flowers annually, and is in flower now. It is a shrub 6 feet high, with a straight, woody stem, branched above, and clothed with oblanceolate leaves 18 inches long by 6 inches in width. The flowers are borne in terminal clusters, a dozen in each cluster, and they expand in slow succession. They are in the form of a shallow cup 4 inches in diameter, composed of four fleshy, ovate-concave petals, white, tinted with rose, and a conspicuous corona-like ring of yellow stamens. They are deliciously fragrant. *G. gracillima*, a species with linear leaves and rose-tinted flowers, was in flower in the same house a few weeks ago.

ANONA CHERIMOLIA.

A plant 4 feet high, grown in a pot, has this year ripened several fruits in the Palm-house at Kew. They are about the size of an ordinary Apricot, dark-brown in colour, their pulp being yellow, and delicious both in aroma and taste. Has any one ever tried to grow this fruit in English fruit-houses? If it could be grown as Peaches, for instance, are grown, and would fruit freely, it could scarcely fail to become popular. It is largely cultivated in

* *Masdevallia calyptrata*, Krzel. n. sp.—Foliis lanceolatis apice obtusatis in petiolum sequilongum angustatis; scapis unifloris folia sequantibus v. brevioribus; bractea maxima ovarium et basin cyathi supra dimidium amplectente carinata acuta; cyatho 2 cm. longo compresso antice subclauso, labio superiore v. parte libera sepali dorsalis triangula brevi in caudam filiformem 3.5 cm. longam protracto, labio inferiore (v. sep. lat.) multo longiore; sepalis apice tantum liberis ibi triangularibus et in caudas 3 cm. longas protractis, toto cyatho aurantiaco v. luteo et dense purpureo-suffuso; petalis longe rhombeis apice oblique resectis arosulis transversis triangularibus; labello subrhombico, antice obtuse acutato incrassato; gynoemio equilongo, margine audacitini profundo integro. *F. Kränzlín.*

Dell hybrid *Cattleya* × *Baroness Schroder* (*Trianaei* × *Jongheana*) in bloom and bud. This cross-bred plant has charming rose-pink flowers, with a yellow and white tube to the lip, and is the most lasting of late-flowering hybrid *Cattleyas*. A strong plant was noted of another fine thing raised at The Dell, viz., *Lælia* × *vitellina*, whose fine Indian yellow flowers are very attractive, and has flowers in sheath.

The adjoining house is a moist, warm one, which has been arranged in every way likely to make it suitable for the culture of *Phalænopsis*, and in it these plants at the present time seem to be quite at home, promising a good show of flowers at the proper season. At present, those in bloom are *Phalænopsis Lowii* and *P. violacea*. *Phaius tuberculosa* also grows and blooms in a most satisfactory manner in a shady corner of this house; and plants of *Miltonia Roezlii* and others requiring similar temperature and atmospheric conditions, seem to be suited in this house.

In the next range of three span-roofed houses, in the first of which is a fine batch of the bronzy-leaved *Begonia Gloire de Sceaux*; in the second, suspended over groups of coloured *Crotons* and other foliage plants, is a most charming display of the elegant sprays of *Dendrobium Phalænopsis Schroderianum*, *D. superbiens*, and others of its class; and in the third, the centre stage of which is filled with the collection of varieties of *Lælia anceps* well-furnished with flower-spikes, is a grand group of *Dendrobium formosum giganteum* laden with its large white and yellow flowers.

Passing through the lofty *Camellia*-house we find evidence of an important condition of success in Orchid culture, viz., to grow the plants well in the season of growth and rest them afterwards, in the great number of deciduous *Dendrobiums* suspended in the cool dry air of this house. Each one made splendid growth in the warmer houses, and here they are placed to become well ripened, and in consequence fitted for flowering. In this house in full sunlight *Lælia majalis* thrives and flowers freely.

In the large *Odontoglossum*-house, the vigour so often noted in the specimens, many of which are unique, is unabated, and the plants are well furnished with stout spikes. Among other things in flower are the beautiful orange-lipped *Ocycidium Loxense*, with a fine branched spike of striking large flowers; *Ocycidium superbiens*, with white, purple, and brown flowers; and various others of the class which here grow to a great size, one plant of *Ocycidium macranthum* having had nearly 180 flowers; and *Odontoglossum Edwardi*, gigantic branched spikes of its violet-coloured blooms.

In the warm tank-house, about the centre of which the Pitcher-plants are suspended, is another charming display of *Dendrobium Phalænopsis Schroderianum*, with the pure white *D. Darrii*, the fragrant white *Angræcum Leonis*, and a few other species. On one side the plants of *Vanda teres* produce every summer a great show of bloom. Here a peculiarity in the nearly white *V. t. Aurora*, which is now in flower and in buds of various stages of maturity, is noted, viz., that it is almost perpetual-flowering, for as fast as a leaf or two is made, an inflorescence appears. On the other side is a group of finely-grown *Habenaria Suzanna*, some of the best spikes having each five of their beautiful and singular flowers; also *H. carnea* and *H. nivosa*, all of which are well under management in this house, which seems to suit them admirably.

Next we pass to the *Cypripedium*-houses, in which there is a never-failing show. The varieties of *C. insigne* are coming on, and soon three flowers will be expanded on the clear yellow *C. insigne Sanderæ*, which is first favourite. There is also a good show of *C. Spicerianum*; varieties of *C. × Leeannum*, *C. Charlesworthii*, *C. × oceanium superbum*, still the best of its class; *C. × marmorophyllum*, *C. × Char. Canham*, the richly spotted *C. × Southgatei*, *C. × Antigone*, *C. × Niobe*, *C. × Galatea*, and a number of others, and the rare *C. Stonei platyænum*, and other cherished treasures are increasing steadily in size and strength. Arranged on one side of the house are a number of specimens of *Pleione maculata*,

P. Wallichiana, and *P. laganaria*, literally covered with flowers.

In the large stove-house, the centre of which is thinly arranged with gigantic *Anthurium Veitchii*, *A. Warocqueanum*, and *A. Andreanum*, furnished with fine scarlet spathes, is a splendid collection of *Calanthes*, some of which are coming into bloom, while all are furnished with stout spikes. The best of these, without doubt, is that gigantic and richly-coloured hybrid, *C. × Baron Schroder*, raised at The Dell, and which it seems difficult to surpass in beauty. It is a marked instance of the benefit to be derived by using only the very best varieties in raising crosses. Here are the violet-flowered *Utricularias* from *Roraima* suspended from the roof, and the lighter blue *U. Eadresii*, all of which give such a profusion of bloom in their season; the pretty *Pachystoma Thompsoni*, *Oncidium papilio*, *O. hæmatochilum*, *Cœlogyne Massangeana*, *C. speciosa*, *Cycnochea chlorochilum*, and with some beautiful selected plants of *Dendrobium Phalænopsis Schroderianum*, the pure white *D. Phalænopsis virginalis*, which has no other colour than a faint blush on the lip.

In the large *Cattleya*-house, the Baron, full as ever of interest in his Orchids, pointed out some of the old inhabitants of the house whose long-continued good health he attributed to growing them well, but not overdoing them—a course which, as he says, must either result in sacrifice of flowers or collapse of the plant after a time. Among these were the first plant of *Cattleya Bowringiana* ever purchased, and which is now a fine healthy mass with five grand spikes; the original plants of *Lælio-Cattleya × Dominiana* and its variety *rosea* (*C. Dominiana* × *L. purpurata*) first flowered in 1873, and which are now among the noblest of hybrid Orchids; one of the earliest plants of *L.-C. × exoniensis* and various others which are regarded by the Baron and his gardener, Mr. Ballantine, as old acquaintances. The house is bright with flowers of *Cattleyas*, *Lælia Perrini*, *Lælio-Cattleya × Cassiope*, *L.-C. porphyrostele*, *L.-C. × Enterpe*, and other hybrids, and among plants of special interest noted were the Lamberhurst hybrid *Cattleya* (*intermedia* × *citrina*) and *Lælio-Cattleya × Digbyana Mossæ*, recently figured in the *Gardeners' Chronicle*.

Passing to the lofty rockery-house, clad with Ferns, &c., we come to the lean-to range of cool intermediate-houses, in the first of which the plants of *Miltonia vexillaria* are grown; we find in the second division some of the rarer *Odontoglossums* in flower. Of these the most beautiful were the violet-spotted *O. Pescatorei Schroderianum*, of which there were three fine, branched spikes; *O. × Wilckeanum Godefroyæ*, a grand yellow flower, densely spotted with rich brown, and which we always think is no *Wilckeanum*, for its form differs, its flowers are more flatly displayed, and more beautiful than those of *Wilckeanum* is; the very pretty *O. Wattianum*, *O. Sanderianum*, *O. Bctonense album*, *O. cirrosum*, and just passed a grand *O. crispum*, which has borne thirty-two noble flowers on its spike. Then follow the house of *Masdevallias*; a house of noble specimens of *Cœlogyne cristata* and *C. c. alba*, with a row of finely-flowered *Lælia præritans*, and one specimen of the superb *L. p. alba* with pure white flowers marked with purple on the lip. Beyond are the house of *Vanda tricolor* and *V. anavis* in splendid condition, with *Vanda Kimballiana* and *V. cœrulea*, *Cypripochis elegans*, and *Cymbidium giganteum*, making a good show. Then we enter the small house set apart for *Lycaste Skinneri*, followed by a house in which are a number of *Ocycidiums* in flower, and some plants of *Dendrobium cruentum*; and then a long lean-to house, filled with foliage *Begonias* on the stage, and numerous specimens of species of *Dendrobium* hanging from the roof.

In the next range in which *Fittonias*, &c., are planted where possible are the collections of *Aspides*, *Saccolabiums*, and warm-house *Vandas*, among which some excellent examples of *V. Sanderiana* were in bloom. Here, too, is evidence that curious botanical plants are not slighted, for among a collection of

such plants in bloom were *Cataetum Christyanum*, *C. saccatum*, *C. Gnomus*, and several specimens of *C. prurum*, *Galeandra Baneri*, and other pretty species. As in other collections, difficult subjects are often encountered at The Dell, but with such the Baron and his gardener, Mr. Ballantine, have an unflinching method, and that is, to "stick to them" until they are made happy.

ADHATODA CYDONIÆFOLIA.

How seldom at the present day is this old stove-climber seen in collections! it having been elbowed out by the numerous foliage-plants with which our modern stoves are more or less filled. Of course, these latter are valuable additions to well-grown collections of plants. Still, where there is a bit of spare room, I think no plant-lover would regret adding to his collection the one named above. It is best seen to advantage when grown as a pillar-plant, though where this position is not available, it can be trained up the roof of any ordinary plant-stove. Our plant is in such a position, being affixed to three longitudinal wires up the roof under a rafter, just as Vines were trained to in old-fashioned vineries. It is planted in a brick enclosure under the hotwater-pipes that run beneath the side-stage. It is best to raise this enclosure, say a couple of bricks in depth, above the surrounding surface, to prevent the soil therein from becoming sodden. The mixture of soil we use is two parts sandy loam, to one part turfy peat, with some broken clinkers added to keep the soil sweet. Good drainage was put in the base, covering this with a thin turf, to prevent it from becoming clogged. After the enclosure is full of roots, weak doses of manure-water are afforded during the summer months, at which time the plant is in full growth. Its period of flowering is during the months of October and November. The drooping sprays covered the whole length with dark green opposite, ovate leaves, from the base of which spring small clusters of purple and white *Jasica*-like flowers, have a very pretty effect. Unfortunately, they are but short-lived when used for indoor decoration, though we have occasionally used them for laying on the cloth along with suitable foliage in decorating the dinner-table. Unlike purple flowers generally, the peculiar shade of this *Adhatoda* comes out very well under artificial light. When the flowering period is past, say in January, we cut our plant back to the main stems, keeping the roots on the dry side for a few weeks at the same time. When it begins to grow again in March we water as before. So far as I know, the plant in question is not subject to serious attacks by any of the many insect pests that too frequently infest stove-plants in general. We have tried it as a basket-plant, but have not succeeded so well as we could wish. *H. J. C.*

POTATOS.

I much regretted being compelled to leave the Drill Hall at the close of Mr. A. H. Sutton's most interesting and well illustrated lecture on Potatos, which he delivered on the 29th ult. True, very much that he said, offered no room for criticism, and but little suggested discussion. Just one or two points, however, merited notice, and could I have remained, I should have referred to them then. First, in mentioning the need for removing the stamens from flowers before attempting cross-fertilisation, Mr. Sutton laid down what is held to be an essential axiom in relation to all self-fertilising flowers that is indisputable; but I have found the garden Potato to be an exception, and I use that term to differentiate it from the various species to which Mr. Sutton made special reference. The great characteristic of the flowers of garden and field Potatos is their pollen-barrenness, which may not be absolute, but is comparative. So nearly is it absolute, however, that not more than one variety in fifty produces pollen enough to set its own flower, hence they all drop, and there is no seed-production. No doubt that feature is due to the exhaustion

arising from the great production of tubers the plants now exhibit. Seeing that in Potatoes the processes have to run coterminous, and are not found in diverse seasons as in the case with so many other things, the result is not remarkable. Thus it is that Potato-flowers, when pollen can be obtained from any source (and just a few varieties do have plenty of pollen), may be fertilised freely without interfering with the stamens, unless it be those few varieties that do produce pollen freely, and it is rare indeed that these are employed for seed-production. They may, and have made, excellent pollen parents. Certainly pollen sufficient to produce fertilisation of one or two flowers may be obtained by perseverance from many apparently-barren blooms, as I have frequently found; but never in any case has any individual flower of these varieties produced fruit by self-fertilisation. It is a curious aspect of florescence seen in huge areas of Potatoes in full bloom one week, and the next not only not a flower is to be found, but not even a berry—

on what has been proved to be the most disease-stricken soil in Surrey. I do sincerely hope it will be tested also at Chiswick on the Potato trials henceforth, for it is most distressing to see apparently fine cropping varieties turned out rotten with disease. But there can be no doubt whatever that a benefit resultant from dressing even disease-resisting varieties of Potatoes with the Bordeaux Mixture arises from the longer preservation of the foliage, thus helping, as only through the agency of leafage can it be helped, to develop greater starch production in the tubers, though no material addition may be made to the bulk of the crop. There can be no doubt whatever but that starch is more fully developed in the tubers after they have reached their maximum size, and the process of ripening is proceeding, than at any previous period in their growth. Thus the retention of leafage for but three weeks longer on the plant becomes, for this purpose, a matter of vital importance. That there is so much complaint every year as to the absence of

has in it a considerable body of yellow flesh, both for its nutty quality and flavour. Who does not remember the old Victoria, so good, one of the best flavoured of Potatoes, with its (when well cooked) yellow body coated with whitish flour-like crystallised sugar. Have we to-day its equal, or that of the Ashleaf, for flavour? Mr. Robert Fenn, when he raised his old early market Rector of Woodstock, Woodstock Kidney, gave us delicious flavour, but so soon as he utilised the white with Americans as parents of crosses to secure size, he found flavour to decrease. It is the same with all our varieties. The very best flavoured Potatoes I have raised, The Dean and Renown, were out of Woodstock Kidney, and they have good flavour, as also has Reading Russet, which is so excellent when fully matured and cooked well, but these all have yellow bases. We have got varieties that produce crops as well as size in tubers, that satisfy all needs—indeed, to-day Potatoes are cheap almost beyond all precedent. We can now afford to devote more attention to starch and flavour production, but if we will have these elements we must have yellow flesh also.

I finally suggest to chemists whenever they analyse Potatoes they do so in a cooked state, as we partake of them as a food, and not raw. What are the changes cooking brings about I cannot say, but they are considerable. Still further, perhaps, they will tell us what ingredients we can apply to soils that shall give us starch and flavour, where now it is lacking. A. D.



FIG. 99.—VIEW IN THE EVELYN PARK AT DEPTFORD. (SEE P. 576)

THE SHOW TULIP.

I THINK it possible the garden show Tulip may once more grace the tables of our exhibitions in large numbers, for Mr. P. Barr seems to have set his heart on the revival of this once immensely-popular flower; and we all know, that should he really be in earnest in the matter, that it will soon be an accomplished fact. Such I glean is his intention from a letter received from him some little time since. For several years I used to act as censor to the Vale of Evesham Floricultural Society, which held its monthly meetings in the Town Hall. This was, strictly speaking, a society of the old school of florists who studied the properties of flowers to the very letter, and who never could believe their own eyes; for every flower had to be examined through a pair of spectacles before they could trust it to be staged. However, I admit gaining many "wrinkles" from some of the members of the old school, and passed many a convivial hour in their society. The members held four shows annually, at times suitable for their favourite kinds of florists' flowers. I regret to say, that since I left the neighbourhood, now some years ago, most of the principal members of this old school have departed this life, and the rising generation seems to be lacking in energy in upholding such shows as were the pride of their fathers; and this particular society, like so many others, is now numbered with the things of the past. Should Mr. Barr take the Tulip in hand, his own extensive bulb grounds at Toames Ditton would be very suitable for their culture, and a grand display might be given annually there, which would no doubt, as of yore, draw florists from all parts of the United Kingdom. Now, we do not expect people to get so excited in these days over the Tulip as to go mad, as was evidently the case when the culture of the Tulip was at its highest, about 1636. We do not expect to hear of the gambling speculations that were once carried on during the Tulipomania; the bulbs were then sold by weight in perils or grains, and some brought prices which would have purchased a small estate. A variety called *Semper Augusta*, I have read, was sold for 2000 florins, and it once happened that there were only two roots of it to be had, one at Amsterdam, the other at Haarlem. For a bulb of this variety one person agreed to give 4000 florins, together with a new carriage, two grey horses, and a complete set of harness; and another agreed to give 12 acres of land for a bulb; and in one instance Tulips brought a profit of more

nothing but the bare stems to show where the flowers have been.

The suggestion of the lecturer that with so many fine comparatively disease-resisting Potatoes in cultivation, even in most adverse seasons, it does not pay to apply dressings of the Bordeaux Mixture generally to them, is quite true. That is specially so in relation to field culture. I conducted trials of all the best early and late varieties of Potatoes in commerce during the past summer, in Surrey, on numerous plots and diverse soils. In the majority of cases disease gave about 3 per cent. of injured tubers only, but there were two cases, both on the light porous and evidently over-charged nitrogenous soil of the allotment-ground at Richmond, where the disease played havoc with all sorts, early and late, disease resisting and otherwise; none were unharmed, and the bulk to the extent of two-thirds, at least, very bad. The soil is so much like that at Chiswick, where also disease was apparent, that it is evident there are conditions under which it would pay well to employ the Bordeaux Mixture freely; and if I have to superintend any Potato trial at Richmond next year, I trust it will be solely for the purpose of testing this liquid compound,

quality in Potatoes, is largely due to the fact that the foliage is destroyed by the disease ere it can complete its proper work of maturing, there can be no doubt.

This matter naturally leads on to the consideration of another, respecting which a long paper might be written as to the connection between colour of Potato flesh and flavour. Mr. Sutton referred to the diverse varieties of Potatoes grown on the Continent, not only for food, but also for furnishing starch and sugar to be converted into alcohol. Comparing them with ours, the continental Potatoes have yellow flesh, we prefer white flesh tubers, and grow those almost exclusively. We here show that same stupidity which characterises the nation in its preference for flabby white boneless bread over that of wholemeal, which is coarser in texture, but more healthful. It is a fact, I think, indisputable, that yellow flesh and flavour, if there be too abundant starch, are allied. The white flesh tubers give us mealiness or flouriness when they are matured, but they lack both starch, which is the chief flesh-forming principle, and flavour—why this odd antipathy to yellow flesh? Curiously enough everybody likes and extols the Ashleaf Kidney, which

than 60,000 florins to a dealer in four months. Noblemen have been known to give sweeps 2000 florins for Tulip-bulbs; and we are told that in one town in Holland in three years more than 10,000,000 florins were expended in this trade. In another instance, a person who possessed a yearly income of £2800 was reduced to begging in the short space of four months by purchasing flowers and bulbs. It is also said that a person who possessed a very fine Tulip, hearing that there was a second root of the same kind at Haarlem, repaired thither; and after purchasing it at an enormous price, placed it on a flagstone, and pounded it to pulp with his feet, exclaiming with exultation, "Now my Tulip is unique!" Now, of course, we do not, in these hard and enlightened times, expect any such folly, or high trade prices to rule; we shall not have maid-servants, footmen, sweeps, &c., speculating as of yore; but high prices may again come to the fore. The difficulty seems now to be, in getting a first-class collection together. The last beds of valuable Tulips I saw were at Mr. Groom's, Clapham Rise, about the year 1852. He had at that time one bed, 130 feet long, containing the cream of his collection—1700 bulbs, and altogether 200,000 in and out of flower, and the prices he asked were exceedingly high, ranging from 100 guineas downwards. Mr. Middlecot, of the Greyhound Inn, Dulwich, also had a fine amateur collection, which he used to cover with an awning during the flowering season; but they are also things of the past, and we must look to the northern florists for help in forming a collection, and if these would only advertise their bulbs, they would, I believe, find a ready sale for them.

Raising Tulips from seed is a very slow process, the bulbs taking from five to seven years before they flower, and several years longer before they break into their proper colours. It is best to sow the seeds in pans or boxes; cover the seed with about a half-inch layer of leaf-mould and loam; keep them from heavy rains, but not to let the soil get very dry. Wait with patience for the seedlings to flower, then select such flowers as you think most eligible in respect to shape, colour, &c. They must be handsomely cupped, with clean bottoms, these being indispensable in a good flower, whether roses, bizarres, or byblœmens; select from these those that nearly approach Glenny's properties of a good Tulip. *Edw. Bennett, Lyne, Chertsey.*

ABOUT CHRYSANTHEMUMS.

(Continued from p. 548.)

DEVONHURST, CHISWICK.

A good collection of Chrysanthemums may be seen in the garden of E. H. Watts, Esq., and when the plants are in flower it is thrown open to the inspection of the residents of the district at a small charge, the sum thus obtained going to some charity. This season it is the London City Mission that will benefit.

The Chrysanthemum plants are arranged in semi-circles, and surrounded as they are with foliage plants, a very pleasing effect is produced in the greenhouses. Mr. J. Gibson, the gardener, is a believer in small shifts when repotting the plants, and in firm potting at all times. The size of pots employed is mostly 8 inch. The plants are very dwarf in stature, and the bloom buds are reduced to three on a plant; the cutting-back system is not practised here. Liquid from the cow-shed is the only manure applied to the plants, and that very sparingly. The plants were clothed with clean healthy foliage, and produced just the kind of wood from which first-class flowers are obtained.

Many good varieties were noted, viz., M. P. Martignac, incurved, a good golden-yellow, in the way of Jardin des Plantes; the rosy-blush Princess of Wales was in fine form; Baron Hirsch, orange-cinnamon, good shape, full bloom, and early in coming into flower; Empress of India was in capital condition; also C. H. Curtis, an incurved flower of pure yellow. One of the finest of recent introductions is Commandant Blussé, Japanese, a magnificent purple-amaranth

flower, dwarf habit; Duchess of Wellington, clear yellow, with long narrow florets; Mons. Panckoucke is another bright pure yellow, not quite so rich in colour as Thunberg, but in other respects superior to it, having Sunflower and Phœbus as good companions; Colonel W. B. Smith, golden bronze, shaded terra-cotta, very fine.

One of the very finest, Viviani Morel, rosy-pink, is pure white on an early bud; International, pale yellow-tinted rosy-lilac, fine spreading flowers. No collection seems to be complete without Charles Davis, a golden sport from Viviani Morel, beautifully tinted bronzy-rose; Colonel Chase, pale blush, long drooping florets; Niveum is a light pink, changing to pure white, a good exhibition flower, and one that should also be an acquisition for market purposes, others were William Seward, Kentish Yellow, Duchess of York, Jules Ferry (seedling from Louise Boehmer), Gairlande, M. Gruyer, Mrs. W. H. Lees, Madame Carnot, Philadelphia, King of Chrysanthemums, M. Paul Lacroix, Robert Owen, and Mrs. E. G. Whittle, *J. B.*

MESSRS. PEARSON & SONS, CHILWELL NURSERIES.

These well-known nurseries, situate about 4 miles from Nottingham, are just now a centre of attraction to crowds of gardening enthusiasts and others from the home and neighbouring counties wishful to see and admire the noted collection of Chrysanthemums which is on view. Here they have the opportunity of inspecting all the latest varieties, and judging any novelties without the fear of becoming confused by the glowing descriptions to which raisers are addicted. A feature adding attractiveness to the display consists in the spacious houses in which the plants are staged; and as the pot Vines and other fruit trees, which have occupied them during the summer, have been to a great extent disposed of to customers, space is available for the exhibition without interfering in any way with the numerous houses filled with stove and greenhouse plants.

In the principal show-house, 100 by 30 feet, the plants are arranged in semi-circular groups along each side with an immense bank at either end. Large-flowering varieties compose the main portion of these groups, the choicest kinds of Pompons forming a suitable edging. Rather a contrast to each other are two adjoining houses, each 100 by 24 feet, the first brilliantly gay with blooms grown especially to cope with the large demand for cut flowers, and the second containing late varieties to come into bloom about Christmas.

A short distance from the above-mentioned houses is the house (not open to the public) devoted to plants for exhibition purposes; and where may be seen some splendid blooms, which will, no doubt, figure at many of the forthcoming shows. Amongst the most conspicuous of these blooms are to be noticed Pallanza, M. G. Montigny, M. H. J. Jones, Noces d'Or, Duchess of York, Louise, W. Firkins, M. Panckoucke, Colonel W. B. Smith, W. Seward, Commandant Blussé, Primrose League, E. Molyneux, M. S. H. de Clermont, Descartes, &c.

LIST OF GARDEN ORCHIDS.

(Continued from vol. xiii. p. 684.)

91. GALEANDRA, Lindl., in *Bauer Ill. Orch. Gen.*, t. 8; *id. Gen. & Sp. Orch.*, p. 186; *Benth. et Hook. f. Gen. Plant.* iii., p. 536; Rolfe in *Gard. Chron.*, 1892, ii., p. 430; Cogn. in *Mart. Fl. Bras.*, iii., pt. 4, p. 293.—Terrestrial or epiphytic herbs, with fusiform, leafy, or sometimes very short pseudo-bulbs, narrow grass-like leaves, and terminal simple racemes of large or medium-sized flowers, sepals and petals spreading, sub-equal. Lip infundibular, sub-entire or somewhat three-lobed, prolonged into a spur behind; side lobes loosely embracing column; disc smooth, villose, or with somewhat thickened nerves. Column clavate; anther crested; pollinia 2, affixed to crescent-shaped gland. Species about 20, ranging from Brazil to S. Mexico.

(1.) G. BARBATA, Lem., in *Ill. Hort.*, iii. (1856), *Misc.*, pp. 86, 89; *Id.*, vii., t. 248; Rolfe, in *Gard. Chron.*, 1892, ii., p. 430.—Brazil,

Amazon district. Introduced by Messrs. James Veitch & Sons, and described from a plant which flowered in the establishment of M. Verschaffelt, of Ghent, in 1856.

(2.) G. BATEMANI, Rolfe, in *Gard. Chron.*, 1892, ii., p. 430; *Veitch Man. Orch.*, pt. ix., p. 5. *G. Baueri. Batem. Orch. Mex. & Guat.*, t. 19 (not of Lindl.); *Bot. Reg.*, xxvi., t. 49; *Pact. Mag. Bot.*, xiv., p. 49, with plate; *Orchid Album*, vi., t. 267; *Puydt, Les Orch.*, pp. 196, 197, fig. 193.—South Mexico. Sent by Ross in 1833 from the neighbourhood of Oaxaca to Mr. Barker, of Birmingham, in whose collection it shortly afterwards flowered. It was then confused with *G. Baueri*, Lindl., a very distinct species from Guiana, and the mistake was not found out till quite recently, when it was found necessary to give it a new name. Bateman remarked that it was found some thousand miles away from its original habitat, but, singularly enough he appears not to have noticed that it was a different species. A second error also occurs. The author states that Miss Drake prepared the exquisite drawing "assisted by native specimens more recently discovered by Mr. Skinner in Guatemala," but these evidently belonged to some other species, as the old bulbs are fusiform in shape. Puydt has reproduced the error. It is now rare in cultivation.

(3.) G. BAUERI, Lindl., in *Bauer Ill. Orch.*, *Gen.*, t. 8; *id.*, *Gen. & Sp. Orch.*, p. 187; *Bot. Mag.*, t. 4701 (var. *floribus luteis*); Rolfe in *Gard. Chron.*, 1892, ii., p. 431; *Veitch Man. Orch.*, ix., p. 6; Cogn. in *Mart. Fl. Bras.*, iii., pt. 4, p. 297. *G. cristata*, Lindl., *Bot. Reg.*, xxx., *Misc.*, p. 72.—Guiana. The original species of the genus, described by Lindley from a specimen collected in French Guiana by Martin, but afterwards confused with the preceding one by Bateman and others. It afterwards flowered with Messrs. Loddiges in 1840, and was re-described by Lindley under the name of *G. cristata*. It also flowered at Syon House in 1853, when it was thought to represent a distinct variety of the preceding. The New Granadan *G. dives* is sometimes considered identical, but this is doubtful, as will be seen in a note under that species.

(4.) G. CLAESI, Cogn., in *Journ. des Orch.*, iv. (1893), p. 202; *Lindenia*, ix., p. 17, t. 391; *Orch. Review*, i., p. 348.—Brazil. This species flowered at Kew in October, 1888, when I thought it was probably new, but did not describe it. Afterwards it was introduced by M. Claes, probably from North Brazil, and flowered in the establishment, L'Horticulture Internationale, Brussels, in 1893.

(5.) G. DEVONIANA, Schomb., ex Lindl., *Sert. Orch.*, t. 37; *Schomb. Reise*, iii., p. 912; *Pact. Mag. Bot.*, viii., p. 145, with plate; *Bot. Mag.*, t. 4610; *Maund. Bot.*, v., t. 231; *Lem. Gard. Fleur.*, ii., p. 195; *Ill. Hort.*, xxi., p. 110, t. 176; *Warn. Sel. Orch.*, ser. 1, t. 37; *Lindenia*, ii., p. 67, t. 80 (var. *Delphica*); Rolfe, in *Gard. Chron.*, 1892, ii., p. 431; *Veitch Man. Orch.*, ix., p. 7; Cogn., in *Mart. Fl. Bras.*, iii., pt. 4, p. 295.—Brazil, in the Upper Amazon district, British Guiana, and Venezuela. This, the largest and handsomest species in the genus, was originally introduced by Schomburgk from the Rio Negro, and flowered with Messrs. Loddiges, of Hackney, in May, 1840. Schomburgk speaks highly of its beauty, and records clumps of it growing from 5 to 6 feet high, and 3 to 4 feet in diameter. He also met with it both on the stems of *Mauritia flexuosa* and on the ground. It has since been found in other localities.

(6.) G. DIVES, Rchb. f. and Warse., in *Bonplandia*, ii. (1854), p. 98; iv., p. 323; Rolfe, in *Gard. Chron.*, 1892, ii., p. 431.—New Granada. This has been united with *G. Baueri*, Lindl., from Guiana, but judging from dried specimens, it appears to be somewhat different. It was described in 1854, and was probably first introduced to cultivation by Hartweg, who sent specimens to the Horticultural Society.

(7.) G. FLAVEOLA, Rchb. f., in *Gard. Chron.*, 1887, i., p. 512; *Lindenia*, ii., p. 87, t. 90; Cogn., in *Mart. Fl. Bras.*, iii., pt. 4, p. 297.—Venezuela. Introduced by Bungeoth, and flowered at L'Horticulture Internationale, Brussels, in 1887.

(8) *G. HARVEYANA*, Rehb. f. in *Gard. Chron.*, 1883, ii., p. 716; Rolfe, in *Gard. Chron.*, 1892, ii., p. 431; Cogn. in *Mart. Fl. Bras.*, iii., pt. 4, p. 302.—Habitat not recorded, but probably Brazil. It was described in 1883, from the collection of E. Harvey, Esq. of Aigbarth, near Liverpool.

(9) *G. JUNCEA*, Lindl. *Scrt. Orch.* (1838), sub t. 37; and in *Hook. Lond. Journ. of Bot.*, ii., p. 672; Rehb. f. in *Walp Ann.* vi., p. 649; *Rodr. Gen. et Sp. Orch.*, ii., p. 175; Cogn. in *Mart. Fl. Bras.*, iii., pt. 4, p. 306; *Phaius rosellus*, Lepm., in *Fl. des Serres*, iii., t. 301.—Brazil and Guiana. Introduced by Kegel to the establishment of M. Louis Van Houtte of Gand, Belgium, where it flowered in 1847. It is probably not now in cultivation.

(10) *G. LACUSTRIS*, *Rodr. Gen. et Sp. Orch. Nov.*, i. (1877), p. 86; Cogn. in *Mart. Fl. Bras.*, iii., pt. 4, p. 304, t. 71, fig. 1; *G. Des-cagnalliana*, Rehb. f., in *Ill. Hort.*, xxxiv. (1887), p. 63, t. 22; Rolfe, in *Gard. Chron.*, 1892, ii., p. 431.—Upper Amazon, Brazil.

it is said to grow in large tufts, and to keep on flowering on the old pseudobulbs for years.

(14) *G. STANOEANA*, Rehb. f. in *Ronplandia*, iv. (1856), p. 323; Rolfe, in *Gard. Chron.*, 1892, ii., p. 431; Cogn. in *Mart. Fl. Bras.*, iii., pt. 4, p. 301.—Brazil, in the Amazon district. This species flowered in the collection of Consul Schiller, at Hamburg, in 1856, but seems to have since been completely lost sight of.

92. *CYRTOPERA*, Lindl. *Gen. & Sp. Orch.* (1833), p. 189.—Habit and general structure of *Eulophia*, from which it is distinguished by the presence of a foot to the column. It is reduced to *Cyrtopodium* by Bentham in the *Genera Plantarum*, but is certainly distinct. Species about twenty-five, found throughout the tropics.

(1) *C. ANDAMANENSIS*, *Eulophia andamanensis*, Rehb. f., in *Flora*, iv. (1872), p. 276; *Hook. f., Fl. Brit. Ind.*, vi., p. 8.—Andaman Islands and Tenasserim. Plants were sent to Kew by the Rev. C. Parish, where they flowered in June, 1862. The species has also

Fl. Brit. Ind., vi. p. 7.—W. Tropical Himalaya, Travancore and Hong-Kong. Flowered in the establishment of Messrs. James Veitch & Sons, of Chelsea, in 1870. A very handsome species.

(4) *C. FLEXUOSA*, Rolfe, in *Kew Bull.*, 1894, p. 363; *Orch. Review*, ii., p. 359.—E. Trop. Africa. Sent from Mt. Kilimanjaro to Kew by Consul C. S. Smith, and flowered in the collection from May to August of last year.

(5) *C. NUDA*, Rehb. f., in *Flora*, iv. (1872), p. 274. *Eulophia nuda*, Lindl., *Gen. & Sp. Orch.*, p. 180; *Hook. f., Fl. Brit. Ind.*, vi., p. 5; Rolfe, in *Gard. Chron.*, 1891, i., p. 701.—India. Flowered in the collection of Sir Trevor Lawrence, Bart., Barford, Dorking, in May, 1891.

(6) *C. PAPILLOSA*, Rolfe, in *Kew Bulletin*, 1893, p. 336; *Orch. Review*, ii., p. 53.—Natal. Imported by Mr. James O'Brien, of Harrow-on-the-Hill, and flowered in the collection of Sir Trevor Lawrence, Bart., Barford, Dorking, in August, 1892.

(7) *C. PLANTAGINEA*, Lindl., *Gen. and Sp. Orch.*, p. 189; Rehb. f., in *Gard. Chron.*, 1882, i., p. 700. *Cyrtopodium plantagineum*, Benth., in *Journ. Linn. Soc.*, xviii., p. 320.—Madagascar. Flowered at Kew in June, 1871, and in the collection of Baron Hruby, of Bohemia, in 1882.

(8) *C. SANGUINEA*, Lindl., in *Journ. Linn. Soc.*, iii. (1859), p. 32; *Bot. Mag.*, t. 6161. *Eulophia sanguinea*, Hook. f., *Fl. Brit. Ind.*, vi., p. 8. *Cyrtopera rufa*, Thw., *Enum. Pl. Zeyl.*, p. 302.—India. Flowered at Kew in 1874 or 1875, and again recently.

(9) *C. SQUALIDA*, Rehb. f. in *Bonplandia*, v. (1857) p. 38; Lindl., in *Journ. Linn. Soc.*, iii., p. 31. *Eulophia squalida*, Hook. f., *Fl. Brit. Ind.*, vi. p. 6.—Malaya. Flowered at Kew in June, 1887.

(10) *C. WOODFORDI*, Lindl., *Gen. and Sp. Orch.*, p. 189. *Cyrtopodium Woodfordi*, Sims, in *Bot. Mag.*, t. 1814; Lindl., *Bot. Reg.*, t. 1508. *Lisochilus amazonicus* *Rodr., Gen. et Sp. Orch. Nov.*, i., p. 89. *Cyrtopera amazonica*, *Rodr. l. c.*, ii., p. 180. *Cyrtopera Velloziana*, *Rodr. l. c.*, ii., p. 179. *Cypripedium epidendricum*, *Vell. Fl. Flum.*, ix., t. 64. *Paphiopedilum epidendricum*, Pflitz. in *Engl. Bot. Jahrb.*, xix., p. 42.—Tropical America. Sent from St. Paul, Brazil, by E. J. A. Woodford, Esq., to Mr. Anderson, Curator of the Apothecaries Garden at Chelsea, where it flowered in 1815 or 1816. *R. A. Rolfe.*

(To be continued.)

FORESTRY.

THE EDUCATION OF THE FORESTER.

ANY kind-hearted foreigner visiting this country and chancing to read an account of Mr. W. H. Long's reception of the forestry deputation in Edinburgh recently, would probably come to the conclusion that estate-owners throughout the country were in some need of scientific advice on forestry matters. Were he to give the first landowner he met the benefit of his sympathies on this point, it is hard to say whether the attitude of the latter would be one of astonishment or of momentary consternation at the possibility of unsuspected calamities. Mutual explanations would disclose a fact which enthusiasts on this question would do well to realise, viz., that the great majority of British woods owe their existence to the game they harbour, and not to the timber they grow, or are capable of growing. There will, of course, be nothing novel in this statement to those who possess the slightest acquaintance with the management of British estates. But many seem to imagine that this state of things will one day be altered, and British forestry attain to the position it holds on the Continent. Estate proprietors, we are told, take little interest in the economic side of wood management owing to the deplorable lack of technical knowledge on the part of their foresters. The latter are very good men in their way, say they, with intelligent ideas as to the practical part of their work, but are sadly deficient in (and here our patrons almost break down) scientific knowledge. "Jock ne'er did much gude at the schule," said an old Scotch farmer to a



FIG. 100.—VIEW IN THE NEW EVELYN PARK AT DEPTFORD. (SEE P. 576)

Sent by Mr. E. S. Rand of Pará to Messrs. Linden of Brussels, who flowered it in 1887.

(11) *G. LAGOENSIS*, Rehb. f. et Warm, in *Otia. Bot. Hamb.* (1881), p. 88; Warm, in *Vidensk. Medd. Kjobenh.*, 1881-86, p. 87, t. 6, fig. 6; Rolfe, in *Orch. Review*, ii., p. 300; Cogn. in *Mart. Fl. Bras.*, iii., pt. 4, p. 296.—Brazil. Introduced by Messrs. F. Sander & Co., from the Rio San Francisco, and flowered in their establishment in July, 1894.

(12) *G. MINAX*, Rehb. f., in *Gard. Chron.*, 1874, i., p. 786; ii., p. 98; Rolfe, *l. c.*, 1892, ii., p. 431.—Habitat not recorded. Flowered in 1874, in the collection of A. Sillem, Esq., of Sydenham. It is said to be near *G. dives*, but nothing is known of it beyond the original description.

(13) *G. NYVALIS*, Hort., *Gard. Chron.*, 1882, i., pp. 536, 537, fig. 85; Rolfe, *l. c.*, 1892, ii., p. 431, fig. 70; *Ill. Hort.*, xxxii., p. 63, t. 555; Rolfe, in *Orch. Review*, i., p. 274; Cogn. in *Mart. Fl. Bras.*, iii., pt. 4, p. 299.—Brazil, in the Amazon district. This originally flowered in the collection of Sir Trevor Lawrence, Bart., Barford, Dorking, when nothing was known of its origin. It has since transpired that it was discovered by Mr. E. S. Rand, of Pará, on the Rio Negro, above Mansôa, where

flowered in the collection during the present summer, not, of course, from the original importation.

(2) *C. BITOBERCOLATA*, Rolfe.—Leaves linear-lanceolate, acute, about 18 inches long. Scapa about 2 feet long, many flowered; bracts linear, acuminate, $\frac{2}{3}$ — $1\frac{1}{2}$ inches long; pedicels, $\frac{3}{4}$ —1 inch long; sepals linear-oblong, sub-obtuse, 9—10 lines long, light green; petals oblong, sub-obtuse, 6—7 lines long, white; lip three-lobed, 8—9 lines long, green, side lobes veined with dull purple-brown; side lobes rounded, front lobe broadly oblong, obtuse, undulate, disc with a pair of erect tubercles near the base, and about four irregularly crenulate purple-brown keels in front of the same; column clavate, 4 lines long, striped with purple-brown in front, its foot 2 lines long.—Habitat not known. Flowered in the Glasnevin Botanic Garden in June, 1890, and on subsequent occasions. Mr. Moore had purchased it at Stevens' Sale Rooms in 1881.

(3) *C. FLAVA*, Lindl., *Gen. & Sp. Orch.* (1833), p. 189; Royle, *Ill. Bot. Himal.*, pp. 366, 370, t. 88, fig. 1; Rehb. f. in *Gard. Chron.*, 1870, p. 1407; *Cyrtopera Cullenii*, Wight, *l. c.*, p. 21, t. 1754; *Eulophia flava*, Hook. f.

lawyer to whom he wished to article his son, "and ye'll find him an awfu' bear." "Send him along, Mr. Brown, send him along," was the legal gentleman's reply. Substitute practical work for fiction, and estate proprietors are pretty much of the lawyer's opinion when engaging foresters, not because the purely practical man is more capable than one with a technical training, but because the practical experience is wanted, while the other is not. There are few estates in England on which the woods are expected to yield more than suffices for their maintenance as game preserves, and any surplus above this can form but an insignificant proportion of the revenues of a large estate. Any increase of this surplus gained by skilful management can only be a slow business at the best, and at the present day, proprietors are generally well satisfied if they leave their estates in as good condition as they found them; under these circumstances, it is rather difficult to see where the asserted or supposed demand for scientific foresters exists. Those who do want them are apparently under the impression that advertising does not pay, for they never express their needs through that medium, and those foresters who have had a little training in that line would do well to take the hint. For the present, at any rate, it is one of those talents which thrive best under a bushel, leaving the dark waters of practical forestry to be illumined by those distinguished amateurs who are always eager to teach the practical man the elements of his calling. The latter may derive occasional escape of comfort from visions of a promised land, where the rabbits cease from nibbling and the pheasants make no nest; but he should never forget that he is still in the desert, with no immediate prospect of getting out. When estate-owners want highly-trained foresters, they will neither hesitate to say so, nor grudge the expense of keeping them. Until they do these things, however, the young forester would be wise not to indulge in dreams which have little prospect of realization. Let him get as much technical knowledge as he can, but he must not expect to find a market for it at the outset. Such knowledge should be regarded as a reserve fund, and not as a working capital, otherwise he may find a difficulty in disposing of his wares. The disinterested friends of both estate-owner and forester may feel proud of a well-finished *protégé*, but the latter will find that certificates and diplomas will not be accepted as substitutes for experience in the rough field of practical work. When an appointment has been secured, and he attempts to put his scientific ideas into practice, he may find obstacles in the way that he little suspected, and be compelled to tread in the empirical footsteps of his predecessor after all. Until estate-owners regard their woods in the same light as their home-farms or their kitchen gardens, they are scarcely likely to call in scientific aid in the management of them, or in other words, to pay for an article they do not want. Properly-managed woods undoubtedly add to the value of an estate, but they neither necessarily enrich those who are responsible for their improvement, nor fall in with their individual tastes and fancies regarding game-preserve management. Until they do so, their systematic treatment remains little short of impossible, and the technical training of foresters pure and simple an unnecessary proceeding. Every now and then we may come across an estate, the owner of which is both willing and anxious to have his woods managed on economic principles, but at present such are in a very small minority. *A. C. Forbes.*

VARIORUM.

THE BEN DAVIS APPLE.—This is what a farmer from Stenben County remarks in the *Kansas Farmer* about Ben Davis Apple, after seeing the wonderful orchards of Clay County. The fruit of this variety is evidently peculiar for its lack of flavour, and it appears to be largely in demand by

planters in some parts of the States:—"The Ben Davis ain't an eater. It's a cooker, and its crop never fails. And the Ben Davis never rots. Bruise any conventional Apple, and that settles it. The bruise turns to rot, and the rot takes hold of all the rest of the Apple. The Ben Davis doesn't put up with any such nonsense. Bruise it if you want to, but that bruise will simply dry up, and that's the end of it. The rest of the Apple will stay just as round as ever. And the Ben Davis never freezes. Or, if it should freeze it don't mind it. Freezing doesn't affect it in the least. It is just as solid after it is cooked as it was before; it never falls to pieces under cooking, whether whole, halved, or quartered. Then, having no trace of flavour of its own, it readily takes any other flavour and becomes a novelty to the housewife and the fruit canner. Imagine having a big, whole Apple placed before you, and, when you taste it, finding that its flavour is that of the most luscious Peach, or juicy Pear, or Apricot, or Orange or anything else the hostess has seen fit to make it! That's where the queer Ben Davis Apple comes out strong and metaphorically knocks the socks off all other Apples on the Egypt Apple belt. Chicago and the South and West are dead stuck on this Apple and its genus, and buy it at any price. It will keep sound from one picking season to the next."

THE WEEK'S WORK.

FRUITS UNDER GLASS.

By RICHARD PARKER, Gardener, Goodwood, Chichester.

POT VINES.—Supposing that the vinery has been put into thorough order for the season, and everything is in readiness, a start should be made forthwith if ripe Grapes are required by the family about the end of the month of April. Before placing them in the vinery, wash the canes with warm soapsuds made with soft-soap, to remove insects or their eggs that may have collected in the crevices of the bark. Carefully remove a little of the surface-soil with a sharp-pointed stick, replacing it with fresh rich loam, to which a sprinkling of Thomson's Vine Manure and crushed bones should be added, making it quite firm with the blunt end of a potting-stick. If the ball of soil and roots be thoroughly moistened before it is top-dressed, but little root moisture will be required by the Vines until they begin to grow. The plants should be arranged in such a manner as to bring up the pots near the trellis, and to do this it may be necessary to fix up a stage over the front hot-water pipes, which will also allow of fermenting-material being placed between the pots. The forcing in the early stages must be very gradual, fire-heat being used only when the temperature of the house is likely to fall below 50°. It is a great assistance in inducing Vines to "break" evenly, to place a bed of fermenting-dung and leaves inside the house, as it not only gives off a genial warmth, but charges the air of the vinery with ammoniacal vapour. The canes should be bent down in such a manner as to check the flow of sap to the terminal buds, if once these get a start in growth, the back buds may remain in great part dormant; it is therefore very necessary to watch the development of the buds, and to take means to ensure the whole of them "breaking" at the same time. The house should be kept shut up generally, giving a little ventilation only at midday. The canes may be syringed twice a day, and if a night temperature of the house can be kept from falling below 50° with the use of the hot-water pipes, so much the better, for at least ten days or thereabouts.

EARLY PEACHES.—The earliest of the pot-trees which have been prepared some time before they shed their foliage by top-dressing, &c., may now be brought under cover. More care will be found necessary with these plants than with Vines during the early stages, as any great degree of excitement often causes the buds to drop wholesale. To guard against this evil, fluctuations of temperature must be carefully avoided, and the trees should not lack water at the roots. The trees should be syringed twice daily, and the house kept humid by damping the paths, walk, &c. Draughts should be guarded against by affording air only at the top of the houses; and sun-heat utilised as much as possible, closing the house early in the afternoon. When fire-heat has to be applied, it should be of

a very moderate degree for a time, only as much as will keep the temperature from descending lower than 45° during cold weather during the first fortnight. The time apparently lost at the first can be made up without injury accruing to the trees by forcing harder when the days get longer, and there is more sunlight.

THE FLOWER GARDEN.

By BAILEY WADDS, Gardener, Birdsall Gardens, York.

THE ROSES.—During open weather the transplanting of Roses from the open ground may be proceeded with, if the soil be not in a condition too moist to trample upon without sticking to the shoes. When the soil is too wet, it usually sets hard about the roots, and the plants do not thrive. The manure made use of should not be placed near the roots if it be not decayed. Charred soil, wood-ashes, and the like may be employed instead of manure, these being valuable materials to mix with the soil about the roots when planting or top-dressing. Hybrid perpetuals and many of the Bourbon Roses are better for being planted in the autumn; but hybrid Chinas, Teas, and other tender Roses in the spring. When planting is ended, afford the beds a 2-inch mulching of short dung, but do not let it touch the stems of the Roses, it being chiefly the roots which require protection from frost. Severe pruning back at the time of planting should not be practised, but thinning out and shortening of the strong shoots may be afforded, so as to restore the balance between top and root. Broken or badly-bruised roots may be cut back, as also any very strong fibreless roots. The general pruning of established Roses is better left till the spring has arrived; but it may be found advisable in some gardens to prune a few plants of H.P.'s at the present time, for should the winter be not very severe, these plants would bloom some time before the spring-pruned ones, and thus a longer season of Roses be obtained.

BEDS OF BOURBON, CHINA, MOSS, NOISETTE, OR CABBAGE ROSES, the shoots of which have been pegged to the ground, should now be freed from the pegs, the soil of the beds pricked over, and a top-dressing of manure and charred refuse afforded. The stronger shoots may be pegged down as before, and the weak ones removed. Other prunings of these Roses should wait till the spring.

HYBRID TEA ROSES.—Most of these are tender succumbing often to severe frost, and it is advisable that the planting and pruning be deferred till the spring. If beds of these varieties can have protection from a wall or shrubberies, and be further protected with Spruce-boughs, bracken, or litter in hard weather, much loss of plants may be averted. Beds of Tea Roses should always be well drained, and the soil deep and rich.

PILLAR AND CLIMBING ROSES.—The hardiest and best Roses are the Ayrshire, Boursault, and evergreen varieties, the Polyanthas, and Turner's Crimson Rambler. The Banksian Roses in white and yellow varieties are not everywhere quite hardy, requiring the protection of a mat, as well as to be planted against warm walls. The pillar Roses should now have the weak and over-abundant shoots thinned out, half-a-dozen being enough to retain, and these should be cut to various heights. When a shoot is removed, it should be taken clean away at the base, from which point all the shoots of a pillar Rose ought to spring.

SWEET-BRIAR ROSES.—The new Lord Pezance's hybrids should not be forgotten, as their fragrance, variety of colour, and form of blooms, recommend them as hedge plants, and as pillar Roses and bushes. The present season is the time to plant them.

STOCKS FOR BUDDING ROSES NEXT SEASON.—Dog Roses, Manetti, seedling Briars, and Rosa polyantha should now be planted. The strong roots of the Dog Rose should be pruned hard back before planting them. The distance for dwarfs is 1 foot by 2 feet; standards of various heights, 1½ feet by 2½ feet.

THE HARDY FRUIT GARDEN.

By W. POPE, Gardener, Highclere Castle, Newbury.

PLANTING FRUIT TREES.—Planting operations should now be proceeded with in favourable condition of the land, and when it is dry enough to tread upon without sticking to the boots or shoes. In planting have some turfy loam at hand, and work a barrowload or two in about the roots during the

planting of wall or other choice fruit trees. Nothing that can be given to the tree is so potent in the production of roots as maiden loam; and if it be desirable or necessary to shift the plants, the operation may now be done with the minimum of injury. Unless the soil is naturally of a calcareous nature, plaster and mortar-rubble will be very beneficial if added to the soil in which stone-fruits are to be grown. If the fruit trees were ordered in good time from the nurseryman, they should now be coming to hand. When a bundle of trees arrives, it should be unpacked and laid in singly, never in bundles, till they can be planted. If the stations are not prepared for them, lose no time in getting them in readiness for the reception of the tree. Directions have been given in previous Calendars in regard to planting, so that nothing further needs to be said here on this matter. Mulch at once with some rather light strawy manure. After the planting is finished, see that the nursery labels are replaced by others of a more permanent kind. Newly-planted wall-trees must not be nailed or otherwise fastened in position till the spring, when the ground will have settled sufficiently, but a few loose ties may be given them. Bush-fruits may now be planted on well-manured and trenched ground. Bushes of Gooseberries, and black and red Currants, may stand at 5 feet apart; and white Currants, not being strong growers, may stand at 4 feet. After planting, afford a thick mulching of spent-manure. The space between the newly-planted bushes may be profitably utilised by early Potatoes, salading, Violets, &c., for two or three years, without detriment to the fruit-bushes.

THE ORCHID HOUSES.

By W. H. WHITE, Orchid Grower, Burford, Dorset.

HINTS ON TREATMENT.—November is generally considered the period at which the winter treatment of Orchid plants should commence. For the next three or four months vigilance will be required on the part of the cultivator in maintaining a regular temperature in the houses, in avoiding as far as possible sudden fluctuations, and preserving the balance between the degree of warmth and the required amount of moisture. These are important matters which, owing to our changeable weather, are difficult of accomplishment at times. From the present time for the next few months to come the heating apparatus will have to afford most of the warmth in the various houses, and should be carefully made use of, an excess of fire-heat frequently being the cause of the deterioration of the plants. The injurious effects of much artificial heat being used should be as far as possible counterbalanced by the admission of fresh air and the use of water in damping the paths, &c., and thus moderate the otherwise too dry air of the houses. It is also good practice during spells of frost to cover the houses with canvas, mats, &c. Archangel mats are cheap and convenient stuff, the ends of which may be neatly tied, and several mats sewn together in different lengths, as required for each house; these may easily be rolled along the lower part of the roof, the coldest part of a glass-house, putting them on at dusk and taking them off at daybreak. As a safeguard, these coverings should be made secure in some manner, and when wet or frozen, they should be thoroughly dried before using them again. The night temperature of the house should, for the present, range as follows:—East India-house, 60° to 65°; Cattleya-house, 55° to 60°; Mexican and intermediate-house, about 55°, and the Odontoglossum-house, about 50° to 55°, the higher degree of warmth being afforded only when the air outside is mild; the lower degree being adhered to when there is frost, or the wind is very cold and piercing. The day temperature, as maintained by fire-heat, should range between and up to the higher figures indicated; and on light, bright days, as much higher as the sun-heat will raise it, with the ventilators open to some extent. In ventilating the houses in cold weather, the openings at the top of the house should be opened slightly, there being then less risk of the plants getting chilled. Owing to the recent heavy rainfall, the need for damping-down has been less during the day, nor will there be any reason to do so to any great extent unless frosty weather compels the use of a great degree of fire-heat. A moderate damping down morning and evening will suffice for the East Indian division, and a good damping in the morning will suffice for the Cattleya, Mexican, and intermediate-houses, merely sprinkling the floors in these

houses in the afternoon. In the cool-house, where little or no fire-heat is at present used, except, perhaps, at night, one good damping-down in the morning will suffice for dull days, but sprinkling the paths after a sunny day. At this time of year it is very necessary that each house should become dry about noon, and the failure to insist on this simple precaution is sure to be followed by ill-matured growths, "spot," and other maladies.

PLANTS UNDER GLASS.

By W. H. SMITH, Gardener, West Dean Park, Chichester.

THE ROSE-HOUSE.—The present is a good time to prune the plants and thoroughly cleanse them and the house. To do this the more effectually, the former should be taken down from the trellises, which will allow of a cleaning of the roof with hot soap-suds. In pruning remove entirely all the weak shoots, and shorten back those which are strong, pruning each variety so as to suit its peculiar mode of growth and flowering. When the trellis and pillar Roses have been fastened again in their places, a good syringing with soap-suds containing one wineglassful of petroleum to 4 gallons of the suds, at a temperature of 90° should be afforded. The crust of the beds and borders should then be removed to the depth of 3 to 4 inches, and a top-dressing afforded of rich fresh loam and bone-meal. Any Roses that may be in an unsatisfactory condition should have their roots examined, and if the soil be impoverished or scoured, fresh soil should be pricked out carefully and replaced with new, spreading the roots carefully through it, and making all quite firm about them. Any required planting should now be carried out, taking care that the Rose plants are vigorous and healthy. Potted H.P.'s intended for forcing may now be pruned, that is thin out the weak shoots and shorten strong ones to one-half and one-third their length. Examine the drainage, and if it be faulty put it right, and afford a top-dressing of rich loam, well ramming it into the pots. Roses for increasing the stock of pot plants may be potted up forthwith, selecting for this purpose either home-grown or nursery plants. Whether worked or own-root Roses, no harm will be done by shortening back some of the stronger roots, as by so doing many fine feeding roots will be induced to push. The size of pot found useful is the 32, but the plant should not be crammed in pots much too small to hold the roots. The potting-stick should always be used in potting Roses, and for this reason, the soil must not be very damp, or it will have its texture spoiled. If the loam is inclined to be clayey, use rough manure and a little coarse sand.

THE CONSERVATORY.—Introduce fresh plants as they come into flower, and remove stale ones so that the house may be kept bright-looking. If the house be not kept at a low temperature, plants of Poinsettia pulcherrima may be used to brighten it, also some Roman Hyacinths, Mignonette, Bouvardias, Richardias, Cypripedium insigne, Primulas, and the winter-flowering Begonias John Heal and Gloire de Lorraine. When arranging the plants in this house, overcrowding should be carefully avoided, as owing to the lack of light they soon suffer, losing leaves and damping off. As foils to the flowers, employ such fine foliage plants as Grevillea robusta, Acacia lophantha, Chamærops excelsa, C. humilis, Kentia Fosteriana, K. australis, Aralia Sieboldi, Casuarina ericoides, &c. The temperature in a house of this kind should now be at 60° by day, and 55° by night, affording both top and bottom ventilation in moderate amount. The floors should be kept dry, and spilled water or that which runs from the pots, should be mopped up early in the day. When the flowers of the Chrysanthemum begin to fade, remove the plants and cut down the stems, placing the plants in a light, airy house to strengthen the shoots before beginning to propagate from them next month. Now these plants are in flower, see that they are correctly named.

RICHARDIAS.—Should these plants be in demand at the end of December, plants may now be placed in a warmer house, if from appearances it is surmised that they will not flower by that time. A vinery or Peach-house just started affords a suitable place for hastening the opening of the spathe. If roots are plentiful, the plants may have rather liberal doses of manure-water, and occasionally fumigate them to kill aphids.

ZONAL PELARGONIUMS.—The hot summer was well suited to the needs of these plants, and they are in consequence flowering admirably. Whilst they

continue in bloom the air of the house should be kept rather dry; and as a means to secure the desirable dryness, a slight amount of fire-heat should be used, and fresh air admitted at the top and bottom of the house. The necessary watering of the plants should take place in the morning, and if the plants are in full bloom, clear water only should be used.

THE KITCHEN GARDEN

By JOHN LAMBERT, Gardener, Powis Castle, Welshpool.

CHICORY.—Keep up a supply of this useful plant for salad purposes. Place the roots in large pots and put in the Mushroom-house. Here they will not require any covering, and the atmosphere just suiting them. By putting in a good-sized potful each week, a continuous supply may be had the winter through. Where a Mushroom-house is not to be had, Chicory may be put into any house with a temperature of about 55°, covering them up by placing an inverted empty pot over them, and over this a piece of Frigi Domo to exclude all light from them.

DANDELION.—The large French leaved of this variety if grown in rows and treated similarly to Chicory, make nice roots for lifting and storing ready for use through the winter, and are a nice wholesome addition to a salad. These may be treated in precisely the same way as Chicory; or if preferred in a green state, any warm greenhouse will suit them.

MUSTARD AND CRESS.—Make sowings of this regularly every week, so that a supply of nice young, tender growths may be always at hand. Cutting-boxes are favourites for this purpose, and can be easily pushed on in a warmer house if supply is not equal to demand at all times.

RADISHES.—Sowings of these may be made from now onwards, to follow on after those from outside are finished. Pits filled with heating material, on which may be placed about 5 inches of soil, having the surface within 1 foot of the roof-glass, make nice places for growing these, and if one hot-water-pipe runs through the pit, so much the better to keep the atmosphere at the right temperature of about 50°. These, if sown among other crops, such as Potatoes, are often neglected.

MINT AND TARRAGON.—Get up a supply for the winter of these roots, and pot them, or put them into cutting-boxes and store them away in a cool pit where they will always be accessible in the coldest of weather. Introduce these into a moist heat of about 55°, but near the roof-glass, so that they shall not get drawn up weakly.

RHUBARB.—Although Apples are plentiful this season, Rhubarb in many places is welcomed as a change. Young roots prepared on purpose for forcing, and which have attained their fourth year, will be of a nice size, and may be lifted from now onwards and introduced to the Mushroom or forcing-house, for very early work lifting and placing in a forcing-house will be the handiest through very severe weather. If a few roots are introduced about every three weeks, a continuous supply may be obtained; but where this accommodation is not provided, various means may be adopted to attain the same end. Pits filled with warm manure, also shallow pits dug in the ground and filled with about 3 feet of manure, prepared so that a gentle heat will be maintained for a long time, and covering the top with hoops, mats, and then long litter—but these depend on the outside temperature to a great extent, and cannot be relied on to come in to a certain date at all times. The old plan of covering this with pots, and filling around and above them with hot manure on the ground where growing, I think, produces some of the best yet grown, and is more suitable for later batches; but this is best grown in some out-of-sight part of the garden, and near to the manure-heap. Johnston's St. Martins, Kershaw's Paragon, Royal Albert, and Myatt's Linnæus, are all good varieties for this purpose.

MR. WILLIAM COOMBER.—We are informed that the Council of the Royal Botanic Society has decided to dispense with the services of a garden superintendent of their gardens in Regent's Park; and Mr. COOMBER, who has filled the post for many years, will therefore be open to a re-engagement.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETING.

SATURDAY, Nov. 16—Royal Botanic Society.

SHOWS.

SATURDAY, Nov. 16 { Chrysanthemum Shows at Batley,
Crewe, and Bacup.

TUESDAY, Nov. 19 { Leeds Paxton Chrysanthemum
(two days).
Chester Chrysanthemum (two
days).

WEDNESDAY, Nov. 20 { Chrysanthemum Shows at York
(three days), South Shields, Dun-
dee, Tonbridge (all two days),
and Helensburgh.

THURSDAY, Nov. 21 { Chrysanthemum Shows at Norwich,
Aylesbury, Glasgow, and War-
wick.

FRIDAY, Nov. 22—Manchester Chrysanthemum.

SALES.

Dutch Bulbs at Protheroe & Morris'
Rooms.
Roses, Hardy Bulbs, and Plants,
Ferns, &c., at Protheroe & Morris'
Rooms.

MONDAY, Nov. 18 { Highly attractive and extensive
sale of Nursery Stock at the Alma
Nurseries, Farnham, by order of
Mr. S. Bide, by Protheroe &
Morris (five days).

TUESDAY, Nov. 19 { Dutch Bulbs at Protheroe & Morris'
Rooms.

WEDNESDAY, Nov. 20 { Dutch Bulbs at Protheroe & Morris'
Rooms.
Great Consignment of Japanese
Lilies, Palm Seeds, Roses, Spiræas,
&c., at Protheroe & Morris'
Rooms.

THURSDAY, Nov. 21 { Dutch Bulbs at Protheroe & Morris'
Rooms.
Plants from Belgium, Roses, Ferns,
&c., at Protheroe & Morris'
Rooms.

FRIDAY, Nov. 22 { Dutch Bulbs at Protheroe & Morris'
Rooms.
Orchids from Messrs. Charlesworth
& Co., at Protheroe & Morris'
Rooms.

SATURDAY, Nov. 23 { Dutch Bulbs at Protheroe & Morris'
Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSU-
ING WEEK, DEDUCED FROM THE OBSERVATIONS
OF FORTY-THREE YEARS, AT CHISWICK.—41°.7.

Crabs in the
Garden and
Wood.

THE subject of Crabs has been written about by various correspondents in these pages of late, and we have been thereby reminded of the great usefulness of the common Crab, *Pyrus Malus acerba*, *Malus*, the felted-leaved Apple, and *P. sylvestris*, the smooth-leaved variety; and, for that matter, of any seedling Apple trees, as wind-breaks or screens, mixed with other trees, or alone in belts against sea-breezes. We know of scarcely any materials for this purpose which are better than the Maples, viz., *Acer tataricum*, *A. pennsylvanicum*, *A. platanoides*, *A. campestre*, Sycamore, Crabs, Black Thorn, and Dogwood; and such hardy interlacing Creepers as *Clematis Vitalba*, *C. glauca*, a Siberian species; *C. grata*, Chinese; and *C. Flammula*; Brambles, and *Lycium barbarum*; the Thorns and Creepers to form the hedge—the first line of defence. Behind a screen, say of 20 yards in width, planted with the above-named plants, the more tender plants can be raised in perfect safety; and so long as they do not top the screen-plants, the wind will not harm them. It may not be generally known that the common Crab, green when unripe, but yellowing when allowed to ripen on the tree, makes the very finest of jelly, no variety of Apple being its equal in colour or transparency. The fruits for this purpose should not be peeled, and they should be cooked whole.

The berried Crabs (*Pyrus malus baccata*) are very beautiful in fruit and blossom, but so far as we know them, their habit of growth is slender and upright, although being heavy bearers, the branches become pendulous with the weight of the crop, and as they fruit pretty

regularly, this habit becomes in part fixed. These varieties may not therefore form so good material for the outermost lines of wind-screens, but rather for the inner face. Crabs, like other trees, require space all round, or at the very least on one side, if they are to flower well, and the planter must determine which he will have—fruit and flowers, or merely growth. He should have trees enough to afford both.

The berried varieties are not to be despised as ornaments for the conservatory in the spring, being quite as good in their way as the more commonly grown double-flowered Japanese varieties of *Pyrus* and *Prunus*; and like those, bearing gentle forcing. We have only to inspect a picture by a Japanese artist to discover the varied beauty which lies in the flowers of the Crab.

The shrub-like *P. pumila* of which we know the St. John's Apple, otherwise Paradise, a native of the Caucasus, and the Doucin, are varieties employed for the so-called dwarfing stocks for garden Apples, and they form good filling-in material between high trees, if afforded head-room.

What is Natural
Selection?

THE expression natural selection can hardly be considered to be as felicitous as it is familiar. The phrase must be taken in an arbitrary or metaphorical, rather than in a literal sense. Given a tendency in plants or animals to vary, the variations which harmonise best with the conditions under which the plant is growing may become permanent, and may even become accentuated, so that from the originally slight variation the full-blown species may ultimately arise. Under natural circumstances, the growth and development of a species is a very slow process; but the gardener does, in comparatively short time, the same sort of work which in Nature occupies ages in its accomplishment. The hybridist and gardener do actually select that variation which suits their purpose, and they continue to do so from generation to generation till the variation becomes "fixed." The variation is encouraged and protected, just as in ordinary cultivation the plant is freed from the competition of rivals, and protected from the intrusion and assaults of enemies.

The term adaptation is more expressive of what really happens in these cases than is selection. But the question arises as to the origin and cause of the adaptation. Does the protoplasm of the plant or animal, or, let us say briefly, does the plant adapt itself to outward conditions, or do the outward conditions compel the plant to adapt itself to them or to suffer extinction? In other words, does the power or faculty of variation precede the action of the conditions, or is it generated or called into operation by the influence of those conditions? These are the questions which the Rev. GEORGE HENSLOW has set himself to answer. In a very interesting and suggestive volume he states the case clearly, and as it is one on which cultivators should have valuable information to offer, it is desirable to bring the book* under the notice of our readers. Mr. HENSLOW's volume is one sustained argument, but it is illustrated by so many points in which botanists and cultivators take special interest, that it will be perused by them with pleasure.

Mr. HENSLOW's contention is that a change of circumstances—or, as he calls it, a "new environment"—does not "select" at all, but itself induces a plant to form variations. These varia-

tions are definite, and not indefinite—a definite variation being one having a definite relation to the action of the environment in the way of effect to cause.

It is pretty certain that there is no true selection; in any case, the word must be used metaphorically only, and this being so, it becomes a question whether there is in reality such a great difference between Mr. HENSLOW's views and those of other people. Whichever view be taken, the power to vary and the faculty of adaptation to circumstances are the necessary factors. It is the order or sequence of events concerning which differences arise. Mr. HENSLOW maintains that the protoplasm varies in sympathy with, and as a direct consequence of the action of external conditions. The protoplasm, therefore, must have an innate capacity of varying, which results in variations of structure. These variations in structure are the potential beginnings of a new species, so that, in Mr. HENSLOW's words, "the origin of species issues out of the direct action of the environment through the responsiveness of protoplasm in the organism itself." It is not, according to Mr. HENSLOW, the fierce competition and struggle to which plants are subject which enables the survivors to adapt themselves to new conditions, but the direct action of those conditions. In support of his contention, the desert plants in the vicinity of Cairo are mentioned. These occur in quantities, but are never so crowded that any struggle or rivalry occurs between plant and plant, the real contest being between the plant and the physical difficulties offered by soil and climate. But we may ask—Do desert plants never vary? Our author seems to be of opinion that they do not, so long as the same environment is maintained, and no doubt, as a general rule, that is so. But how is it, if the variability does not precede the action of external conditions, that the gardener is able to select minute variations among plants growing, as far as can be seen, under the same conditions. Again, if variations do not occur "spontaneously," how are we to account for the production of "sports?" These often occur simultaneously over wide areas, under the same conditions as those to which the bulk of the plants, which do not vary, are subject. These sports are mostly accidental reversions or un-mixings of heretofore blended characters, but what brings about the change at a particular time is not known. That it cannot be direct action of the environment is, we think, shown by the facts just mentioned.

Mr. HENSLOW's arguments for the self-adaptation of plants as the initial stage in the production of species are supported by a vast number of facts, derived from the study of the outer conformation and internal organisation of plants. In this way, the structure peculiar to plants growing in desert regions or on the sea-coast, in the arctic regions, or on mountain-tops, is passed in review. Aquatic plants, climbing plants, and other plant categories are pressed into the service. In addition to the facts obtained by observation, Mr. HENSLOW brings forward corroborative evidence in the shape of experiments. Apart from the use made of them by the author in support of his arguments, it is very convenient to have such a mass of information got together, and so conveniently arranged; whilst the care which Mr. HENSLOW has taken to give chapter and verse for his statements, and thus to enable others to verify his references, is deserving of ample acknowledgment. A good index further facilitates the work of the student, to whom we cordially recommend the perusal of this most suggestive book.

* *The Origin of Plant Structures, by Self-Adaptation to the Environment.* By Rev. GEORGE HENSLOW, &c. (KEGAN PAUL, TRENCH, TRUBNER & CO.)

BEGONIA MRS. J. HEAL.—To successfully bridge over the interval between the end of the flowering season of the tuberous-rooted summer Begonias and that of the true winter-flowering species, was felt by gardeners to be a most desirable feat, and one that remained for a long time un-

accomplished. The credit of having obtained the first of the late-flowering new varieties belongs to Messrs. J. VEITCH & SONS, Chelsea, who by crossing *B. socotrana* with some of the late-flowering Andean tuberous-rooted Begonias, laid the foundations for future development. One of the earliest crosses was John Heal with bright rose carmine flowers appearing in a loose raceme. This variety by other crossings with tuberous-rooted varieties gave

Adonis, and now we have one of their latest novelties, Mrs. J. Heal, producing crimson blossoms. A plant was shown by Messrs. VEITCH at the Royal Horticultural Society's meeting on October 15 of the present year. The blossoms—chiefly male, fortunately—measure 2 to 3 inches in

di-
LISTER, Bart., be elected President, in the room of Lord KELVIN, who retires.
LINNEAN SOCIETY.—At the meeting held on Thursday, November 7, Mr. C. B. CLARKE, President, in the chair, Mr. GEORGE MASSEE was admitted



FIG. 101.—BEGONIA × MRS. HEAL: FLOWERS CRIMSON.

diameter, and are chiefly produced in the axils of the leaves. It is one of a race of Begonias, which is likely to be in considerable demand for brightening the warm greenhouse, and furnishing subjects for indoor decoration during late autumn and winter.

THE ROYAL SOCIETY.—The anniversary meeting of this Society will be held on the 30th inst., when it is proposed that Sir JOSEPH

a Fellow. Several volumes of *Cryptogamic exsiccata*, recently received from Madame WEDDELL, as a bequest from her late husband, a foreign member of the Society, were shown, and some remarks made thereon by the Botanical Secretary. A portrait of the French naturalist, GUILLAUME RONDELET, Prof. of Anatomy and Chancellor of the University of Montpellier, 1545, recently presented to the Society by Dr. H. WOODWARD, F.R.S., was exhibited by the Zoolo-

gical Secretary, who gave an account of his life and work, supplemented by remarks from the President. Mr. C. T. DRURY exhibited and made remarks on a Scolopendrium raised by Mr. E. J. LOWE, bearing archegonia and antheridia upon the fronds, constituting a more advanced phase of apospory than any previously noted. Some remarks thereon were made by Mr. GEO. MURRAY. Dr. MAXWELL T. MASTERS exhibited specimens of the fruit of *Pyrus Sorbus*, *Aberia caffra*, and *Coccos australis*, from the gardens of Mr. THOMAS HANBURY, at La Mortola, Mentone; and some fruits of *Coccos australia*, from M. C. NAUDIN'S garden at Antibes, Alpes Maritimes. Mr. G. E. SCOTT ELLIOT communicated a paper entitled "A Revision of the Genus *Pentas*," in which some account was given of the distribution of these plants in Africa, with a rectification of the synonymy, and descriptions of five new species. The genus as a whole showed in a remarkable manner the way in which local species occur whenever a different climate restricts the distribution of a wide-ranging form, and several examples of this were mentioned. A discussion followed, in which the President and Mr. W. P. HIERN took part.

— An evening meeting will be held on Thursday, November 21, 1895, at 8 P.M., when papers will be read: 1, D. MORRIS, C.M.G., M.A., &c., "Development of a single seed in the fruit of the Coconut Palm (*Cocos nucifera*);" 2, A. J. EWART, "Assimilation in plants under abnormal conditions;" 3, A. C. SEWARD, "On a new species of *Pinites* from Wealden (England)."

THE CHISWICK GARDENS.—We are officially informed that the Council of the Royal Horticultural Society have appointed Mr. S. T. WRIGHT, of Glewton Court Gardens, Ross, Herefordshire, to succeed Mr. BARRON, as Garden Superintendent at Chiswick. It will be remembered that Mr. WRIGHT was the author of one of the Society's prize essays on "The Commercial Aspects of Hardy Fruit Culture in the United Kingdom."

BECKENHAM HORTICULTURAL SOCIETY.—On Friday evening, Mr. EDWIN MOLYNEUX delivered a lecture, entitled "Salient Points in *Chrysanthemum* Culture," before the members of the Beckenham Horticultural Society in the Beckenham Public Hall. Over 300 were present, and the greatest interest was shown in the subject. Some fine exhibits by Messrs. CANNELL, the Bromley *Chrysanthemum* Society, and by a large number of private growers, made the room look gay, and rendered the subject additionally interesting.

AYRSHIRE GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—The first meeting of the fifth session of this association was held in the Carrick Street Hall on Thursday evening. There was a fair attendance of members present. Mr. H. MAXWELL, The Knowe, Vice-president, presided. The President (Mr. A. PRINGLE, Middleton) read an excellent paper entitled "A Few Notes on the Dahlia," for which he was accorded a vote of thanks. Mr. M. GANLY, Glendon, exhibited a magnificent *Cypripedium insigne*, for which he was unanimously awarded a Certificate of Merit. It was intimated that the next meeting would take place on Thursday evening, 5th December, at 7.30. A vote of thanks to the chairman brought the meeting to a close.

ROYAL BOTANIC SOCIETY.—At a meeting of the Fellows of this society, held in the museum of the Royal Botanic Gardens, Regent's Park, on Saturday, Major J. W. M. COTTON presiding, Mr. C. DUNNELL RUDD was elected a Fellow. The Coffee trees growing in the greenhouses having fruited well this year, the secretary tried the experiment of roasting and grinding the seeds and making coffee. The beverage was offered to the Fellows at the meeting, and a very favourable verdict was passed upon it. The society's show of *Chrysanthemums* was announced to be held this week. It was also stated that in future the gardens and conservatories would be open to the public on Mondays and Satur-

days throughout the year upon payment of 1s. for admission. The receipt of the following donations was reported:—Seeds of the very scarce plant, the large-leaved variety of *Coca* (*Erythroxylon*), from South America, and a fine cone of the edible Chili Pine (*Arancaria imbricata*) from the gardens of Sir GABRIEL GOLDNEY at Corsham, Wilts. A curious Tapioca root (*Manihot utilisima*), grown in the society's gardens, was also on view.

STOCK-TAKING: OCTOBER.—As was anticipated, the tide of commerce is still a flowing one, and the loss in both imports and exports during the preceding months of the year has been wiped off by the increase in both sections—resulting in a gain, last month, of £1,185,783 in imports, and £1,680,870 in exports; all this, be it remembered, in the face of the breaking up of the Sultan's empire, and a consequent paralysis in trade in Asia Minor, due to the disappearance of Armenian merchants, either by the sword, or by the flight of the merchants from a land overflowing with horror. The value of our imports in October of last year was £35,668,385; that for the month just ended was £36,854,168. The increase for the ten months just closed, compared with the same term last year, is exactly £478,489. The following items of imports for the month are from the Trade and Navigation Returns for October:—

IMPORTS.	1894.	1895.	Difference.
Total value of imports	£ 35,668,385	£ 36,854,168	+1,185,783
(A.) Articles of food and drink—duty free	12,261,764	12,411,811	+150,047
(B.) Articles of food and drink—dutiable	3,007,324	2,832,950	-174,374
Raw materials for textile manufactures	3,955,525	4,036,812	+78,316
Raw materials for sundry industries and manufactures ...	4,535,252	4,533,819	-2,443
(A.) Miscellaneous articles	1,449,735	1,251,295	-175,441
(B.) Parcel Post	92,317	78,958	-13,359

There is an unsatisfactory item in the recorded increased import of manufactured goods, as to a considerable part this means a withdrawal of manufactures to places where less wages are paid—to France for instance; where, whilst the cost of living has increased all over the country, the price paid for labour has also gone down—a double result of Protection. Fortunately, this is being recognised amongst thinking men over the Channel, just as it is by some American statesmen—the Hon. Mr. BAYARD from Washington having just delivered himself at Edinburgh, of the statement that protection produces jobs and jobbery, not statesmen and purity of morals. Our hop-growing friends, if not the brewers, will be glad to learn that the imports of Hops last month fell off some £70,016 in value, as compared with October, 1894; possibly our Continental friends, finding freights so low in English ships, are taking to making their own beer, and shipping it off to other lands. And here we are reminded of one of those savage attempts to settle trade differences—the lock-out and strike in the shipbuilding trade in Belfast and on the Clyde. Possibly a decision to settle by arbitration will have been arrived at ere this. As to fruit and vegetable imports, we take out the following figures:—

IMPORTS.	1894.	1895.	Difference.
Fruits, raw:—			
Apples bush.	1,229,146	479,121	-750,025
Cherries ... .. "	...	...	...
Plums "	34,701	23,756	-10,945
Pears "	204,377	40,093	-164,284
Grapes "	465,701	345,418	-120,283
Unenumerated "	115,950	114,990	-960
Onions "	611,784	745,237	+133,473
Potatoes cwt.	39,389	62,893	+23,414
Veg-tables, raw, unenumerated value	£ 77,133	£ 74,820	-£ 2,318

The "minus" quantities recorded tell their own tale, and there appears little doubt of the deterrent influence on colonial imports exercised by our last fruit harvest; what influence also the late abnormal weather may have on both home-grown and foreign fruits remains to be seen (perhaps has already been). It is pleasant to notice the interest being taken in light railways by the President of the Board of Trade and some of his colleagues; in France they may have seen much in the matter of motors to set them thinking. The subject of

EXPORTS

is certainly one more interesting than usual just now. The rapid expansion of enterprise in our colonies is being felt more and more by our manufacturers, and those employed by them. To our American friends, textile manufactures cannot be supplied quickly enough, and they in turn are getting better money for their raw material. Doubtless Free Trade is being more and more appreciated over there as the months go by. The value of our exports in October, 1894, was £19,147,996; the figure for last month are £20,828,866, or a gain of £1,680,870; the gain for the past ten months over the same period last year being no less than £6,888,736. The attention of all the "protected" world is respectfully requested to this brief record, and to the improving condition of our productive energy. Should the three great powers quickly and quietly settle the Turkish business in both Europe and Asia Minor—they are big and powerful enough to do so—an even brighter tone may characterise the record of the exports for the current month.

RUST IN BEGONIAS.—Cultivators have for long been pestered with this disease, the precise nature of which has not been known till recently. Mr. MICHAEL, the authority on the *Acarinae*, informs us that the disease is caused by a mite, a species of *Tarsonymus*, which is so small and so translucent that it requires a trained eye to detect it. Its habits of life also tend to conceal it. The creatures are most destructive to healthy plants, burrowing between the two surfaces of the leaf, and eating out its substance. A closely-allied species, *T. buxi*, a few years ago destroyed all the Box trees in some of the Italian botanic gardens. The Sugar-cane in Barbados also suffered greatly from a similar insect (see *Kew Bulletin*, April, 1890). They are most difficult to destroy, but frequent spraying with insecticides may be beneficial, and in our last issue Mr. WATSON tells us that fumigation is very efficacious. All badly-affected plants should be destroyed by fire. The best figures of *Tarsonymi*, Mr. MICHAEL tells us, are to be found in CANESTRINI, *Prospetto dell' Acarogama Italiana*, iii., Padova, 1883, t. 23; BEALESE, *Sottofamiglia dei Tarsonimidae Bull. Soc. Entomol. Ital.*, 1886, t. xv., figs. 2 and 8, male only; and KRAMER, *Ueber Dendroptus Archiv. fur Naturgeschichte*, 1876, tab. viii., figs. 9, 10, 11.

ACER LORBERGI.—A most distinct and handsome Maple under this name was sent to me, remarks Mr. W. E. GUMBLETON, of Belgrove, Queenstown, many years ago by the late LOUIS VAN HOUTTE, of Ghent, and being of a fine vigorous habit of growth, it has now developed into a fine tall specimen. Its greatest merit, however, consists in the specially brilliant autumn colouring which its foliage assumes at this time of year, when every leaf becomes a clear canary-yellow, making the tree an extremely conspicuous and beautiful object in the shrubbery, and well worth planting by every lover of distinct and beautiful foliaged trees. The name is not recognised in the *Index Kewensis*, so that it may be known under some other name at Kew. I enclose a leaf for your inspection, and shall be glad of your opinion as to the beauty of the colouring and correctness of the name. [Very beautiful; name later on. Ed.]

BIRMINGHAM BOTANICAL AND HORTICULTURAL SOCIETY.—We are informed by Mr. W. HILLHOUSE, honorary secretary of the above, that it is intended to hold a Daffodil (*Narcissus*) show, with other spring flowers, in the Botanical Gardens,

Edgbaston, in the month of April, 1896 (two days' show), at such date as may be determined by the season, of which the longest possible notice will be given to all who have intimated a desire to exhibit. A list of regulations for the guidance of exhibitors, together with a schedule of prizes, have already been drawn up, which may be obtained on application to Mr. W. B. LATHAM, the Curator of the gardens.

EALING GARDENERS' ASSOCIATION.—We understand that Mr. W. ROBERTS, gardener to J. HARRIS, Esq., Braemar, Ealing, has been appointed Hon. Secretary to this body, one that has done—and is doing—much good by its meetings and discussions amongst the gardeners and amateurs of Ealing and district.

HOME CORRESPONDENCE.

COVENT GARDEN PRICES FOR FRUIT AND VEGETABLES IN 1822.—It may interest your readers, amateur and professional, to know the prices retail that were obtained for the above seventy-three years since. Of course, we had not the facilities in those days we have now—no hot-water, or cheap fuel and glass, &c.; and it cost more to erect one 50-foot house than one of 300-feet could be erected in these days; but the prices, under any circumstances, appear fabulous; for instance, 21s. for a brace of Cucumbers in February; 36s. for 1 lb. of Grapes in May; 30s. ditto in June. This seems to be as early as Grapes could be had, and none after November. Cherries, 30s. per pound in April; 20s. ditto in May; Melons from 5s. to 20s. in June; Strawberries, 30s. per pound in April; 20s. ditto in May; Pine-apples, 12s. per pound most of the year through; Figs, 18s. per dozen in August; 10s. ditto in September; Peaches, 42s. per dozen in July; 21s. ditto in August; Apples, dessert, best, 40s. per bushel in January; cooking, 18s.; Asparagus, 21s. per 100 in February; April, 15s. ditto; Peas, £3 per half-sieve; 30s. to 5s. in June; 3s. to 1s. in July ditto; Seakale, 4s. per punnet in March. This, I think, will be sufficient to show what prices were then realised without going further into the prices of other crops. Love-apple (Tomatoe), none sold, although quoted in the market all the season. It is something remarkable how the taste has grown for Tomatoe during the past twenty years; about that time when I first began Tomato-growing on a large scale, I used to supply Mr. P. Barr with them at 1½d. per pound; also Mr. Charles Best of the Horse Shoe Hotel in quantity at the same price; since then, 2s. 6d. and 3s. per pound have been given. Had it not been for the Tomato coming in request, many growers would have become bankrupt. It is this one thing that has kept them on their legs, and many have made it a source of profit; farmers and clergymen have also erected houses for Tomato-growing for market. *Edw. Bennett, Lyne, Chertsey.*

REGULATIONS AT THE DRILL HALL.—Will any one kindly say why plants put before the Committee meetings of the Royal Horticultural Society at the Drill Hall for Certificates should have to be accompanied by the owner's name written on a card, and handed round for inspection, as well as the plants? A friend and I paid a few visits to these meetings during the past summer, and we thought the method a very peculiar one. Why not enter the plants under numbers in the way that competitive exhibits are entered? Could not the plants meant for Certificates be numbered, and placed by themselves, before being submitted to the committee, instead of being, as at present, staged among other plants already showing exhibitor's or owner's name? True, these plants are not intended for competition in a sense, but is not the decision of the committee in regard to Certificates looked upon as equal symbolic value to 1st and 2nd prizes at a show? We also noticed if the owner of a plant was present at the committee meeting, he moved away from the table when his plant came up for judgment; but under the number system he could surely retain his seat, and have the advantage of hearing opinions on points which may, or may not, have escaped his notice; also voting a Certificate for his plant if he wished. *Visitor.*

FRUITING OF MUSA CAVENDISHI IN POTS.—With reference to this matter, it would appear, from what Mr. Fletcher states in last week's *Gardeners' Chronicle*, that the fruiting of *Musa Cavendishi* in

pots is either new or difficult, but our experience is that it is neither new nor difficult, having successfully fruited several plants in pots. We have just finished two good bunches of fruit, estimated to weigh from 30 to 40 lb. each, "but as the 'fingers' are gathered as they ripen on the plant, I cannot give exact weight," the separate fingers weighing 6½ oz. each, and the plants are grown in a No. 1 (18 inch) pot. We have at the present time six plants at the back of a lean-to stove, four of which are in 18-inch pots, and two in tubs, the latter being from a cask cut in two, measuring 26 inches across and 19 inches in depth. The two plants in the tubs are now fruiting, having just set about nine hands each, with from fifteen to twenty-four fingers per hand. Our mode of treatment is very simple: the soil, consisting of turfy loam with which horse-droppings were mixed when it was stacked, with plenty of sharp river-sand, and a liberal sprinkling of artificial manure. The plants are always kept well up to the light, and abundance of water afforded them, giving them liquid-manure two or three times a week, from the time the pots are filled with roots until the fruit is fully grown. *H. Ruse, Westbourne, Liskeard.*

— In your last issue, on p. 555, I see Mr. Fletcher writing of *Musa Cavendishi*. I am pleased to add we have one in fruit here; it has been grown in a tub 23 inches in diameter by 15 inches deep; the stem is 3 feet 6 inches in height; it has ten leaves, which average 4 feet by 22 inches. I was disappointed in not getting a better bunch, which only contains forty "fingers," and after reading Mr. Wythe's able article on the Banana, I have been wondering if I had a good variety, or if it was bad culture. *J. Barnard.*

— It is without a doubt a mistake, as Mr. Fletcher remarks in his note on the *Musa* in last week's *Gardeners' Chronicle*, p. 555, to suppose that it cannot be fruited successfully in pots, as I have seen it fruited at two different places in pots, with fruit equal to any produced by plants in beds. We have here at present in a 20-inch pot, a plant carrying a large bunch of fruit, and although late in the season, I have no doubt it will fruit perfectly. Cutting away the tip, referred to by the Editor in his footnote, was resorted to in this case also. *Andrew F. Pearson, Rachen Gardens, Peeblesshire.*

SHARPE'S VICTOR POTATOS.—The articles lately inserted in your columns respecting our Victor Potato are reviving rather ancient history, and after the lapse of so long a time one's memory may not be so fresh upon every point as it might have been some years ago. It is beyond doubt that Sharpe's Victor was raised by Mr. Richard Nisbet, Awarbys Gardens, near here, and from the two parent Potatoes as he stated, viz., an early short-top round and the Alma Kidney. As he was well known to be an honourable truthful man, we should accept anything he said with the most implicit confidence. The true Victor, as raised by Mr. Nisbet, is a yellow-fleshed Potato, but a little inclined to sport into a white variety. For a few years after it was first sent out, Mr. Nisbet grew all that we sold, and it is almost certain he never heard the name of the Vale of Cleveland. As far as my memory serves me, Mr. Short did send us a few, probably a bag, of a Potato he had raised, a white-fleshed Kidney, rather longer than Victor, these were sent to our farm to grow, but we did not think them of any value (it might be that the season or soil was not suitable), and they were doubtless consumed on the farm, as we never saw them again. It is not impossible for two independent horticulturists to make use of the same parents in raising a new variety of vegetable. Mr. Nisbet raised our Duke of Albany at the same time as Victor, and some years after a white Beauty of Hebron was sent out, which we cannot distinguish from the Duke—no doubt this was an accidental cross between identical parents. *Charles Sharpe & Co., Ltd. (Jno. C. Gould).*

CRABS AS ARCHES.—I like J. Meers' (p. 556) ideas on the above. Barring the birds, Crabs—skillfully planted and trained—would form charming arches, alike in flower, fruit, and foliage. We have long been familiar with arches of Apples, Pears, Cherries, and Plums, but the smaller size of the Crabs would give them an easy victory for elegance. Possibly the Quarrenden, the Golden Pippin, the Gladstone, and other high-coloured small Apples might go with the Crabs. Here, if any further foliage is needed in Crab avenues, a few trees of *Prunus Pissardi* or of the purple Filbert will give a bronze or red hue. Beyond Crabs, are the Acer *Negundi argenteum variegatum*, or the Silver Maple, as it is called, can be trained over an arbour or arch

as readily as a Vine; the golden-leaved variety of this plant is nothing like so free and useful. If more variety is desired, Clematis, *Ampelopsis Veitchi*, and the Gold and Silver Ivies can be so used to enrich Crabs without seriously injuring either their health or fruitfulness. *D. T. F.*

POPULAR APPLES.—Your correspondent, "D. T. F.," is not justified in his deductions as to the relative popularity of certain dessert Apples by the representatives of them he found at the Crystal Palace fruit show. There were special classes for Ribston, Cox's Orange, and King of the Pippins; and these classes alone brought to them in the order named—forty-one, forty-nine, and thirty-six dishes respectively. Golden Pippin, Golden Russet, and Golden Reinette had no such encouragement. So much it is fair to say with respect to these excellent, but yet far too little grown varieties. Then we had this year one of the best seasons almost ever known for the development of Ribston, Kings, and Cox's, for finer, clearer samples, and better crops have rarely been seen. It is not always so with these somewhat spoilt children of pomologists. *A. D.*

— I should like to supplement the brief list given in last issue by "D. T. F." as regards dessert varieties. Wyken Pippin, I consider good in flavour, a free doer, and a certain bearer. Court of Wick is another good Apple, bears well, has good flavour, and keeps late; Scarlet Nonpareil is another favourite of mine, a very sure cropper with me, juicy, and keeps well into April; Kerry Pippin is another good variety, bears well each year, the flavour good and peculiar, and with me the tree does not canker—in fact, none of the above do here. I send you a fruit of each, and please give your opinion as to their merits. I should say, Kerry Pippin was ripe and gathered at the end of August. I do not reckon King of the Pippins the best of flavour, though a good market variety. *Bicton.* [Our correspondent kindly sent a few fruits of the above-named Apples for our inspection, which quite bear out his contention, Wyken Pippin especially being finer than we have ever seen it; Court of Wick is also of unusual size, and good of flavour. *En.*]

THE TRUTH ABOUT PRICES.—With pleasure I answer the courteous enquiry of "D. T. F.," why Cox's Orange Pippin did not occupy a higher position in the essay mentioned? Over a series of years it has not paid so much from an equal number of trees on the same amount of land as those varieties named before it in the essay. The value of Cox's Orange Pippin is certainly high, ranging, as a rule, from 30s. and upwards per cwt. Already this year I have disposed of a quantity at the figure named; but take one season with another, the crop has not been heavy enough with me to warrant it taking a higher place. I fully endorse the remark of "D. T. F." on Ribston Pippin as one of the finest dessert varieties grown; but though grown both on the Paradise and free stocks, I have never yet made a profit on them. On p. 525, "Mid-Kent" states that "a glance at any market report will show the fallacy of the essayist's statements;" or, in other words, that the statements are incorrect. Probably any remark in contradiction would share the same fate as my previous utterances, therefore I will only say that the essay was written early in the August of the present year; but if "Mid-Kent" will write to Mr. John Mills, Smithfield Market, Manchester, he can easily prove whether my statements are incorrect or otherwise. Even in a season of low prices like the present one, I have had no difficulty in making 25s. per cwt. for Peasgood's Nonsuch in bulk, and could have sold many more. I may add, that the prices quoted have been made in the open market by the above salesman until this year. Since then most of the fruit has been sold on receipt of the telegram that I despatched at the time the fruit was put on rail, the buyers who have purchased the fruit from Mr. Mills for years, knowing that they could depend upon the fruit being honestly packed, and according to the wire received by Mr. Mills, and have been only too glad to buy the same before it reached the market. *The Essayist.* [Mr. John Mills' invoice for 24 cwt. 3 qrs. 15 lb. of Apples, which our correspondent sends for our inspection, entirely bears out his contention, and it is quite correct, and in proper order. *Ed.*]

THE PRESTON HALL MUSCAT GRAPES.—Your correspondent's remarks on the Muscat Vines at Preston Hall, p. 526, show nothing that is extraordinary in the way of Grape culture. We have, at this place, a viney which was planted with Muscat Vines in the month of February, 1895, that measure

on an average $3\frac{1}{2}$ inches in circumference 5 feet from the ground. These Vines were cut back after planting, and the measurement is that of the young canes. *A. Young, Marston Gardens, Frome.*

PACKING COMPETITION AT THE CRYSTAL PALACE.—Possibly not intending it, your correspondent, "One of the Judges," confirms the contention of Mr. F. Harris for the need of revision in regulations governing these competitions. Take his first point, the qualification of the judges. A few years since, when Messrs. Webber & Co. provided special packing prizes, a leading authority (a gardener) advocated and used boxes for Grapes. Being myself at the time just introducing the system of basket packing, now generally used, and determined to give the box system a trial, and send up to a Covent Garden firm two boxes packed as advocated. When received, my sale-note was endorsed "Grapes arrived in good condition, but if in baskets, would have realised 20 per cent. more; best buyers now refuse to look at box Grapes." Now, as to packing material, on advice from a leading firm, I adopted dry moss for Peaches, &c.; and with me the half-yearly moss harvest comes as regular as a farmer's annual hay harvest. After reading your correspondent's letter, I made inquiry of salesmen as to any better material being now available. I have a reply saying they still prefer dry moss before anything else; the fruit travels well, and does not heat. The wood-wool often used is very fair, but in it the fruit is liable to speck. On these two instances I maintain with Mr. Harris, gardeners are not the most suitable judges of packing competitions, particularly when for market. The system adopted for Apples by the donor of the special prize is very suitable for sample sales, or choicest specimens, but in my opinion is not adapted for bulk. The regulations governing distances would be difficult, but might be made more equal, say all fruit had to pass through a London main-line station as Paddington, Charing Cross, &c. On disqualifying, your correspondent is rather free. Instead of disqualifying boxes tied, the judges would have done better to call an official and request the boxes to be placed in proper classes. Being consigned to the Secretary as requested, it became his duty to see that each one was in its proper place, no regulation stating that each package must travel singly. Nor is one of the judges more happy over the other possible disqualification, not applying items of coat, &c., as in but one class is this imperative; in the other three it is quite optional, as I read the schedule. I am aware such matters were to be taken in consideration when judging, but being easily-inspected packages, I concluded that the judges were men of sufficient competence to estimate these. Will your correspondent tell us if all packages he inspected were first examined for railway parcels label, and found each to have one attached? *Robt. Grindrod.*

SOCIETIES.

ROYAL HORTICULTURAL.

NOVEMBER 12.—Chrysanthemums were again a prominent feature at the meeting of the Society held on Tuesday last, in the Drill Hall at Westminster, and many novelties were submitted for competition by the Floral Committee. Orchids were shown in ordinary quantity, and there was a fair amount of fruit before the Committee for this section.

Floral Committee.

Present:—W. Marshall, Esq., in the Chair; and Messrs. J. Frazer, O. Thomas, H. Herbst, R. Dean, G. Stevens, E. Mawley, J. D. Pawle, C. E. Shea, H. H. D'Ombrian, J. Walker, H. Cannell, H. Turner, C. T. Druery, G. Paul, H. Selve-Leonard, W. Bain, C. Jeffries, C. E. Pearson, and H. Briscoe-Ironside.

Sir T. LAWRENCE, Bart., Burford, Dorking, gr. Mr. Bain, showed a few plants in flower of *Pentstemon Cohen*, a half-hardy perennial species so named from its Cobaea-like flowers. The spikes were upwards of two feet high, flowers pale lilac in colour with purple streaks in the corolla. The plant has been known long in gardens, but is not widely cultivated. It is figured in *Bot. Mag.*, t. 3465. (Award of Merit.)

H. O. O'HAGAN, Esq., River Home, Kempton Court (gr., Mr. C. Last, was awarded a First-class Certificate for *Dracena latifolia*, one large plant, and several small ones of which were exhibited in fine condition. The thick leaves of this plant are nearly 4 inches wide, and those on the plant shown were about 2 feet and a half long, dark green in

colour, and suitable apparently for sub-tropical hedging, as well as for other purposes.

An Award of Merit was given to W. MARSHALL, Esq., Anchinraith, Bexley, for *Polystichum constrictum* (Mareball) from *P. aculeatum* \times *angulare*, a dense-growing dark green variety, very erect in growth, and more resembling *P. aculeatum* than the other parent.

The effect made by a group of zonal *Pelargoniums* in sprays, from Messrs. H. CANNELL & SONS, tastefully put up with Ferns mingled, was very bright and distinct. Several new varieties were included, among which we noticed an unnamed seedling, rich salmon pink with white eye, as being very fine. Duchess of Marlborough, another seedling, is pale pink and white. Volcanic is one of the largest and deepest coloured of the purple crimson section, and Owen Thomas, of the same strain, is good. (Silver-Gilt Banksian Medal.)

Messrs. JAS. VEITCH & SONS, Royal Exotic Nursery, Chelsea, again exhibited trusses of flowers representing varieties of their javanicum \times jasmiflorum hybrids of *Rhododendrons*. These hybrid varieties are exceedingly delicate and pretty. Ruby was the darkest coloured, and partakes of *Curtisii*, one of the parents of this variety; *Lutea roseum* is a very pretty pale rose-coloured flower, rather large; *Taylori* is rosy-pink, and *Favourite* bright-rose; *Princess Frederica* is very delicate, and *Minerva* is similar but a little deeper. *Maiden's Blush* is just a pleasing flushed pink, but the latest variety is named *Numa*, obtained by crossing *R. Curtisii* \times *R. indicum* \times *javanicum*. *Numa* has fine deep coloured flowers, after the style of *Curtisii*, and resembling in great measure the appearance of those of an *Azalea*, a habit obtained from *R. indicum* \times *javanicum*, itself the result of a cross between *R. \times Lord Wolseley*, and *Azalea indica* var. *Stalla*. The leaves in the case of *Numa* are much smaller than those of *Rhododendrons*, but larger also than of the *Azaleas*. (Award of Merit.)

CHRYSANTHEMUMS.

Among the collection of novelties from A. BRISCOE-IRONSIDE, Esq., Burgess Hill, were three blooms of a large Japanese incurred named *Arona*—blooms of good depth and plenty of fulness—colour buff, with light red shading on top side of florets (Award of Merit). *Bellina*, a white flower, and *Prinsepino*, yellow, appeared useful kinds for decoration purposes.

One of the most effective groups of cut Chrysanthemums was one from Mr. Wythes, gr. to Earl Percy, at Syon House, which included upwards of one hundred flowers in eighty varieties. Many of the blooms represented good culture, and most of them were choicé and good. (Silver Banksian Medal.)

Messrs. H. CANNELL & SONS, Swanley, obtained an Award of Merit for the yellow Japanese incurred *Oceana*. The florets of this variety are very broad, and the flowers are medium size as shown, and very pretty. An excellent lot of blooms of miscellaneous varieties was also exhibited by Messrs. CANNELL, amongst which we may mention a few examples of *Kentish White*, a white Japanese incurred, which appears to be popular with many visitors, but fails to obtain awards. Altogether there were about eighty blossoms shown in this collection.

A small group of Chrysanthemum flowers from Mr. Penney, gr. to Mrs. HOWARD, Isleworth, contained some pretty flowers, and they were staged tastefully. (Bronze Banksian Medal.)

Mr. THOS. S. WARE, Hale Farm Nurseries, near Tottenham, showed a group of cut Chrysanthemums with long stems, and staged amid plants of Maidenhair Ferns. The group would have been more effective had the foliage been retained by the Chrysanthemum stems. Mr. WARE had also a plant of Chrysanthemum, A. H. FEWKES, with three good flowers upon it. (Silver Banksian Medal.)

Mr. Slogrove, gr. to Mrs. CRAWFORD, Gatton, Reigate, was the exhibitor of twelve very well-grown flowers each of Thunberg and Mdlle. Marie Hoste. (Bronze Banksian Medal.)

Dr. GEO. WALKER, 12, Lingfield Road, Wimbledon, showed his little yellow Pompon *Dolly*, certificated the day before by the National Chrysanthemum Society, but no award was given on this occasion.

Mr. R. OWEN, nurseryman, Maidenhead, exhibited a number of novelties, and obtained an Award of Merit for *Vicar of Bray*, an English seedling Japanese, a good heavy bloom of old gold and dull red. *Robin Adair*, a pale lilac coloured large Anemone, also received an award, as did Mrs. R. C. KINGSTON, a very large flowered incurved variety of bright pink or rose.

An incurved pink Japanese, named *Austine Anderson*, was shown by HENRY TATE, Esq., Allerton Beeches, Liverpool. No award was made.

Messrs. B. S. WILLIAMS & SONS, Upper Holloway, London, N., exhibited half a dozen blooms and a few plants of *Philadelphia*.

An excellent collection of Chrysanthemum blooms was put up by Mr. W. G. GODFREY, Exmouth Nurseries, including numerous novelties. An Award of Merit was made to Cecil Clinton Chalfont, a full yellow-coloured Japanese flower, useful for decorative purposes. *Annie Heard*, a medium-sized white single-flowered variety, received a similar award. The white hirsute Mrs. W. J. Godfrey and other fine flowers were included. (Silver Banksian Medal.)

Half-a-dozen plants in bloom of *Ewan Cameron* shown by Mr. GOBLE, Walnut Nursery, Ryde, Isle of Wight, seemed to indicate the usefulness of this variety for decorative purposes. The flowers are single, large, pure white, and very free.

Mrs. JONES, Sudbury (gr., Mr. Jones), staged a group of flowers of some of the single flowering varieties, and they were good and attractive, but the effect would have been greater had a few Ferns been interspersed. The flowers had been well grown (Bronze Banksian Medal).

Orchid Committee.

Present: Harry J. Veitch, Esq., in the Chair, and Messrs. Jas. O'Brien (Secretary), A. H. Smce, Sydney Courtald, W. Cobb, E. Hill, T. W. Bond, W. H. White, T. Statter, F. Sander, H. Williams, T. B. Haywood, and H. Ballantine.

Sir TREVOR LAWRENCE, Bart., Burford, Dorking (gr., Mr. W. H. White), always foremost in exhibiting novelties of both botanical and floral interest, showed *Luddemannia trifolia*, Rolfe, n. sp., a most remarkable plant of the growth of *Acaena*, and with a pendulous inflorescence some 2 ft. in length, and bearing thirty-three wax-like flowers of a bright orange colour, the sepals being tinged with copper-brown, and the base of the lip, which was distinctly three-lobed, having a dark purple blotch. It is one of Mr. Lehmann's Andean discoveries, and a plant worthy of attention (First-class Certificate). Sir TREVOR LAWRENCE also exhibited the handsome *Cypripedium \times Polletianum*, "Burford Beauty" (*calophyllum \times oenanthemum*), a variety far superior to the original, and which received an Award of Merit.

Messrs. JAS. VEITCH & SONS, Royal Exotic Nursery, King's Road, Chelsea, were awarded a Silver Floral Medal for one of the best and most interesting groups lately exhibited. The most attractive feature was the gorgeous *Lelio-Cattleya \times callistoglossa ignescens* (C. Warszewiczii *Sanderiana* \times L. *purpurata*). It is the beau ideal of a charming garden hybrid, its large lavender-tinted sepals and petals and rich purple-crimson lip constituting it a noble flower (First-class Certificate). Another fine plant which secured a First-class Certificate was *Cypripedium \times Milo grandis* (*enanthemum superbum* \times *insigne* *Chantini* \times ♀), the massive appearance of the fine glossy flower being rendered all the more striking by reason of the large, divided lower sepals. The pretty *Lelio-Cattleya \times Semiramis* (C. *Gaskelliana* \times L. *Ferrini* ♀), with fine soft rose flowers with purple-veined lip, received an Award of Merit. Among other good things in Messrs. VEITCH'S group were *Lelio-Cattleya \times Decia* (C. *aurae* \times L. *Ferrini* ♀), *L. C. \times Pallas superba* (C. *Dowiana* \times L. *crispa* ♀), with blush sepals and petals, and rich purple lip with silvery margin, and wonderful kaleidoscopic display of colour in the throat; *Cattleya \times leucoglossa*, the pretty rose coloured *Phalenopsis \times Vesta* (*rossa leucaspis* \times *Apollonite* ♀), that charming novelty *Epidendrum \times Wallisio-cliffare*, with yellow flowers having a conspicuous white labellum; some good plants of *Miltonia spectabilis* *Moreliana*, and a number of rare *Cypripediums*, &c.

Messrs. F. SANDER & Co., St. Albans, also staged a very effective group of rare Orchids, which secured a Silver Banksian Medal. Their most beautiful exhibit was *Cypripedium \times Countess of Salisbury* (*bellatulum \times harbatum superbum*, Sander's var.) and which (although the species employed in obtaining it are similar to C. \times Chas. Richman and others) was a most delicate, charming and distinct flower, the difference being doubtless due to the fine qualities of its parents. It had the usual firm wax-like flowers of its class, the ground colour white with innumerable dark chocolate dots over its surface and a ray-like flush of rosy purple on the upper sepal, a similar rosy flush being over the petals, and in a lesser degree the lip. It was awarded a First-class Certificate. Another fine plant in Messrs. SANDER'S group was *Cattleya \times "Miss Clara Measures"*, a white variety of the C. I. Cookson class, but with a more purple shade in the colouring of the lip; and fine objects were a pan of *Habenaria Susanæ*, with many spikes of its extraordinary white flowers; a pan of the new *Anæctochilus Sanderianus* with olive-green foliage of various shades, netted with pale gold; the handsome *Cypripedium \times A. J. Herrington* (*lesanum \times enanthum superbum*); the neat and singular *Saccolabium acutifolium*, of the C. *bellinum* class (Botanical Certificate); *Cymbidium \times Winnianum*, the charming *Trichopilia brevis* with huge convolute white labellum and Indian yellow sepals and petals barred with chestnut-brown; *Bollea Rozellii*, *Dendrobium album*, *Cœlogyne fuscescens*, *Catastium Chrysanum*, and a rich and varied collection of varieties of *Cattleya labiata*, &c.

C. L. N. INGRAM, Esq., Elstead House, Godalming (gr., Mr. T. W. Bond), exhibited three very pretty and distinct hybrids raised in his gardens by Mr. Bond, viz., *Cattleya \times Lady Ingram* (*Eldorado \times auræa*), with fragrant flowers, having pale yellow sepals and petals and lip, with golden yellow tube and rose-veined front lobe. It had a three-flowered inflorescence; *Cattleya \times Cecilia* (*Lawrenceana \times Trianae*), a delicately-tinted flower of much the form of C. *Lawrenceana*, and of a soft lilac colour, with shades of purple and crimson in the tube; *Lelio-Cattleya \times Othello* (C. *maxima peruviana* \times L. C. \times *elegans Turneri*), a slender plant with large rose-coloured flower with purplish front lobe to the lip. Each of the three received an Award of Merit.

THOS. STATTER, Esq., Stand Hall, Whitefield, Manchester (gr., Mr. R. Johnson), staged a fine group of noble cut spikes of varieties of *Cattleya Dowiana aurea*, all being of superb quality; *Cypripedium \times Edwardii*, C. \times *vexillarium*, &c. (Silver Banksian Medal.)

Messrs. B. S. WILLIAMS & SON, Victoria and Paradise Nurseries, Upper Holloway, N., were awarded a Silver Banksian Medal for a neat-looking group of Orchids, in which were fine specimens of *Pescatorea Rozellii rosea*, P. *klabochoom superbum*, *Catastum \times splendens aureum*, *Cypripedium Pitcherianum*, Williams' var., which is a noble flower, and the best of a very distinct section of hybrid *Cypripediums*; the

of India, Lucy Kendall, Miss M. A. Haggas, John Lambert (very fine), and other good old and new varieties; 2nd, Sir C. H. ROUSE BROUGHTON, Bart., Lindlow (gr., Mr. C. Bellis), who staged excellent Lord Alcester, John Lambert, M. Bahnan, Nil Desperandum, Empress of India, W. Carpenter, Brookleigh Gem, Baron Hirsch, very fine yellow Charles H. Curtis, &c.

Twenty-four blooms, Japanese, not less than eighteen distinct varieties, 1st, H. H. FRANCE HAXHURST, Esq., Overley, Wellington, Salop (gr., Mr. S. Bremmell), who staged excellent flowers of Vivand Morel, Amos Perry, W. Seward, Van der Heede, G. W. Newet, Sunflower, International, fine creamy-white, &c.; 2nd, Sir C. H. ROUSE BROUGHTON, Bart., whose stand contained fine blooms of Madame Carnot, Duke of York, Van der Heede, C. Davis, Louise, Pallanza, Sunflower, Mrs. C. H. Payne, Viscount Hambleton, and Richard Dean.

For twelve blooms of incurved varieties, distinct, 1st, Lord WROTTESLEY, Wrotesley Hall, Wolverhampton (gr., Mr. Simpson), who staged excellent blooms of Lord Alcester, Princess of Wales, Prince Alfred, John Lambert, Baron Hirsch, Flora Macdonald, Empress of India, Brookleigh Gem, &c. Sir C. H. ROUSE BROUGHTON, Bart., with John Lambert, J. Doughty, Jeanne d'Arc, Baron Hirsch, Mrs. Heale, Nil Desperandum, &c. Eleven competitors entered the field in this class, and the contest was strong throughout.

For twelve blooms of Japanese, distinct, 1st, A. C. KERRISON, Esq., Pipe Hall, Bilston (gr., Mr. H. Tauntrum), who showed good blooms of C. Davis, Beauty of Exmouth, E. Molyneux, &c.; 2nd, Lord WROTTESLEY, with good Etoile de Lyon, Thomas Watkins (a good yellow), Louise, J. C. Schwabe, M. M. Hoste, &c.

For twelve blooms of the Rundell family.—1st, JOHN BARRETT, Esq., Bury St. Edmund's (gr., Mr. A. Bishop); 2nd, Lord WROTTESLEY.

For twelve Anemone Chrysanthemums, only one competitor—Mrs. SWINDLE, The Quarry, Stourbridge (gr., Mr. T. W. Davis).

For six bunches of Chrysanthemums.—1st, Mrs. WIGHT BOYCOTT, Rudge Hall; 2nd, Mrs. SWINDLE.

Local Classes for Exhibitors to reside within 5 miles of Wolverhampton.—For twelve blooms, incurved, 1st, Lord WROTTESLEY.

For twelve Japanese blooms, 1st, A. C. KERRISON, Esq.

For the lady's sprays of Chrysanthemums, 1st, H. ENGLAND, Esq.; 2nd, Mrs. W. BOYCOTT.

For the most artistically arranged vase of Chrysanthemums, 1st, Mr. J. HUGHES, Tettenhall.

For the most artistically arranged basket of Chrysanthemums, 1st, R. BURRELL, Esq.

Premier incurved, John Lambert, sent by R. H. LLOYD, Esq. Premier Japanese, Madame Carnot, very fine, shown by R. W. D. HARLEY, Esq.

For three plants, Japanese varieties, 1st, Alderman THOMPSON, with Etoile de Lyon, carrying thirty-five good blooms, Florence Davis with fourteen blooms, and Mons W. Holme; 2nd, Mrs. EARP, Dunstall Hill, Wolverhampton (gr., Mr. Hugh Jones).

For one specimen Pompon, 1st, Mrs. EARP, with fine-bloomed Sœur Mélanie; 2nd, Alderman THOMPSON.

For twelve Chinese Primulas, 1st, Miss PERRY.

Six zonal Pelargoniums, 1st, Miss PERRY, with well-flowered Colonel Seely, Edith, Little Ajax, Hayne's Pink; 2nd, S. T. MANDER, Esq., with International, Charles Mason and Mrs. Davidson.

For six table plants, 1st, S. T. MANDER, Esq., with six well-coloured Crotons; 2nd, Sir C. H. ROUSE BROUGHTON, Bart. (gr., Mr. C. Bellis), with nice Aralia Veitchii, and fine-coloured Crotons.

FRUIT.

There was a very fine display of Grapes, Apples, and Pears. In the class for two bunches of Black Grapes, J. HARRIS, Esq., The Hayes, Stone (gr., Mr. Bates), was 1st, who staged grand bunches of Gros Colmar.

For two bunches of White Grapes, Mrs. EARP was 1st, with good Muscat of Alexandria.

VEGETABLES.

Special prizes were offered by Messrs. WEBB & SONS, Stourbridge, for collections of vegetables, and the highest was taken by R. T. LLOYD, Esq.

Amongst the local exhibitors who employ only one gardener, Messrs. ONIONS, of Cannock Road, CAVE, and BARBER, were all successful.

In the non-competitive section, Messrs. DEVERILL staged a fine collection of their famous Onions.

MISCELLANEOUS.

Mr. JOHN E. KNIGHT, nurseryman, Wolverhampton, put up a fine group of Palms, Araucaria, Chrysanthemums, Crotons, Ferns, Ficus elastica, and wreaths; also a collection of vegetables, which included some fine roots of Mangels grown in the district by Col. COTTON, yielding 50 tons per acre.

Messrs. TOM B. DOBB & Co., Queen Street, Wolverhampton, put up a seasonable group of hardy shrubs, with statuary, Palms, &c., and a fine collection of vegetables grown from their seeds. Mr. JOHN WATKINS, of Hereford, staged fifty dishes of very fine Apples; and Messrs. RIVERS & SONS, Snarbridge, sent forty dishes of Apples and Pears. Amongst local exhibitors, F. SANDERS, Esq., of Onken, Wolverhampton, sent twenty-four dishes of fruit; and Mrs. STOCKHART, of Tettenhall, sent fine Pitmaston Duches Pears. This table was a centre of great interest, the fine colour of the fruit, in addition to the size, made many exclaim: "With such Apples and Pears as these we shall not want fruit from America," &c.

CIRENCESTER CHRYSANTHEMUM.

NOVEMBER 6.—This show took place in the Corn Exchange on the above date, and was in all probability the best ever held by the society, though it does not appear to be supported by the townspeople as it deserves to be—a fate usually experienced in purely agricultural districts.

There were two open classes only, the one for six specimen plants of Chrysanthemums, the best coming from Mr. H. R. Saunders, gr. to JAMES TAYLOR, Esq., Rendcomb Park, who had admirably grown and flowered bush plants of John Shrimpton, Edwin Beckett, and Source d'Or; and of incurved, Mrs. Dixon, White Venus, and Mrs. Haliburton, this being the only exhibit.

The other open class was for thirty-six blooms, eighteen incurved and eighteen Japanese. Mr. Geo. Price, gr. to Mrs. BULLEY, being the only exhibitor, with fine examples of Lord Alcester, Mrs. B. C. Kingston, Baron Hirsch, Violet Tomlin, Golden Empress, Madame Darier, &c., among the incurved; and among the Japanese, Col. W. B. Smith, Ella Prass, Vivand Morel, E. Molyneux, Duke of York, Miss Dorothy Shea, Charles Davis, Rose Wynne, &c.

Groups of Chrysanthemums made a very good feature, and being relieved by the addition of foliated plants, lessened the effect of stiffness usually seen, but there was too much crowding. The best came from Mr. W. Larner, gr. to JOHN HYDE, Esq., Southleigh. One other group set up by Mr. D. Elkins, gr. to A. CATOR, Esq., had to be disqualified as containing plants of Chrysanthemum frutescens, but an extra prize, equal to the 2nd, was awarded to him. A class for a smaller group brought several pleasing exhibits from local growers. Mr. Kirby, gr. to H. F. GARE, Esq., the Hon. Secretary, taking the 1st prize. Some fairly good specimens of plants of incurved and Japanese types were staged in their several classes.

CUT BLOOMS.

In the way of cut blooms, the best eighteen Japanese came from Mr. D. ELKINS, A. H. Neve, Charles Davis, Sunflower, W. Seward, Boule d'Or, and others, being in excellent character; Mr. G. PRICE was 2nd. With twelve incurved, the same exhibitors were severally 1st and 2nd. Sizes of each were also good. Mr. PRICE had the best six blooms of an incurved variety, showing Violet Tomlin in excellent character; Mr. HUMPHRIES, gr. to J. L. BURGESS, Esq., following 2nd, with Baron Hirsch, which promises to be a very useful incurved. Mr. PRICE also had the best six blooms of a Japanese variety, having Col. W. B. Smith in splendid form; Mr. ELKINS coming 2nd with Mdlle. Thérèse Rey.

Some good blooms of Anemone-flowered types, as also Pompons and singles were staged; of the latter, Mary Anderson, Miss Palmer, Jane and Miss Holden were very pretty.

Vases and Epergnes of Chrysanthemums relieved with foliage made a charming feature, Mrs. SARE leading the way with very tasteful arrangements. Baskets of blooms were also very pretty, and those formed of autumn berries and foliage, shown by children, delightful. All these were instructive objects lessons in the way of home decoration.

Groups of stove and greenhouse plants, Primula sinensis, double and single Mignonette, zonal Pelargoniums, Poinsettias, plants for table decoration, and other subjects lent variety to the show, and extended its interest.

Fruit also found a place in the schedule, and vegetables also. Mr. SAUNDERS had the best three bunches of white Grapes; Mr. PRICE taking the 1st prize with the same number of black. Mr. T. Arnold, gr. to Earl BATHURST, was 1st for six varieties of dessert Apples, as also of culinary; and with the same number of Pears, showing very good samples. The best collection of nine varieties of vegetables came from Mr. J. Baker, gr. to Col. PORTER. Nor are the cottagers forgotten, for classes for Chrysanthemum, and also for vegetables were provided for them, and they exhibited in a very creditable manner.

A very interesting group of Coniferous plants, also a fine and varied collection of Apples, were shown by Messrs. J. JEFFERIES & SON, Cirencester. Mr. O. ORPET, nurseryman, Dyer Street, had a collection of stove and greenhouse plants. Mr. H. DYER, Springfield, also had a collection of Chrysanthemums of an attractive character.

HITCHIN.

NOVEMBER 7.—A successful exhibition of Chrysanthemums and fruit was held in the Corn Exchange at Hitchin, Herts, on the above date.

Among the best things shown were the groups of Chrysanthemum plants from Mr. J. F. PARSONS, gr. to W. SPENCER, Esq., Codecote Lodge, Hitchin, 1st; and those from Mr. PRISMAN, gr. to S. LUGAS, Esq., Hitchin, 2nd. The plants of the first named exhibitor were very good, and possessed of fine large flowers.

Mr. W. Springham, gr. to J. H. TUKE, Esq., Hitchin, had the best specimen plants.

Groups of miscellaneous plants formed a pleasing and desirable feature of the show, and the highest prize fell to Mr. J. F. PARSONS, for a creditable arrangement, in which Palms, Grebids, and Salvia, played the chief parts.

Cut blooms were numerous shown in competition, and the quality generally was good. P. ROSANQUET, Esq., Parfield (gr., Mr. J. Turk), was 1st in the class for twenty-four Japanese varieties, distinct, his flowers being large, richly coloured, and consisting of leading varieties; F. FENWICK

HARRISON, Esq., King's Walden, Bury, Hitchin (gr., Mr. J. Hartless), was 2nd.

For twelve Japanese varieties, M. PRICE, Esq., Manor House, Knebworth (gr., Mr. Pateman), took the leading prize with a good set.

For twelve incurved varieties, distinct, Mr. HARTLESS was 1st, with creditable examples. For six incurved, one variety, Mr. HARTLESS won with really good specimens of Lord Alcester.

White-flowered Japanese varieties were well represented in the class for six, one variety, and Mr. J. F. PARSONS won with Mdlle. M. Hoete.

For any coloured variety, Mr. TURK staged Snaflower in capital condition. Pompons were best shown by Mr. TURK.

Table decorations, of which the Chrysanthemum formed the chief feature, were abundantly shown, no fewer than nine tables being set out with them. In this competition, Miss C. E. FOSTER, Bancroft, Hitchin, was deservedly awarded the 1st prize.

Some excellent fruit was noted.

ASCOT.

NOVEMBER 6, 7.—The grand stand of the Ascot racecourse was chosen as the place for holding the Chrysanthemum exhibition, which was about the average of such shows as regards the quality of the various exhibits. Cut blooms were, as is now usual, the more important section so far as attractiveness goes.

For eighteen incurved and eighteen Japanese varieties, distinct, for which a Challenge Cup was offered in addition to a money prize, Mr. W. Lane, gr. to Miss J. D. SMITH, King's Ride, Ascot, was placed 1st for substantial shapely blooms in both sections; and Mr. F. J. PAUL, gr. to Mrs. BOWRING, Forest Farm, Windsor, was a close 2nd.

For eighteen Japanese, Mr. A. STURT, gr. to N. L. COHEN, Esq., Round Oak, Englefield Green, Egham, was easily 1st with the best blooms in the show; and Mr. E. JOHNSON, gr. to A. GILLIATT, Esq., Duffield House, Stoke Poges, Slough, was 2nd.

For twelve Japanese varieties, 1st, H. White, gr. to the Marchioness CONYNGHAM, Ascot; and Mr. Farmer, gr. to H. P. LESCHALLES HYAMS, Windlesham, 2nd.

For six Japanese, Mr. Hawthorne, gr. to ST. GEORGE'S SCHOOL, Ascot, won. Mdlle. Marie Hoste in the class for six Japanese, any white variety, placed Mr. E. Smae, gr. to Captain HANBURY, Ascot, in the 1st place; as did Vivand Morel for Mr. FARMER, in the class for six Japanese of any variety and colour.

The best twelve incurved Japanese blooms were those staged by Mr. F. PAUL, and the incurved blooms, it may be said, made a good display generally.

For eighteen distinct varieties, Mr. F. J. PAUL was an easy 1st; Mr. A. STURT being 2nd.

In the class for twelve blooms of incurved varieties, the 1st prize fell easily to Mr. FARMER; and for six incurved, the highest award went to Mr. BIRD for blooms of Lord Walseley in excellent form.

The truly reflexed varieties of Chrysanthemums were well shown by Mr. W. Neate, gr. to Miss MACHAR, Sunningdale, who was placed 1st for twelve blooms, distinct; Mr. H. WHITE being 2nd. Mr. E. R. SMEE had the best six varieties of this section; and he was also the winner of the highest prize for Anemone-flowered varieties.

The premier Japanese blooms were those of Madame Carnot and C. H. Curtis, both of which were shown by Mr. PAUL, and very fine examples too.

Plants were good, and Mr. HAWTHORNE was 1st for four trained specimens; and Mr. NEATE was 1st for plants grown as bushes; also for four Pompons. For a group of Chrysanthemums, Mr. LANE won with plants carrying extremely fine blooms; and Mr. HAWTHORNE was 2nd with a group better arranged, but which lacked quality in the flowers.

Fruit and vegetables were very well represented by a number of horticulturists of the district. Messrs. J. STANDISH & Co., arranged an interesting group consisting of miscellaneous plants. Mr. THORNE, gr. to Major JOICEY, Sunningdale, had a pleasing group of choice miscellaneous plants, creditable alike to himself as cultivator, and an acquisition to the exhibition.

BRIXTON, STREATHAM, AND CLAPHAM.

NOVEMBER 6, 7.—This old-established society has not been left behind in the advance made of late years in the growth of the Chrysanthemum, but on the other hand, it is decidedly progressing, the enterprise displayed by the executive committee, and the practical knowledge of W. Roupell, Esq., the Hon. Secretary, have been productive of excellent results. It would be scarcely possible to find a better show around London outside of the National Chrysanthemum Society itself, than that recently held in the capacious hall at Streatham, a building which is well suited to the purpose, being well-lighted, lofty, and otherwise commodious.

Plant Groups.—These were divided from each other by collections of foliage plants, thus adding to the effect. The 1st prize was won in fine style by Mr. Poulton, gr. to C. T.

CARLEY, Esq., with pleasing harmony of white, pink, yellow, and bronzy-red; the flowers also were of extra good quality, and quite fit for the exhibition board. Mr. Murrell, gr. to Mrs. BURTON, who was 1st last year, staged even better than he did then, but he was fairly beaten by his rival. The great feature of this group was the dwarf growth of the plants, those in the front being little more than 1 foot in height.

For six trained specimens of Japanese, Mr. Weston, an old exhibitor, gr. to D. MARTINEAU, Esq., showed a fine set bearing a profusion of well-developed blooms, his best being Margot, Miss Watson, Madame Rendatler, Madame Levin, and La Triomphante.

With six reflexed or incurved, Mr. Cherry, gr. to Mrs. GABRIEL, showed well, and received the premier award, two of his best being Mrs. Geo. Rundle and Mrs. Dixon.

The best six Pompons were from Mr. CHERRY, also the varieties of Cedo Nulli standing him in good stead, also Commander Schneider and Frémý. Mr. WESTON was a close 2nd, Black Douglas being one of his best.

Mr. Swain, gr. to E. JONES, Esq., was 1st. for three pyramids or standard of Pompons, showing all of the latter style and of the Anemone section.

Mr. SWAIN was also 1st for three plants of large-flowered varieties, his plant of Viviani Morel being of rich colour and with fine blooms.

An excellent class was that provided for twelve Japanese, in 4½ inch pots, each plant to carry one bloom, this produced a good competition. Mr. T. Stevens, gr. to B. F. SMITH, Esq., was 1st; and Mr. MURRELL a close 2nd; the best varieties being Viviani Morel, Comte de Surani, and Chas. Davis.

CUT BLOOMS (*Japanese*).

Mr. Howe, gr. to H. TATE, Esq., showed a grand stand of twenty-four blooms, of large size and very fresh, and uniform throughout, the best were Col. Smith, Viviani Morel, Ed. Molyneux, Eda Prass, Chas. Davis (extra), Colonel Chase, Marie Hosta, Viscontess Hambleton, H. L. Snoderbruck, and a perfect bloom of Lord Brooke. Mr. MURRELL followed with another excellent stand, Mr. Seward, Deuil de Jules Ferry, and Excelsior here were of special note.

Mr. HOWE was also 1st for twelve blooms on long stems as grown, he staging again some fine flowers, Lady Sanders, a broad petalled pure white, was extra good. Mr. MURRELL again followed, and that quite closely, for 2nd place. In both instances the foliage was good, thus adding to the effect.

For twelve broad-petalled varieties, Mr. HOWE was placed 1st, with an admirable lot of flowers, the best of which were Colonel Smith, Lord Brooke, Mrs. W. Howe, and Louise; Mr. STEVENS came 2nd, almost on a par with the preceding, Lord Brooke here being especially good.

For six of any white variety, Mr. MURRELL was a worthy 1st, with almost faultless flowers of Madame Thérèse Rey, very pure in colour; Mr. HOWE being 2nd, with Madame Carnot.

For six of any other colour, the positions were reversed, Mr. HOWE winning with a splendid set of Lord Brooke.

In a class for twelve varieties, Mr. STEVENS won with an even stand, the best being Madame Hosta, Sunflower, and Charles Davis; Mr. POLTON, followed up strongly for 2nd place, Louise and Sunflower being conspicuous.

Incurv d. Sc—The best twenty-four incurved, very uniform, and of medium size and fresh, came from Mr. STEVENS, Baron Hirsch, Princess of Wales, and Empress Eugénie being the best blooms; the 2nd prize lot, from Mr. ROPE, lacked size.

Mr. STEVENS was also 1st for twelve Anemones, with a strong board, the best being Delaware (extra), Nelson, and Judge Benedict; Mr. Fulbrook, gr. to B. B. BAKER, Esq., also staged well, his best being Lady Margaret and Glück.

Mr. WESTON had a fine dozen trebles of Pompons, very bright and well set up, not, too, in a formal manner; Mr. MILSON, gr. to G. A. PAYNE, Esq., following closely, some of the flowers being over-blown.

A keen competition was evinced in the class for twelve blooms, any varieties, open only to single-headed gardeners or amateurs, eight lots being staged. Mr. FARRON, gr. to G. R. PEARLESS, Esq., won with a fine dozen, proving him to be quite capable of entering the open classes; the best here were Chas. Davis, Viviani Morel, Rose Wynne, Mrs. C. H. Payne, and Silver King. Mr. W. Smith, gr. to the Rev. S. N. Ranson, showed well for 2nd place, the blooms being bright and even.

OTHER EXHIBITS.

At this show these are always no important feature. Ferns are especially good, the 1st prize going to Mr. Hill, gr. to G. W. RYDER, Esq., who staged Platycyrtum grande in robust health; also Gymnogramma schizophylla gloriosa, G. Lauchena, and Adiantum Farleyense. Mr. Jones, gr. to N. N. SHERWOOD, Esq., who fallowed, had Gymnogramma peruviana argyrophylla and G. schizophylla gloriosa, both in fine condition.

Orchids are also shown well, Mr. Ranson having a strong half-dozen, Vanda Sanderiana, Oncidium varicosum Rogersi, and Liparis longipes, the latter a lovely Orchid, with long pendulous spikes of minute but sweetly-scented flowers.

Falsiged plants were shown well, the best coming from Mr. Chalk, gr. to A. NORMANDY, Esq. Primulas, table plants, and small Palms were also well shown.

The best basket of cut Chrysanthemums arranged for effect was shown by Miss CROOK. Mr. Stevens, gr. to M. A. VOSS, Esq., had the best arrangement of other flowers, amongst which Orchids were a feature.

Fruit was also staged in first-rate condition; so also were vegetables in baskets—still a good method of exhibiting these products.

Miscellaneous exhibits of fruit and flowers came from Messrs. J. PEED & SON, and of flowers from Mr. J. E. KNIGHTS. H.

CHESHUNT, WORMLEY, AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT.

NOVEMBER 7.—The fortnightly meeting was held on the above date in the Society's room at Turnford, and a large number of members was present. Mr. F. S. HUTCHASON presided. After the transaction of routine business matters, Mr. J. H. DEAN contributed a useful paper on PEARS FOR MARKET AND PRIVATE USE. In the course of his paper he dealt with the positions that trees planted for market purposes ought to occupy, and said that out of the hundreds of varieties, comparatively very few are fit for market purposes. These ought not to exceed twelve, and in quantity sufficient to keep the market supplied with varieties in succession.

The twelve varieties which he recommended for standard trees are Citron des Carmes, Jargonelle, Williams' Bon Chrétien, Bauré d'Amanlis, Hessele, Clapp's Favourite, Louise Bonne of Jersey, Fertility, Bauré Superfin, Princess, Durondeau, and Doyenné du Comice, these giving a succession of good Pears from the middle of August to early in November, which is late enough, as storing for long periods of time does not pay the market man. Standards of from 5 to 6 feet in height of stem were recommended. Another system practised by some growers for a market supply is that of bushes worked on the Quince, which allows a large number of choice kinds to be grown in a small area, if needs be, the varieties to be taken being Williams' Bon Chrétien, Dr. Jules Guyot, Clapp's Favourite, Louise Bonne of Jersey, Bauré Superfin, Marie Louise (double grafted), Conseiller de la Cour, Pitmaston Duchess, Doyenné du Comice, Conference, Bauré Clairgeau, Durondeau, Emile d'Heyst, Josephine de Malines, Bauré Bâté Père, and Duchesse d'Angoulême, which forms a select list of good large and choice Pears, which would command good remunerative prices in the market.

Referring to Pears grown for private use, he said this was practised by many, but really understood by few, as a great many take up a nurseryman's catalogue and make a selection without any regard to the position they are to occupy. Mr. DEAN went on to speak of cordons, espaliers, walls, &c. At the close a discussion ensued, and Mr. CLEVER referred to the slitting of the bark of standard trees to make them prolific; Mr. GILBER to orchards planted under glass; Mr. HARRISON, Pears for succession; Mr. SIMONS, prolonging the season under glass. Mr. W. L. YATES spoke of the varieties Chaumontel, Winter Nela, Aston Tower, Bauré Bose, and Easter Bauré. A vote of thanks having been accorded Mr. DEAN for his excellent paper, the meeting terminated.

The next meeting will be held on Friday, November 22, when Mr. A. Pearce will contribute a paper on "The Tuberos Begonia."

PUTNEY, WANDSWORTH, AND DISTRICT.

NOVEMBER 7, 8.—The eighth annual exhibition, held at the Cromwell Hall, was, in all respects a most satisfactory one (save in attendance of the public, the weather being most unpropitious), the hall being crowded with plants and cut flowers of superior quality.

Group of Chrysanthemums.—The competition in this class was keen, the premier position being given to a splendid lot, in which fine Japanese flowers predominated, to Mr. J. WILLIAMSON, gr. to T. S. JAY, Esq., Putney Hill; a most creditable 2nd being Mr. W. JENNER, gr. to Miss S ALLENSWOOD Wimbledon Park.

A Silver Cup given as a 1st prize (special) by Mr. E. LUCKHURST, was well won by S. W. LAMBERT, Esq., Northumberland Avenue; 2nd, also a good lot, A. LASK, Esq., Sandown Lodge. Four large-flowered, in 12-inch pots: 1st, Mr. C. BEADLEY, gr. to J. BOSWORTH, Esq., Cedar Court, Roehampton, in fine condition, being Empress Eugénie, Mrs. Dixon, and Prince of Wales; 2nd, Mr. J. PORTBURY, gr. to W. N. FROY, Esq., Ripon House. Specimen reflexed: 1st, Mr. C. BENTLEY, with a finely-flowered plant of Mrs. Forsyth; 2nd, Mr. J. PORTBURY. Two Japanese, single stem: 1st, Mr. C. BENTLEY, with a very fine Avalanche; 2nd, Mr. J. PORTBURY. Specimen Pompon: 1st, Mr. C. BENTLEY, with Black Douglas; 2nd, Mr. J. PORTBURY. Specimen large-flowered (standard): here the leading prize was taken by Mr. PORTBURY.

In the class for a standard Pompon, height not less than 30 inches, some evenly-flowered plants gained the prizes to Mr. J. PORTBURY, and Mr. C. Pearce, gr. to W. S. PAGE, Esq., The Limes.

Interest attached to the classes provided for amateurs who do not employ a gardener regularly. For a specimen, large-flowered, single stem, trained, the 1st prize went to a capitately-flowered example from S. W. LAMBERT, Esq.; 2nd, J. PEPPER, Esq., Eton Lodge; these exhibitors gaining the same positions in the class for a specimen Pompon.

Cut blooms.—Twelve incurved, distinct, 1st, Mr. J. PORTBURY, with fine flowers, but unfortunately not named. 2nd, Mr. P. POTTER, gr. to J. D. CHARRINGTON, Esq., Gifford House, who had, amongst others, fine bloom of R. Parkes, Golden Empress, and Baron Hirsch. Six incurved: 1st, Mr. C. BENTLEY, noteworthy flowers in this stand were Lord Wolsley, Mrs. Heale, and Refulgens; closely following, being Mr. W. J. WRIGHT, gr. to H. A. TUFNELL, Esq., the Grove, Wimbledon Park. Six Anemones (three Japanese): some very fine blooms were displayed here, particularly in the 1st prize lot, from Mr. W. J. WRIGHT, who had particularly good W. W. Astor, Sir

Walter Raleigh and Nelson; 2nd, a bright lot, Mr. J. PORTBURY. Twenty-four Japanese: here again were some grand flowers, 1st, Mr. W. J. WRIGHT, very fine being J. S. Dibbess, Mdle. T. Rey, Edwin Molyneux, and Lady Sanoders; a good 2nd being Mr. J. PORTBURY, who staged fine blooms of G. C. Schwabe, Mrs. W. H. Fowler, and Madame C. Mulin.

For twelve Japanese: 1st, Mr. J. PORTBURY, some of whose finest flowers were Chas. Davis, Mdle. T. Rey, E. Molyneux, and Annie Hartshorne; 2nd, a very deserving lot, Mr. P. POTTER.

Six reflexed: 1st, Mr. C. BENTLEY, noteworthy here were Amy Furze, Pink Christine, and Cloth of Gold; 2nd, Mr. J. WRIGHT.

Twelve Pompons, distinct, in bunches of three, a very pretty class: 1st, Mr. W. J. WRIGHT, who had fine flowers of Mdle. Elise Dardan, Mdle. Martha, and Prince of Orange; 2nd, Mr. C. BENTLEY.

In the classes for single-headed gardeners some very meritorious flowers were shown.

Twelve incurved: 1st, Mr. J. Dark, gr. to J. HOOKER, Esq., whose stand contained fine blooms of Mr. Bonn, Baron Hirsch, and Gem; 2nd, Mr. E. Pearce, gr. to W. S. PAGE, Esq.

Twelve Japanese: 1st, Mr. J. Holmes, gr. to W. B. ROGERS, Esq., some of whose best flowers were Sunflower, G. C. Schwabe, and Charles Davis; 2nd, Mr. J. DARK.

The premier Japanese bloom was Mdle. Thérèse Rey, shown by Mr. W. J. WRIGHT. Premier incurved was May Tomlin, from Mr. PORTBURY.

Bouquets of Chrysanthemums were very tastefully shown. Adiantum cuneatum, arranged with white and yellow flowers, were very effective as found in the 1st prize exhibit from Mr. E. PEARCE; 2nd, Mr. P. POTTER.

Some good groups of mixed plants, flowering and foliage, added attractions to the show, the principal prize-winners being Messrs. POTTER and BENTLEY. A good competition resulted in the classes devoted to Primulas, but we have seen better flowers.

FRUIT made an effective exhibit. For three bunches of Black Hamburg Grapes, good samples from Messrs. A. METHVEN and C. BENTLEY gained the awards; whilst in the corresponding class for Muscat of Alexandria, the chief prize-winners were Messrs. G. HUTTON and C. ALEXANDER.

Dessert Apples were finely shown by Messrs. J. PORTBURY and W. TEW.

In the class for three dishes kitchen Apples, some wonderful fine examples of Sand Ingham, Bismarck, and Alfriston gained the chief award for Mr. P. CAVANAGH, gr. to Madame STUART, Roehampton; 2nd, Mr. C. ALEXANDER.

Pears were successfully shown by Messrs. A. METHVEN and W. TEW.

Non-competitive exhibits were numerous and good. Messrs. JAMES VEITCH & SONS sent fine foliage and flowering plants, as did Mr. W. ICETON; Messrs. S. MAHOOD & SONS, a good group of Chrysanthemums in flower; Mr. G. STEVENS, various good devices in Chrysanthemums, wreaths, crosses, &c.; and Mr. H. Berry, gr. to HUGH C. SMITH, Esq., a fine collection of Apples.

FOREST GATE CHRYSANTHEMUM.

NOVEMBER 7, 8 9.—This Society has only been established four years, and, in spite of its youth, it may be congratulated on the excellence of the exhibition held in the Town Hall, Stratford, and opened by the Countess of Warwick. The groups contributed by amateurs and gardeners constituted quite a feature, and the classes for cut blooms were keenly contested with fine specimens. In the group competitions, quality and effect were the leading features ruling the judges' awards.

In the class for thirty-six plants, Mr. W. J. SMITH, Plaistow, gained premier honours with a fine bank—Japanese and incurved flowers—especially good; Mr. C. T. COURT coming in 2nd with a very creditable lot.

Twenty-four plants.—Here fine arrangements secured the leading prizes to Mr. T. JONES, Plaistow, and Mr. H. J. FICKLE, Forest Gate.

Twelve plants.—The Japanese in the 1st prize lot contributed by Mr. T. J. FITZGERALD, were exceptionally fine, a close 2nd being Mr. W. C. LIVERMORE.

For the best three bush plants, any variety, Messrs. BRIGHTWELL and TICKLE were the chief prize winners with well-grown and flowered examples, the group occupying a space of 50 square feet. A keen competition reigned in this, the gardeners' class. The Japanese in the 1st prize lot, staged by Mr. R. Kenyon, gr. to A. F. HILLS, Esq., Woodford, 1st, were noble flowers; a good 2nd being Mr. J. WARD, Buxton Road; while a beautiful lot sent by Mr. C. FITCH, Leytonstone, was very highly commended. We would suggest that in future the Committee request the exhibitors to name their plants. It would add much to the interest and instruction of visitors and others.

Cut blooms.—Twenty-four Japanese, a beautiful lot of flowers gained Mr. T. SMITH 1st position, noteworthy flowers being Charles Davis, Mrs. E. G. Hill, Sunflower, and Beauty of Exmouth; closely following being Mr. H. BRIGHTWELL, 2nd.

Twelve incurved.—Here of Stoke Newington, Baron Hirsch, and Golden Queen of England were amongst some of the best flowers in the 1st prize lot, from Mr. T. J. FITZGERALD; 2nd, Mr. T. SMITH, who had Brockley Gem and Golden Beverley, very good, Mr. FITZGERALD repeated his success in the class for twelve Japanese flowers, with, amongst others, very fine blooms of W. Seward, Colonel W. B. Smith, and Charles Davis; 2nd, a charming lot, Mr. S. WILSON.

Twelve Japanese and twelve incurved, a class bringing out some of the finest flowers in the show. Premier honours were

gained by Mr. R. KENYON, with a grand lot; some of his best Japanese included Stainstead White, Vivian Morel, Mons. Panckoucke, and Madame Carnot whilst amongst incurred well worthy of mention are Prince Alfred, Jeanne d'Arc, and Brookleigh Gem. A very good 2nd was Mr. J. W. SIMMONDS, Wanstead.

Six Incurred.—Some very neat blooms were shown here. Mr. J. WELLS took 1st place; John Lambert, Mrs. G. Rundle, and Jeanne d'Arc were noteworthy flowers.

Six Japanese.—Very fine flowers of Chas. Davis gained the premier award for Mr. S. BOOTH, whilst scarcely inferior were the beautiful blooms of Sunflower staged by Mr. W. J. SMITH.

Six Anemone, large-flowering.—Very distinct and beautiful were the blooms staged by Messrs. TICKELL and BRIGHTWELL, who took the chief prizes.

Another pretty and attractive class was that for six bunches of Pompons, staged with foliage, the prizes being taken by Messrs. SMITH and BALLARD; whilst in the corresponding class for bunches of large-flowering varieties, with foliage, the leading prize was taken by Mr. T. SMITH, with a very effective exhibit.

Ladies' Classes.—Some charmingly tasteful exhibits were noted here. For a Vase of Chrysanthemums, arranged for effect, with Ferns and other foliage, a very gracefully-disposed exhibit from Mrs. A. C. BISHER won the leading prize; Mrs. A. WILLET being placed 2nd.

Very effective were the baskets of Chrysanthemums, arranged with their own and other foliage, Miss FORSTER taking the premier position; and Mrs. E. EMERSON 2nd.

A special prize was offered by Mr. H. J. JONES, Lewisham, for twelve Japanese and twelve incurred blooms. This was well won by Mr. S. WILSON, Stratford.

The premier Japanese bloom in the show (Lord Brooke) was sent by Mr. W. T. SMITH, Plaistow; whilst the incurred was found in Baron Hirsch from Mr. TICKLE, Stratford.

A good collection of fruit (Grapes, Apples, and Pears), not for competition, was sent by Mr. R. Kenyon, gr. to A. F. HILLS, Esq., the tables being decorated with foliage plants (affording a foil to the glare of colour), contributed by Messrs. TITMOUSE and KENYON.

Mr. G. PRITCHARD, Forest Gate, sent a most interesting and varied collection of Cacti, which attracted much attention, as being the culture of an enthusiastic amateur of these curious and beautiful plants.

DEVON AND EXETER.

NOVEMBER 7, 8.—This exhibition, with regard to the number of the entries and quality of exhibits, was one of the best yet held by the society. To meet the wishes of those who thought an extension of time would be an improvement, the show was kept open for two days instead of one as formerly, but the wet and stormy weather, which persistently dogs the footsteps of this long-established society, prevented country visitors from attending, and there was a falling off in the receipts.

Considering that the value of the prizes offered is not very tempting, the competition throughout is often, and was on this occasion, very keen.

CHRYSANTHEMUM GROUPS.

In Class I, for Chrysanthemums in pots, not fewer than eighteen varieties, arranged in a circle of 9 feet diameter, quality of bloom to be the first consideration, effect also to be considered, the 1st prize went to Mrs. A. D. SIM, Knowle (gr., Mr. Williams); the 2nd prize to W. BROCK, Esq., Parkerswell (gr., Mr. Rowland). This was a close contest, for, while Mrs. SIM showed the larger blooms, Mr. BROCK's as a group was more effective. As proof of this the National Chrysanthemum Society's Certificate was awarded to the 2nd prize group.

In the winning collection the best were W. H. LINCOLN, Vivian Morel, Col. Smith, Waban, and Lord Brooke. In the 2nd were W. TRICKER, W. SEWARD, Harman Payne, and W. H. LINCOLN.

Chrysanthemums in pots, not fewer than twelve varieties, arranged with foliage plants in a circle 9 feet in diameter, taste in arrangement to be the primary consideration, Mr. BROCK was 1st, and Mrs. SIM, 2nd. Both collections were excellent; Mr. BROCK's the more graceful and richer-looking of the two, the blending of Chrysanthemums, Crotons, Palms, and Asparagus being a fine bit of work.

A miscellaneous group of plants, not more than twelve to be Chrysanthemums, in 6-inch pots, arranged for effect on a stand 7 feet square, raised 1 foot from the ground, and not more than 10 feet in height. Mr. BROCK was 1st, Mr. T. CHAPMAN (gr., Mr. Emmet), 2nd. The winning collection was well put together, and the effect was light, graceful, and harmonious. The plants used were Poinsettias, Bouvardias, Salvia Piteheri, Richardias, Tuberoses, Adiantums, Cypridiums, edged with Panicum variegatum and crowned with Cocos plumosa.

The 2nd prize group was spoiled in effect by a belt of Scarlet Pelargoniums in the centre, over-weighting it with a colour which requires discrimination in the using. In the small classes, Poinsettias and Bouvardias were good, Solanums fair, Cyclamen and Primula weak, and Violets fair.

A new class introduced was that of six plants for dinner-table decoration, three to be in flower, and three to consist of handsome foliage, the pots to be 5-inch ones, and Jadoo fibre to be used. Unless one's attention had been drawn to it there was nothing to show that the plants were growing

in this new material; indeed, they were vigorous, healthy foliage, and the flowering plants well bloomed.

Another class was for plants in 3-inch pots and Jadoo fibre instead of soil, and these were very good indeed.

CHRYSANTHEMUMS—CUT BLOOMS.

In the class for thirty-six Japanese, distinct, the competition was very close, the Silver Cup and 1st prize eventually falling to VINCENT STUCKEY, Esq., Langport (gr., J. L. Lloyd); and the 2nd to W. H. FOWLER, Esq., Taunton (gr., G. Hawkins). Mr. STUCKEY's lot, to which was awarded the N. C. S.'s certificate, contained Madame Carnot (this flower took the prize for the best bloom in the show, though in the opinion of many, a bloom of Robert Owen in Mr. HAMMOND SPENCER's group (3rd prize) was superior to it). Violet Rose, Mdle. T. Rey, Nyanza, Lady Saunders, C. H. Payne, G. C. Schwabe, M. Charles Molto, W. G. Newitt, Louise, Good Gracious, Mrs. Tibbie Allen, Waban, and President Borel.

In the 2nd prize lot were fine blooms of Madame Carnot, Silver King, Robert Owen, Madame Ada Chatin, and Beante Toulousaine.

In the 3rd prize group, Hairy Wonder was very good, and Robert Owen was a grand, well-finished bloom, and, as has already been stated, quite equal to, if not superior, to that to which was awarded the prize for the best bloom in the show.

In the eighteen and twelve bloom classes there were some good flowers, nearly all containing some of those above-mentioned.

For six white—one variety—the prize went to Madame Carnot, shown by H. HAMMOND SPENCER, Esq., Teignmouth (gr., G. Foster). They were good blooms, but uneven as regards size. The 2nd prize fell to Sir JOHN SHELLEY, Shobrooke Park (gr., Mr. Mairs) for six Beauty of Exmouth, exceedingly well finished but rather small.

For six yellows, Sir JOHN SHELLEY was 1st with W. H. LINCOLN, and for six any other colour Mr. HAMMOND SPENCER was 1st with Col. Smith.

Incurred were poorly represented, the entries being few, and the blooms small. In the 1st prize lot—Sir W. H. WALDRON, Bart., M.P. (gr., Mr. Heath)—were John Lambert, Lucy Kendall, Lord Wolsley, Prince Alfred, and Baron Hirsch.

In the Anemone-flowered section, Col. HALFORD THOMPSON, Teignmouth (gr., Mr. Symes) showed fine blooms of W. Dupont, M. C. Lebossez, Sir Walter Raleigh, and Grande Alveole. The best single flowered were shown by MARK FARRANT, Esq., St. Thomas (gr., Mr. Protheroe) Queen of Singles, Gold Star, Snowflake, and Mrs. Kellock being noteworthy.

In the class for twelve Chrysanthemum blooms, distinct, introduced in 1894 or 1895, 1st prize went to V. STUCKEY, Esq., who, in a very good lot, included Madame Carnot, Mme. Aut. Condouner (a rosy lilac, with thin petals of the Lilian Bird type), Mutual Friend (a grand white, good in every way), Nyanza (a fine dusky, reddish brown), Philadelphia, Miss Rita Schroeter, and Mrs. W. J. Godfrey.

Taken as a whole, cut blooms were very fine, and the competition keen.

FRUIT.

Fruit judging at an Exeter show is always a formidable business, and this year it was rendered doubly difficult by the large number of entries, and the unusually high quality in nearly every class shown.

In the premier class for twelve dishes dessert, and twelve dishes culinary Apples, all distinct, Sir JOHN F. DAVIE, Bart., Croedy Park (gr., Mr. Seward), was 1st with a grand lot, which included Cox's Orange Pippin, American Mother, Ribston, King of the Pippins, Adam's Pearmain, Melon Apple, Claygate Pearmain, Gloria Mundi, Loddington Seedling, Lord Derby, Mère de Ménage, and Ecklinville Seedling.

In the twelve dishes class, Miss FAIR, Teignmouth (gr., Mr. Stiles) was 1st with a splendid lot, which included Cornish Aromatic, of fine colour, Striped Beeing, Peasgood's Nonsuch, Cox's Pomona, Emperor Alexander, Mère de Ménage, King of the Pippins, Warner's King, &c., all of which are fine exhibition varieties, and when, as in this case, they are large and well coloured, the chances of winning rise proportionately.

The class for six dishes culinary was a tremendous one, and no finer fruit has been staged at Exeter than that with which Sir J. DAVIE won the 1st prize. Peasgood's, Cellini, Lord Derby, and Lady Heniker were very fine.

The 1st prize for six dishes Dessert Apples was well won by Sir T. D. AGLAND, Bart., Killerton (gr., Mr. Garland) with very fine fruit of Adam's Pearmain, Cornish Aromatic, King of the Pippins, Red Ribbed Greening, Blenheim Orange, and Cox's Orange Pippin.

In the single dish classes some wonderfully fine fruit was staged. For a dish of any other variety (culinary) than those named in the schedule, the prize was awarded to THOMAS WILSON, Esq., Pennsylvania, Exeter (gr., Mr. Cross) for a grand dish of Lord Derby—typical fruit—and the prize for five dessert ("other than those named") went for a fine dish of Autumn Pearmain shown by Sub-Dean AGLAND, Broadclyst (gr., Mr. Baker).

The prize for flavour was awarded to Major TRACEY, Pytte House (gr., Mr. Clarke) for a dish of small fruits of Margil Pears, were a strong class, premier honours for nine dishes—six dessert and three culinary—going to Sir T. D. AGLAND, 2nd to Sir J. SHELLEY. The "any other variety—dessert" was won with Marie Louise by W. F. RICHARDS, Esq., Broadclyst (gr., Mr. Bawden); and the prize for flavour with Doyenné du Comice by Sir DUDLEY DUCKWORTH KING, Bart., of Wear House (gr., Mr. McCormick). Mr. JOSEPH HAM of

Broadclyst a grand dish of Catillac (1st prize) weighing over 9 lb. for the five fruits, the heaviest being 2½ lb.

Grapes made a poor show, the only nice exhibit being the Black Alicante (1st prize) shown by Sir W. WALDRON. Alwicht Seedling was also staged fairly good. This is a variety not much grown in Devonshire. Muscats were very weak.

The Cottagers' Classes produced some very creditable exhibits. The thin border line between the employer and the working amateur gave rise to one or two protests, which will have to be dealt with by the Committee.

The class for baskets of autumn foliage and fruit produced some very pretty designs. The 1st prize basket, staged by Mrs. M. C. DRAYTON, being a masterpiece of rich colouring and artistic arrangement.

MISCELLANEOUS.

The Trade exhibits were, as usual, a great help to the show. In Messrs. ROBERT VEITCH & SON'S collection were a fine collection of fruit, good Orchids—Cattleyas, Phalaenopsis, Sapphonites, Pleione, &c. The pretty little Saintpaulia ionantha, and the handsome Physalis Franchetii.

The EXETER NURSERY Co. showed a bank of Chrysanthemums containing many of the new varieties, all being well grown and full of bloom. In their florist department they had a wreath and a cross made entirely of Cypridiums.

Mr. W. J. GODFREY, Exmouth, staged some of his new Carnations Goldmine, Sunrise, and Reginald Godfrey, and the new Chrysanthemums Clinton Chalfant, golden yellow; Mrs. W. J. Godfrey, a fine broad petalled milky white flower; also a fine stand of trusses of Pelargoniums of considerable merit.

MESSRS. JARMAN & Co., Chard, had a collection of Vegetables and Fruit, amongst which were some good specimens of well-known sorts.

Mr. CHAS. SCIATTA of Heavitree Bridge, and Mr. WATKINS of Hereford, had large collections of fruit on show.

The Rev. J. R. DUMELLOU, of Membury Parsonage exhibited three bunches of Black Hamburg Grapes, which were grown on a south wall in the open air. The bunches were large, well-coloured, and the berries of a good size. The Vines were planted six years ago, and the fruit has ripened three years in succession.

Mr. T. BARTLETT, Exeter, had some pretty floral work in the way of wreaths and crosses.

NATIONAL CHRYSANTHEMUM.

Floral Committee.

NOVEMBER 11.—Judging from the very large number of new varieties submitted for the opinion of the Floral Committee on this occasion, the flow of the tide of novelties appears to wax in volume, for a good portion of the northern gallery of the Royal Aquarium was filled with them, and careful as the committee may be in the matter of granting certificates, the high quality of many of the new introductions compels recognition.

Certificates of Merit were awarded to Ewan Cameron, a pure white finely-formed single variety of dwarf growth, and very free, the award being made to it as a highly promising market variety, from Mr. E. C. GOELE, Walcot Nursery, Ryde, Isle of Wight. To Mrs. A. E. Stubbs, also a single pure white, the petals somewhat pointed; and to Japanese Mrs. George West, a fine incurred type, bright amaranth in colour, with a lilac-rose and silvery reverse, broad petalled, large, and full, both from Mr. H. J. JONES, Rycroft Nursery, Lewisham. To Japanese John Lightfoot, delicate lilac-pink, the basal petals suffused with pink towards the points, and tipped with purple; and to incurred George Haigh, a sport from Robert Pettifield, pale dull rosy-purple surface, with bronze and gold reverse, large and full, and very promising, both from Mr. ROBERT OWEN, Castle Hill Nursery, Maidenhead. To decorative Japanese Clinton Chalfant, a bright yellow flower partaking of the reflexed type, very bright and free, and promising to make a fine market variety—the plant shown was of excellent habit; and single Annie Head, also white, very free and excellent for cutting, both from Mr. W. J. GODFREY, nurseryman, Exmouth, To Japanese Oceana, a larger golden incurred Japanese, broad-petalled, and very massive, a great acquisition, from Messrs. H. CANNELL & SONS, nurserymen, Swanley. To Japanese Arona, a flower of the build and in the way of Col. W. B. Smith, but narrower in the petal, and more gold on the reverse, novel and distinct, from Mr. H. BRISCOE-IRONSIDE, Burgess Hill, Sussex. Singular to state, among some new varieties sent by MRS. E. CALVAT, of Grenoble, was one named M. Alfred Recours, very like Mr. IRONSIDE's Arona, but with scarcely so much gold on the reverse, thus illustrating the fact that two raisers wide apart geographically, may yet raise seedlings very much alike and in all probability both will be sent out in due course.

Certificates of Merit were awarded also to Japanese Mrs. H. Hicks, a magnificent variety, of which six blooms were shown, the largest, a massive flower, was nearly white; younger flowers were tinted with lilac-pink, the petals broad—extra fine. Pompon Dolly, a rather large bright golden variety, with handsome, well-formed, reflexed flowers, from Dr. WALKER, Wimbledon. Mons. Chenoa de Leche, a very large reflexed Japanese, the prevailing colour shaded rosy-cinnamon, with golden centre, and golden points to some of the petals—very distinct and fine; Le Moucherotte, a bright yellow Japanese, of a very pleasing tint, the basal petals slightly stained; and to Baroune de Badières, delicate mauve-

pink, with silvery-white reverse, a fine full flower—all from Mr. WILLIAM WELLS, Earlswood Nurseries, Red Hill. To incurved Major Bonaffon, bright yellow, with plenty of small petals symmetrically arranged—a very promising exhibition variety, from Mr. W. MEASE, The Gardens, Dawside, Leatherhead. This was shown by three other exhibitors also.

Of flowers of decided promise, and which are pretty certain to gain Certificates in the future, mention may be made of incurved L'Amethysta (W. H. LEES), bright amaranth, with silvery-rose reverse, a distinct and highly promising variety; Harold Wells (W. WELLS), a large incurved sulphur spot from Sir Trevor Lawrence, very promising; Mrs. C. Johnson (W. WELLS), pale ground, the long reflexing pale florets flaked and striped with rosy crimson, distinct and novel; incurved Mrs. Hepper, white, fine form and good petal; and Mrs. Filkina, a small bright yellow decorative Japanese, with thread-like petals—both from Messrs. H. CANNELL & SONS; Mrs. W. J. Godfrey, a large, white, broad-petalled incurving Japanese with slight hairs; and Mayor of Exmouth, novel in colour, of a kind of pale cerise, chestnut-bronzy reverse—both from Mr. W. J. GODFREY, Exmouth; and Miss Madeline Davis, a silvery-pink Japanese, with long incurving florets, though somewhat loose, from Mr. H. WEEKS.

WINDSOR.

NOVEMBER 8.—A pretty exhibition of the Chrysanthemum and other subjects was held in the Albert Institute at Windsor, on the above date. Chrysanthemum plants were arranged in groups, and made a huge display; the quality of the blooms to be a chief point.

Mrs. E. B. FOSTER, Clewer Manor (gr., Mr. Cole), took the 1st prize; and Lord BOSTON, Heasor Park (gr., Mr. J. Wood), the 2nd.

Specimen plants were excellent; the best four coming from Mrs. BOWRING, Ascot (gr., Mr. Paul), who e plants were 6 feet in diameter and well flowered; and Sir H. D. GOODR, Bart., Clewer Park (gr., Mr Skeet), was 2nd, with well-grown, standard-trained plants

Amateur cultivators showed in strong force in the twelve plants' class, there being no fewer than nine competitors. The 1st prize went to Mr. H. EDWARDS, Windsor, for an excellent exhibit.

Cut blooms, of fine quality, were staged in large numbers; and for thirty-six distinct, half to be Japanese, and half incurved varieties, N. S. COHEN, Esq., Englefield Green (gr., Mr. A. Sturt), succeeded in winning the 1st p ace with handsome blooms of leading varieties; Miss A. S. RIDGE, Highfield, Englefield Green (gr., Mr. G. Lane), being 2nd.

A Challenge Cup, with a good money-prize, was offered for twelve incurved and twelve Japanese varieties, which Mr. LANE won with remarkably fine blooms; Mr. A. STURT being a good 2nd.

For twelve incurved, Mr. F. J. PAUL won the premier place with a meritorious exhibit.

For six Japanese, any one variety, Mr. CAWTE, Dedworth Green, was 1st, with E. Molyneux. Anemone-flowered varieties were very well shown by Mr. A. STURT. Mr. W. Neate, gr. to Miss MACKER, Ascot, was 1st for twelve blooms of the reflexed varieties.

Special prizes were offered for a vase or basket of twelve blooms cut with long stems, and in response there were even really meritorious exhibits, which well showed the value of the Chrysanthemum when used in this manner. Mr. CAWTE was 1st, with a device consisting of a neatly-covered circular basket, set out with Ferns, moss, &c.; Mr. J. WOOD was 2nd.

The exhibits of Grapes, Apples, and Pears were of much merit, and vegetables were largely exhibited.

TOOTING, BALHAM, AND MITCHAM HORTICULTURAL.

NOVEMBER 8.—This Society may be congratulated upon holding a very pretty exhibition on the above date, which took place in the Baths, the spacious hall being quite filled with many objects of great horticultural interest, as in addition to Chrysanthemums there were several specimens of plants in bloom at the present time, also fruit and vegetables. Groups of plants found a place round the sides of the Hall, and the fruit and cut flowers on tables. There were several baskets of vegetables—not a good way of showing them, as they would appear to greater advantage if neatly laid out on ordinary exhibition tables.

The best group of Chrysanthemums, which won the Silver Cup given by the tradesmen of Balham, came from Mr. H. Poulton, gr. to C. F. CALEY, Esq., Ivy Mount; the blooms very fine, but sadly needing the relief of some foliated plants to reduce the piked appearance of the group. A group from Mr. H. Beckett, gr. to G. S. MILLER, Esq., Logie Wood, ran it very close indeed in point of quality and effect. Some pleasing groups of foliated plants were also staged; and some well-grown and bloomed specimens of large-flowering and Pompon Chrysanthemums came from Mr. E. CHERRY, which were awarded 1st prize.

The Silver Cup given by the tradesmen of Tooting for twelve incurved and twelve Japanese Chrysanthemums, fell to the lot of Mr. W. Howe, gr. to H. TATE, Esq., Streatham, who had good blooms of Empress Eugénie, Baron Hirsch, Empress of India, Robert Petfield, and Prince Alfred; and of Japanese, E.

Molyneux Col. W. B. Smith W. Seward, Duke of York, Golden Gate, and Viscountess Hambledon. J. WILD MAN Esq. was 2nd, having a slight pull in the incurved blooms, but losing materially in the quality of the Japanese. Mr. WILDMAN had the best twelve incurved; Mr. HOWE coming 1st with twelve Japanese. Sixes of incurved and Japanese were also well shown. Some good bunches of Pompons were shown by Mr. E. CHERRY.

At each end of the hall was a large table filled with floral decorations, showing the manner in which flowers may be employed. The competition was a special open class. The 1st prize was awarded to Messrs. HARWOOD BROS., for contributions of a very high order of merit, showing not only excellent taste and judgment in arrangement, but perfect execution. Wreaths, crosses, a charming lyre, bouquets, a shower bouquet of white flowers, and an ordinary bouquet of Orchids, were specially good. The 2nd prize went to Mr. G. B. FISCHER, of Clapham; but the floral decorations were sparse, and what there was fell far below those of the Messrs. Harwood in point of quality.

Excellent Exotic Ferns in Lours were staged; Primulæ, table plants, herried plants, &c.

Fruit was represented by good Apples and Pears; Tomatos were also staged. Messrs. SUTTON & SONS' special prizes for six kinds of vegetables; and those of Messrs. HARWOOD BROS., for the same number, brought good collections. Unfortunately, the weather was somewhat unpropitious.

Miscellaneous groups of plants were contributed by Messrs. HARWOOD BROS., Balham Nurseries; B. PEED & SON, Roupell Park Nurseries; and R. NEAL, The Nurseries, Wandsworth, who had two large groups, and there were smaller contributions; to all these Certificates of Merit were awarded.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Table with columns: TEMPERATURE, ACCUMULATED, RAINFALL, BRIGHT SUN, DISTRICTS. Rows show weather data for various districts including 0 0 aver, 1 0 aver, 2 3 +, etc.

The districts indicated by number in the first column are the following: - 0, Scotland, N. Principal Wheat producing Districts - 1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. Principal Grazing, &c. Districts - 6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10 Ireland, S. - Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending November 9, is furnished from the Meteorological Office: -

"The weather during this period was very unsettled in all parts of the Kingdom. Rain fell almost daily, the amounts in many instances being large. The atmosphere was generally mild and humid, and much mist and wet fog prevailed at times. A brilliant display of aurora was observed over Great Britain during the evening of the 9th.

"The temperature just equalled the mean in 'Scotland, N. and E. and in Ireland, S.,' but was above it elsewhere; in 'England, E. and the Midland Counties,' the excess was 4°; in the 'Channel Islands,' 5°; and in 'England, S.,' 6°. The highest of the maxima were recorded either on the 8th or

7th, and ranged from 63° in the 'Channel Islands,' 62° in 'England, S.W.,' and 61° in 'England, E. and S.,' to 55° in 'Ireland, N.' The lowest of the minima were registered, as a rule, on the 3rd, when the thermometer fell to 21° in 'Scotland, N. and E.,' and 23° in 'Ireland, S.,' and to between 27° and 32° in nearly all other districts. In the 'Channel Islands,' however, the lowest reading was 40°.

"The rainfall was considerably in excess of the mean in most districts, but only just equalled the normal in 'Scotland, E. and England, N.E.,' and was rather less in 'England, N.W.; the excess was very large in most parts of England.

"The bright sunshine was much less prevalent than of late over 'England and the Channel Islands, where the amount recorded was less than the normal. The percentage of the possible duration ranged from 27 to 41 in Ireland, from 18 to 26 in Scotland, and from 9 to 25 over England. In the Channel Islands only 18 per cent. was registered."

MARKETS.

COVENT GARDEN, November 14.

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

Table of PLANTS IN POTS - AVERAGE WHOLESALE PRICES. Lists items like Adiantum, Ferns, Ficus elastica, etc. with prices.

Table of CUT FLOWERS - AVERAGE WHOLESALE PRICES. Lists items like Arums, Azalea, Bouvardia, etc. with prices.

Table of FRUIT - AVERAGE WHOLESALE PRICES. Lists items like Apples, Grapes, Pears, etc. with prices.

Table of VEGETABLES - AVERAGE WHOLESALE PRICES. Lists items like Cauliflowers, Mushrooms, Cucumbers, etc. with prices.

POTATOS. The trade during the past week has been quiet, and prices not so firm; and stocks at the depot have slightly increased. J. B. Thomas.

SEEDS.

LONDON: November 13.—Messrs. John Shaw & Son's, Seed Merchants, of Great Maze Pond, Borough, London, S.E.,

describe to-day's market bare of interest. Notwithstanding the unusually low and attractive prices, which now prevail for Clover and grass seeds, country buyers appear to be in no hurry to operate. Canadian Alsike is stronger, and perennials also tend upwards. There is no change in Rye. Winter Tares are neglected. As regards Canary seed, whilst the home demand continues slack, higher quotations are cabled from Turkey. The new Hempseed offers cheap. Blue Peas and Haricot Beans command former terms. Rape-seed keeps steady. Fine white Mustard is firmer. Linseed is dull. The Board of Trade Returns give the imports of Clover and grass seeds into the United Kingdom for the first ten months of this year as 315,683 cwt., value £388,741; as against 261,400 cwt., value £335,233, for the corresponding period of 1894.

POTATOS.

BOROUGH: November 12.—Quotations ranged from 40s. to 90s. per ton.

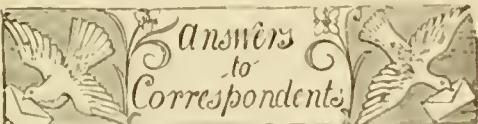
SPIALFIELDS: November 12.—Quotations:—Magnums, 40s. to 50s.; Imperators, 45s. to 60s.; Sutton's Abundance, 50s. to 65s.; Snowdrops, 50s. to 70s.; Bruces, 45s. to 55s.; Hebroons, 60s. to 80s.; Main Crop Kidneys, 45s. to 70s. per ton.

STRATFORD, November 12.—Quotations:—Bruces, dark soil, 35s. to 40s.; do., light, 40s. to 50s.; Reading Giants, 45s. to 51s.; Snowdrops, 55s. to 60s.; Sutton's Abundance, 55s. to 65s. per ton.

FABRINGDON: November 14.—Quotations: Snowdrops, 70s. to 100s.; Hebroons, 60s. to 80s.; Imperators, 50s. to 60s.; Magnums, 45s. to 55s.; Early Rose, 55s. to 60s. per ton.

TRADE NOTICE.

Mr. JAMES ADSHEAD has taken over the nursery and florist business of James Firkins, Albert Nursery, Eccles, and which will in future be known as Adshead & Henball's.



"Owing to the great pressure on our space, several reports of Horticultural Exhibitions cannot appear in this issue."

ADDRESS: H. O. D. M. A. Alegatière, Chemin de la Croix, Marion, Montplaisir, Lyon (Rhône).

BOOKS: *Encyclopedia, Nicholson's Dictionary*, published by Upcott Gill, 170, Strand, is a very useful encyclopaedia for a gardener to possess. We do not know the price of the bound volumes.—*J. Dobson, Vines and Vine Culture*, by A. F. Barron, published at 171, Fleet Street, E.C. (*Journal of Horticulture*). *Animals of the Farm in Health and Disease*, a pamphlet of 65 pages, to be obtained at the Royal Agricultural Society of England's House, 12 Hanover Square, London, W.—*S. E. J. Chrysanthemums and their Culture* 8th Edition, by Edwin Malynax, published at 171 Fleet Street, E.C.—*My Gardener*, by W. H. Ward, published by Eyre & Spottiswoode, East Harding Street, E.C.; or *Villa Gardening* by E. Hobday, published by Macmillan & Co., Bedford Street, Covent Garden, W.C., the former being the newer book.—A larger and more expensive work is the *Gardeners' Assistant*, by R. Thomson, published by Blackie & Sons, Paternoster Buildings, London, E.C.

BEST ROSES FOR "BUTTON HOLES": *Beginner*. There are not fifty best button-hole roses. W. Allan Richardson, Ma Capucine, D'antoinette, Niphetos, Marshal Niel, The Bride, Harmonie, A. K. Williams are among the best. See also p. 497 in *Gardeners' Chronicle* for October 23 last. We cannot afford space for naming fifty fine varieties for the garden. You must consult a catalogue published by some good rose grower.

CATTLEYA LARIATA WITH NEW ROOTS FORMING AND SWELLING LEAVES: *D. G.* Keep them gently moving in a temperature, which at night is not less than 60°, or by day higher than 65° or 70°. The same will hold good for these C. Mosses which are in a forward state.

CATTLEYA TRIANETI: *D. G.* Being newly imported, after trimming away dead parts and thoroughly washing every part, put them loosely into pots of a suitable size, surrounding the roots with clean crocks; place in a warm, moist house, and beten-

sionally syringing them. The minimum temperature need not be less than 60°. When root growth becomes visible, pot them in the usual manner, and whilst inert the sun should not be allowed to shine directly upon them.

CHRYSANTHEMUM SPORT: *S. S. S.* The bloom you send may have a little more colour than Source d'Or usually has, but we do not regard it as valuable.

CHRYSANTHEMUM SPORT: *W. Gee*. The variety Chas. Davis is usually yellow on the crown bud, but we do not recognise the bloom you send as that variety, though it is near it. In case it may be a sport, send blooms to the next Floral Committee of the National Chrysanthemum Society, or to the Royal Horticultural Society, or even to some large grower.

DENDROBIUM WARDIANUM: *D. G.* It should improve and grow larger, your treatment cannot be quite right.

DRESSING FOR VINES: *T. B. Clay*, a bucketful; crowding, quarter of this quantity; gas-tar, one pint; soot and sulphur, a handful or two, adding water sufficient to make a thickish mixture. Strain through a fine sieve before using it. If tar be not liked use petroleum, at the rate of two wine-glassfuls, instead of it. The mixture must be applied when the Vines are at rest.

EUCHARIS: *Wm. G.* We know of no remedy when the mites have gained access to the interior of the bulbs. Had the attack been commencing only, you might have soaked the bulbs in nicotine, or a strong solution of soot water, soap, and paraffin.

EUCHARIS-MITE: *Wm. G.* Your bulbs are attacked by mite, but not at present to great extent. The bulbs being perfectly sound, it may be possible to keep them, if energetic measures are taken at once.

GARDENIAS: *T. W. Paat*, ½; fibry loam, one year in attack, ¼; leaf mould, ¼; and sand in sufficient quantity to make it rather porous. Some gardeners use a larger proportion of loam if it is of a light nature, and broken sandstone is found to be of use, together with sand in making borders for the plants. It is a plant that requires firm potting and plenty of drainage materials.

GARDENERS' ORPHAN FUND.—W. Hont has thanks for 4s. forwarded to the secretary to this fund.

HARDY HIMALAYAN RHODODENDRONS: *F. S.* At Kew there bloomed R. talgens, R. Thomsoni, R. dahuricum, R. alta-clarensis. At Nant-y-Glyn, R. exoniense, R. cinnamomeum, R. campanulatum, and alta-clarensis, flowered in the open air. See pp. 356 and 363 of *Gardeners' Chronicle*, March 25 1893.

HOCULETTA PICTA: *W. M.* An inspection of the names of plants on p. 470 would have shown you that the plant had been noticed, and the name altered to H. Brocklebankiana.

IMPORTED LILIA AND CATTLEYA: *D. G.* If you prefer to buy knowing what you are getting, make visits to the sale rooms when flowering lots are advertised. Otherwise put reliance in the Orchid dealer, and buy established plants which have flowered or of which he can guarantee the species. There is an element of chance, that is not unpleasant to many persons, in buying up unflowered lots.

INSECTS: *J. L.* Grubs of the common cockchafer, small variety. Encourage the rooks.

LAWN SAND: *Subscriber*. Those who have used this substance speak highly of it. We imagine it is some kind of artificial manure, which, by encouraging the growth of the grasses, causes in time the destruction of the weeds which even in bad turf are in the minority.

MAIZE: *T. S.* The presence of a few grains on the male inflorescence of this plant is not uncommon, and it is an undesirable malformation.

MUSHROOM BEDS: *G. L. B. L.* To all your questions we can only answer "No." The productivity of an old bed may be revived somewhat, if it have not quite left off bearing, by watering it with warm water—say, at 85° to 90°—in which a little salt, at the rate of two table-spoonfuls to three gallons, is dissolved.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to con. ult the next number.*—*Mrs. L., Gosford Hall*. Seeds of the Black Walnut (*Juglans nigra*).—*Lizbeth*. *Oocidium longipes*.

* PLANTS, FRUITS, ETC., TO BE NAMED.—The applications to name flowers, and especially fruit, are so numerous at this season as severely to tax our resources. They entail an expenditure of time, labour, and money, of which our readers can have no idea. We are always willing to oblige our correspondents as far as we can, but the editing of the *Gardeners' Chronicle* is our business, to which everything else must give way. Correspondents are respectfully requested to observe the rule that not more than six specimens can be dealt with at a time. If more are sent, it would be a grateful act on the part of the sender, to send also a small contribution to the *Gardeners' Orphan Fund*. Specimens should be good ones, carefully packed and numbered. Leaves only, or florists' varieties cannot, as a rule, be named. Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week.

NAMES OF FRUITS: *J. W. M.* Apples, 1, Egg or White Paradise; 2, Queen Caroline; 3, Golden Noble; 4, Gravenstein; 5, Warner's King; 6, Round Winter Nonsuch.—*J. Southern*. Apples, 1, Lord Lennox; 2, Fearn's Pippin; 3, Waltham Abbey Seedling; 4 and 5, DameLOW's Seedling. Pear, Bessé Clairgean.—*T. J. J. S. C.* Pears, 1, 2, 3, 4, and 5 all Benrié Diel, varying somewhat in size, colour, &c. Apple, King of the Pippine.—*M. H. P.* Apples, 1, Old English Codlin; 2, 4, Hawthornden; 3, Yellow Ingestre; 5, King of the Pippins; 6, Cox's Orange Pippin.—*G. Sears*. Apples, 1, Hollandbury; 2, Peasgood's Nonsuch. Pears, 3, Léon Leclerc de Laval; 4, Gansell's Bergamot; 5, Vicar of Winkfield.—*Raby*. Pear Doyenné du Commerce.—*W. W.* Your Pears were absolutely rotten and crushed when they arrived at this office.

NATIONAL AMATEURS GARDENING SOCIETY: *W. P.* The aims and objects are the fostering of a love of gardening amongst dwellers in towns and the holding of exhibitions of the plants, flowers, fruits produced by its members. There is plenty of scope for its endeavours, and already there are indications that the lessons imparted have been made of use.

SMALL BORDER: *Flora*. You will be acting well if you take up the old Roses, and trench the present sites of the clumps. The trenching may be done 2 or 3 spits deep, if the soil is deep enough to stand it; if not, dig down to the bad soil, giving it a stir up, and leave it where it is. Mix plenty of rich manure (pig's is good for Roses) with the soil; and if the land is not too dry when finished plant it with finer varieties of Roses than those taken out. If too wet to plant, defer the latter job to March, but dig the ground. Read our Flower Garden Calendar in this week's issue. The intervening spaces may be planted with Hyacinths, Tulips, early and late varieties, Anemones, Ranunculus, Crocus, Scillas, Wallflowers, Arabis, Canterbury Bells, Lilium candidum, L. croceum, L. el-ganz, L. longiflorum, L. Martagon, L. dahuricum, and others. Aim at getting in this way an early display; and for later flowering there are hosts of tender bedding plants, Annuals, Dahlias, Hollyhocks, and Michaelmas Daisies. The fence might be planted with Chrysanthemums, Sweet Peas, Trojeolum aduncum, and other varieties; Sweetbriar, Jasmine in variety, climbing Honey-suckles, Clematis in variety, &c.

SOME INSECTS IN A VINERY: *F. A. G.* The insects arrived very much broken. The reddish beetle is *Aphodius simularius*, the dark ones are *Trox scaber*, and the grub apparently belongs to the latter. Both were probably introduced with manure or decaying animal matter, and are not likely to injure the Vines. Still, as they are "in thousands," you may as well try to get rid of them. *R. McL.*

TOMATOS CAUSING DISQUALIFICATION OF A TRAY OF VEGETABLES: *J. G.* If there was no rule in the schedule excluding them, their presence in the exhibit ought not to have caused the disqualification of the collection. They are fruits in the sense that Cucumbers, Vegetable Marrows, or Capsicums are fruits.

WINTER MOTH: *J. E.* The bands should have been in their places at the beginning of October. It is now, we fear, too late for them to do much good. Smear cart grease on to broad bands of grease-proof paper, and after smoothing the roughness of the bark for about 1 foot in width, fix one round each tree at 2 feet from the ground.

COMMUNICATIONS RECEIVED.—*Challouer* (Shenton (with thanks)).—*Editor Bright's Examiner* (with thanks).—*W. W.*—*P. J.*—*G. S. S.*, Boston.—*W. E. G.*—*Ab. de B.*—*L. C.*—*Rugby*.—*D. Bona*, Paris.—*G. S.*—*Crane & Clarke*.—*Seasell & Son*.—*T. W.*—*G. S. J.*, West India.—*D. Chester*.—*J. Ritchie*.—*J. B.*—*J. H.*—*E. M.*—*A. H.*—*R. U.*—*T. O.*—*J. H. C.*—*A. P.*—*A. D.*—*E. J. Jerman*.—*J. T. C. H. J.*—*W. P. Pattenon*.—*W. D.*—*J. M.*—*D. T. F.*—*M. T.*—*W. E.*—*J. K.*—*J. R. S.*—*W. N.*—*P. B.* (next week).

PHOTOGRAPHS, SPECIMENS, &c., RECEIVED WITH MANY THANKS.—*L. C.*, Rugby.—*F. W.*—*W. N.*, W. N.

CHRYSANTHEMUMS. — — CHRYSANTHEMUMS.

NORMAN DAVIS

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Soon as the shows are over I shall prepare a LIST of NOVELTIES for 1896. This List will be a short one, as I am anxious that the set shall be composed of nothing but the best flowers of the choicest description. Several of my purchases have already been shown in public, and received unanimous approval. In addition to the beautiful varieties raised by Mr. H. WEEKS, of Derby, and two exceptional sterling Novelties from America, it is with great pleasure that I am able to announce that I have made arrangements with WILLIAM SEWARD, Esq., of Hanwell, to distribute his set of six magnificent seedlings, which have justly been the admiration of all who have been privileged to see them. The whole of these will form a grand Jubilee Set, worthy of the occasion, and undoubtedly the finest collection of Novelties ever introduced.

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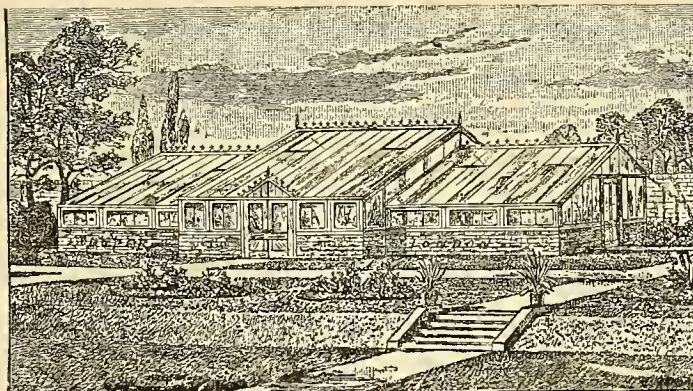
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CONTENTS OF SECTIONS.

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- (1) An invention in and relating to Petroleum Lamps, granted to Thomas William Wilson and Harry Butler jointly, on 8th March, 1892, and numbered 4,583, and contracted to be sold to the Vendor.
- (2) An invention in and relating to Garden Syringes, entitled "Improvement in Syringes," the acceptance of the complete specification in respect of which is dated 21st September, 1895, and numbered 11,502.
- (3) An invention for improvements in and relating to Photographic Cameras, granted to the Vendor 22nd June, 1894, and numbered 12,119.

It will be seen that the business comprises three distinct departments: (1) Manufacture of Photographic and Optical Lantern Apparatus and Accessories; (2) Manufacture of Horticultural Implements; (3) Manufacture of Lamps, and for every four shares to his or her name a shareholder will be entitled to purchase from the Company £10 worth of goods per annum at special discounts, varying from 10 per cent. to 30 per cent., according to the nature of the goods purchased, the higher rates of discount being allowed on goods manufactured by the Company.

The successful working of the principle of mutual benefit to shareholders has been proved, as is well known, by the wonderful strides made during the past decade by Co-operative Societies in all branches of trade, and the business of this Company is one admirably adapted to the application of this principle. Price Lists of Lanterns, Photographic and Horticultural Apparatus will be sent annually to Shareholders.

The enormous increase in the use of the Photographic Camera as a popular companion by amateurs and tourists, aided by the present day facilities for cheap Railway Tours and Excursions, leads the Directors to believe that the trade produced by the demands for this class of Apparatus among the Shareholders alone will ensure to the Company a large output of Cameras annually, while a large demand may be expected for the Optical or Magic Lantern by patrons of the Camera as a means of showing their photographs during the winter evenings.

The fact of the Company being the actual manufacturers of nearly all the articles sold in this department, will enable the Directors to give the Shareholders the benefit of manufacturing profits, and at the same time to save the considerable profits hitherto solely enjoyed by agents and middlemen.

The Directors have also decided to add to the already extensive Lantern-Slide Lending and Hiring Department opened by the Vendor, a complete set of popular ancient and modern subjects, tours, and humorous slides of high-class quality. The Shareholders will be entitled to hire slides and apparatus at two-thirds of the rate charged to the public.

In the Horticultural Department, also of the Company's business, it is anticipated that there will be a large annual demand for Horticultural Specialities among the Shareholders. The Patent Syringe is already well known to many amateur gardeners, and in connection with this and other distributing apparatus the Company have acquired the formula of a reliable speciality, well known as "Garden Pest Exterminator," and which has for some time past been manufactured and supplied by the Vendor. For the convenience of Shareholders and customers the List in this Department also includes high-class Garden Seeds.

The Directors beg to call special attention to the principle and construction of the Patent Petroleum Safety Lamps, an illustration of which accompanies this prospectus. It will be seen that the object is to provide an improved means of attachment of the burner to the vessel containing the oil by means of a straight guide, at the end of which is a bold coupling screw, which renders cross-screwing in attachment impossible, and forms a securely locked joint. In case of any accident or upsetting of the lamp the burner retains its relative position, and any possibility of explosion or fire is prevented. Users of Petroleum Lamps will have doubtless observed that ordinary Lamps of present make are provided with a connection of burner with vessel by means of either a small tapered screw or side catches. In the former case the great disadvantage is that the frequent crossing of thread or screw deceives the operator, as the screw does not engage and no proper connection is therefore made, and by frequent repetitions of this process the thread is ultimately destroyed. If under such circumstances the Lamp by any means be upset the burner immediately separates from the vessel and the lighted wick ignites the spilled oil, and this is the cause of the majority of Lamp fatalities. The latter arrangement, viz., side catches, is even more uncertain, as frequently while one catch is being watched in connection, the other unobserved fails to grip, and leaves no alternative but a certain catastrophe in case of upsetting, and renders explosion by ignition extremely probable. The great features of the Improved Safety Connection principle are its simplicity and consequent cheapness in manufacture, its ease in manipulation, and its absolute safety. This Lamp has been exhibited at two Exhibitions only, and has gained the following awards—(1) Certificate of Merit, at the Trades' Industrial Exhibition at Birmingham, Spring, 1892; (2) First Prize, Gold Medal at Trades' Industrial Exhibition at Lincoln, December, 1892, and January, 1893.

The Vendor has submitted the Patent Specification to Mr. J. Fletcher Moulton, Q.C., the eminent authority on Patent law, for his opinion as to the validity of the Patent. The following is a copy of his opinion:—

I am of opinion that the title to the Patent, No. 4,583, of 1892, sufficiently discloses the nature of the invention, that the Title, the Provisional Specification, and the Complete Specification refer to the same invention, that the Specification and claims are sufficient, and assuming that the invention is new, I am of opinion that the inventors have a valid patent.

(Signed) J. FLETCHER MOULTON (Temple).

The Directors anticipate large and substantial returns from the manufacture of this Lamp, and also from grants of Licences to manufacturers under the Company's Patents. The wholesale market has not been tested, nor has any advertising been done, but a number of lamps have been offered for sale by retail, and the result of the Vendor's experiment in this direction was highly satisfactory.

The Vendor finds that to reap the full benefit of the Patent, labour-saving tools must be procured, and this his limited capital will not enable him to do. He has, however, expended considerable time and money in developing the manufacture of the Lamp, and tools have been designed by him which will reduce the cost of manufacture to a minimum. His general business is now also ripe for further development, and will well warrant the introduction of further capital.

The Plant, Stock-in-Trade, Fixtures, Manufacturing Machinery and Tools, have been valued by Mr. T. S. Fallows (Ex-Mayor of Birmingham), who reports as follows:—
59, Temple Row, Birmingham, 27th September, 1895.

DEAR SIR,

I have attended at your works and retail premises, Caroline Street and Edmund Street, Birmingham, and have taken in detail a complete inventory of the whole of your finished and unfinished Stock-in-Trade, Plant, Machinery, Tools, Patterns, Shop, Office, and Warehouse Furniture and Fixtures, and have made a careful valuation of the same. I find the value of the whole, taken as a going concern, amounts to the sum of One Thousand Two Hundred and Seventy Pounds One Shilling and Threepence.

Yours truly, THOS. S. FALLOWS.

Messrs. W. A. Dawkins & Co.,

Photographic Instrument Makers, Edmund Street, Birmingham.

The Patents have been valued by Mr. W. P. Thompson, M.I.M.E., F.C.S., the well-known Patent expert, who reports as follows:—

DEAR SIR,

6, Lord Street, Liverpool, 2nd November, 1895.
In accordance with your instructions I have carefully examined the Patent, No. 4,583, of 1892. I understand from you that a search has been made, and that nothing militating against its novelty has been discovered. Assuming, therefore, the novelty of the invention, and as far as I can judge it is new, I am of opinion that the Patent is valid and covers the invention claimed. I also think the invention a good one for the purpose for which it has been designed, and that 3d. would be a fair Royalty to pay on these Lamps. On the basis of this Royalty, and a reasonable valuation for extra trade profits owing to the monopoly, I should value the Patent at £3,260. The American Patent, which I understand has now been applied for, should also be very valuable. I value the inventions and Patents for the Syringe and your Photographic Camera at £190.

W. A. Dawkins, Esq.,

40, Edmund Street, Birmingham.

Yours truly, WM. P. THOMPSON.

The total purchase price fixed by the Vendor for the Plant, Machinery, Stock-in-Trade, Patent and other rights (including the Lamp) is £2,060; payable as to £1,460 in cash, as to £600 in fully paid up Shares.

The Directors have secured the services of Mr. Wm. Arthur Dawkins, the Vendor, a Managing Director for a period of five years, upon terms mentioned in an agreement, date the 6th day of November, 1895, and made between John Henry Smith, as Trustee for and on behalf of the Company of the one part, and the said W. A. Dawkins of the other part. In his agreement of sale the Vendor undertakes that all improvements in connection with the existing Patents that he may hereafter discover shall be the property of the Company without further consideration.

After payment of the purchase money and the promotion expenses it will be seen that upwards of £7,000 will remain for working capital, and having regard to the smallness of the purchase money as compared with the valuation of the Lamp Patent alone, the Company should meet with success.

The Vendor is the promoter, and will be repaid the promotion expenses and registration fees by the Company in pursuance of the terms of the Agreement (No. 2) set out below.

The following agreements have been entered into, viz.:

- (1) An Agreement dated the 3rd day of September, 1895, and made between Thos. Wm. Wilson and Harry Butler of the one part, and William Arthur Dawkins of the other part.
- (2) An Agreement dated the 6th day of November, 1895, and made between the said W. A. Dawkins of the one part, and John Henry Smith, as Trustee for and on behalf of the Company, of the other part.
- (3) An Agreement dated the 6th day of November, 1895, and between John Henry Smith as Trustee for and on behalf of the Company of the one part, and the said W. A. Dawkins of the other part, whereby the said W. A. Dawkins agrees to serve the Company for five years.

There are also various trade and other contracts which may constitute contracts within the 38th Section of the Companies Act, 1867, or contracts to the disclosure of which applicants for Shares might be held to be entitled. Of all such contracts, every applicant for Shares shall be deemed to have had sufficient notice.

Application for Shares should be made on the form enclosed, and forwarded to the Company's Bankers with the amount of deposit. If no allotment is made the deposit will be returned in full, and when the number of shares allotted is less than the number applied for, the balance will be applied towards the amount due on allotment and any excess returned to the applicant.

Copies of prospectus and forms of application can be obtained at the Registered Offices of the Company, or its Bankers, Auditors, and Patent Agents. Forms of application, copies of Prospectus, Memorandum and Articles of Association, agreements, and the original valuations can be seen at the office of the Solicitor to the Company.

Samples of the Lamp and original awards may be seen at the Registered Offices

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The very best for all purposes. The result of many years' experience. Largely used both at home and abroad.

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1 pint, 2s.; 1 quart, 3s. 8d.; ½ gallon, 5s.; 1 gallon, 9s. 3 gallons, 24s.

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PREPARED, ready for use, all fibre, 10s. per sack; 5 for 47s. 8d.
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Send Postal Order for Sample Sack. For Price List and Special Quotations for large quantities, apply to—
D. CAMERON, Forester's Lodge, Mount Mascal, Bexley, Kent
Special Terms to the Trade.

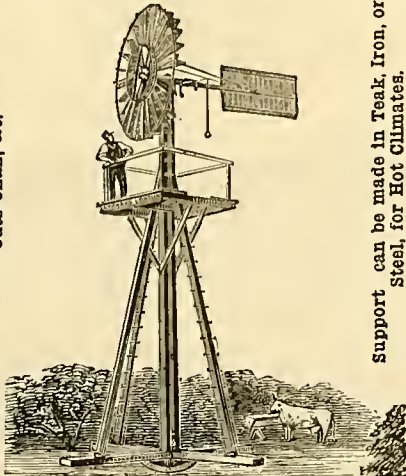
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Support can be made in Teak, Iron, or Steel, for Hot Climates.

Prices from £17, including Pump and Timber Supports.
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Dear Sirs,—It affords me much pleasure to inform you the 25 ft. Annular Sail geared Windmill, on 40 feet timbers, working a set of 3 in. x 9 in. stroke treble pumps, that you fixed here for Baron Schröder, is giving very great satisfaction, pumping the water through 4,224 feet of pipe, to a vertical height of about 80 feet. I must also express my thorough appreciation of the manner in which the whole of the work has been so successfully carried out.—Yours faithfully,
H. BALLANTINE, Head Gardener to Baron Schröder.
R. WARNER & Co. have made and erected a similar Mill and set of Pumps for Lord Northbourne.
NUMEROUS OTHER TESTIMONIALS ON APPLICATION TO
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SAVE HALF THE COST.

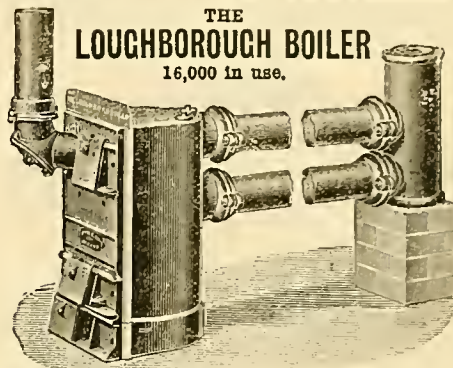
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No. 1, £2 12s.; No. 2, £3 15s.; No. 3, £5; also larger sizes. Complete Apparatus from £4 8s. Lists and Estimates on application.

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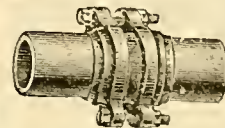
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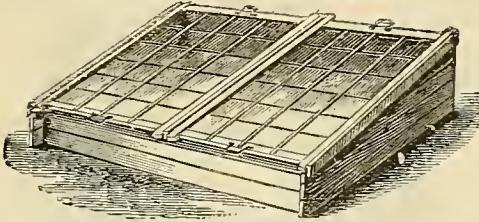
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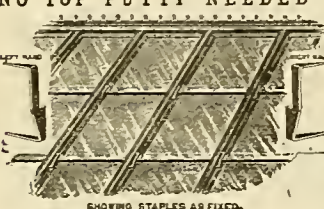


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 Best Archangal, 15s. per doz.
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 Mr. CHAS. A. SMITH, late Head Gardener at Rosshall, Paisley, as Head Gardener to Sir WILLIAM PEARCE, Bart. Cardell, Wemyss Bay, N.B. The change to take place on Dec. 1.
 Mr. WILLIAM COLLIER, late Gardener at Hillsborough Hall, Sheffield, as Head Gardener to A. M. WELSON, Esq., Whiteley Wood Hall, near Sheffield.
 Mr. WM. SCOTT, for over five years Foreman at Woodside Gardens, Darlington, as Gardener and Bailiff to G. S. CHRISTIE, Esq., Gervaux Abbey, Bedale, Yorks.

WANTED, a PARTNER, in a large Fruit-growing Business in the Channel Islands—For particulars apply to L., Mr. B. Wynne, 1, Dane's Inn, Strand, London, W.C.

PARTNER REQUIRED (£400) in a well-established Nurseryman and Florist's business in North London. Principals or solicitors only deal with.—Apply EDGAR ROBINS, Solicitor, 2, Tokenhouse Buildings, City, E.C.

AN EXPERT MUSHROOM-GROWER, who has been thoroughly tested, with remarkable results, a new and highly profitable method of cultivation, specially applicable to Truffles and the higher order of edible fungi (by the direct fertilisation of the spore). is open to undertake cultural experiments of a scientific character, on mutual terms, for any one able to supply ripe specimens, on the spores only, under suitable conditions.—J. L. S., 41, Wellington Street, Strand W.C.

HEAD GARDENER REQUIRED for Sussex.—Age 30 to 35, married, with not more than 1 or 2 children; must have been Head before; with good experience all round, including a knowledge of Orchids. The wife must undertake Pressing and Pinching.—Wages £80 per annum, with house.—Apply by letter, giving full particulars, with copies of testimonials, to B., Messrs. James Veitch & Sons, Royal Exotic Nursery, Chelsea, S.W.

HEAD GARDENER WANTED in Devonshire; must be thoroughly experienced in Fruit, Flowers, Vegetables, and Pleasure Gardens; five or six under him; must have lived as head in similar situation; age about 40; no family; unexceptional references will be required.—State these, age, wages, and full particulars to Mr. A. B. CRAIG, Land agent, Maristow Cottage, Roborough, South Devon.

WANTED, a really first-rate GARDENER, experienced in growing Tomatos, Cucumbers, and Cut Flowers for the London Market. Must be A1 hand with Tomatos, and thoroughly understand the working of Saddle Boilers.—Apply, stating experience, wages, &c., to H., 41, Wellington Street, Strand, W.C.

GARDENER.—WANTED, Immediately, a good all-round WORKING GARDENER for 6 Vineries, 3 Peach-houses, 3 Stove-houses, and Conservatories, 25s., house, and garden. State full particulars, and references, whether exhibited, number in family; or come over.—TODER, Whitehouses, Retford.

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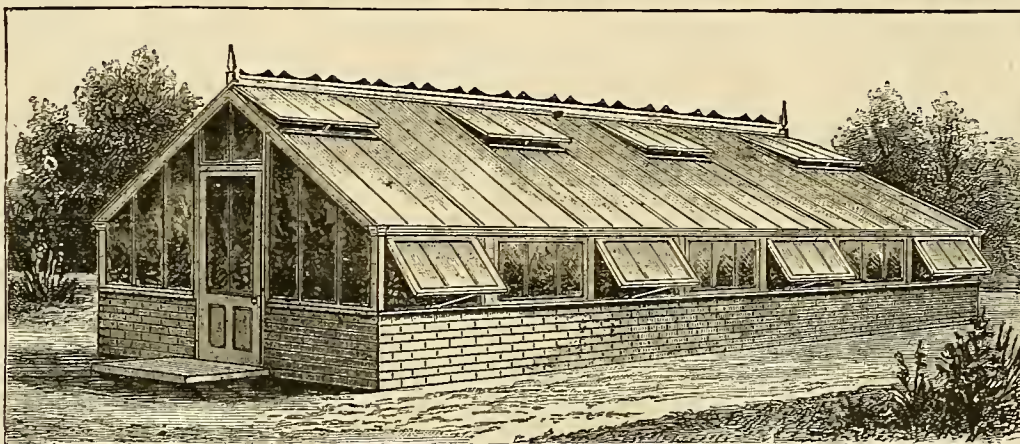
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Carnations! Carnations!! JAMES DOUGLAS, Carnation Specialist, begs to announce that he has now 20,000 CARNATIONS, established in pots, for immediate delivery. All New and Certificated Varieties. Inspection invited. CARNATION SEED, specially saved from best named sorts, 1s. 6d. and 2s. 6d. per packet. CATALOGUES on application. JAMES DOUGLAS, Edenside, Great Bookham, Surrey.

ASPARAGUS, for Forcing.—Five years old, splendid roots, 12s. 6d. per 100; extra fine, 6 years old, 15s. per 100. On rail, cash with order. My Asparagus always makes top price at Covent Garden. J. J. CLARK, Market Gardener, Goldstone, Brighton.

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

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

BEESON'S MANURE, Crushed Bones and all High-class Fertilisers, Genuine only from—W. H. BEESON, Carbrook Bone Mills, Sheffield.

HORTICULTURAL BONES.—Pure Bones, in ¼, ½, 1-inch, and meal, specially prepared. For particulars and price apply to—E. S. WILES AND LEWIS, Bone Works, St. Albans.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W. Telegraph Address, "Hortulanus, London." Telephone, No. 8728.

SALES BY AUCTION.

DUTCH BULBS—DUTCH BULBS.

Sales nearly every day, in Large and Small Lots, to suit all Buyers.

MR. J. C. STEVENS will **SELL** by **AUCTION**, at his Great Rooms, 38, King Street, Covent Garden, nearly every day, at half-past 12 o'clock, first-class consignment of Choice **HYACINTHS**, **TULIPS**, **CROCUSES**, **NARCISSUS**, and other **BULBS** arriving daily from well-known farms in Holland, in the finest possible condition. On view morning of Sale, and Catalogues had.

WEDNESDAY NEXT.

GREAT SALE OF SHRUBS.

An Immense Importation of Small Decorative Shrubs EVERGREENS, FLOWERING TREES, PLANTS, &c., in grand order for present planting, comprising a splendid variety of **BETULOSPORA**, **CUPRESSUS**, **BOX**, **LAURELS**, **AUCUBAS**, and other Evergreens, for In or Outdoor Cultivation; a choice assortment of **FLOWERING TREES**, several hundred **RHODODENDRONS**, full of Buds; **IRIS**, **PEONIES**, **PHLOX**, and other Plants, just received from Holland.

2,000 English, German, and Dutch Roses to name, comprising Standards, Half-Standards, Dwarfs, and Climbers, including many of the newest and most popular kinds, from prize growers.

A Small Surplus Stock of choice Carnations, Michaelmas Daisies, Ostrow-Kias, Begonias; splendid collection of IRIS GERMANICA, JAPANESE IRIS; 1000 HELLEBORUS NIGER; 5000 SPIREA JAPONICA and PALMATA.

Lilium Auratum from Japan, Lilium Harris from Bermuda; 10,000 South African TUBEROSES, 10,000 best Berlin LILY OF THE VALLEY, GLADIOLI, of sorts, LILIAM CANDIDUM, ANEMONES.

A Consignment of Azalea indica and A. mollis, from Ghent, well set with buds.

Pyramid and Dwarf-trained Fruit Trees, including Apples, Pears, Plums, Cherries, Nectarines, Peaches, &c., of choice named sorts. Also Currants, Gooseberries, &c.

A SPECIAL COLLECTION OF EXTRA FINE HYACINTHS, comprising most of the best sorts, specially selected for Glass and Pot Culture. Great variety of TULIPS, CROCUSES, rare NARCISSUS, SNOWDROPS, &c.

MR. J. C. STEVENS will **SELL** the above by **AUCTION**, at his Great Rooms, 38, King Street, Covent Garden, W.C., on **WEDNESDAY NEXT**, November 27, at half-past 12 o'clock precisely. On view morning of Sale, and Catalogues had.

Thursday Next.

By order of Messrs. W. L. LEWIS & Co., Southgate. IMPORTED and ESTABLISHED ORCHIDS.

MR. J. C. STEVENS will **SELL** by **AUCTION**, at his Great Rooms, 38, King Street, Covent Garden, W.C., on **THURSDAY NEXT**, November 28, at half-past 12 o'clock precisely, valuable imported and Established **ORCHIDS**, comprising—

CATTLEYA INTERMEDIA ALBA, splendid plant, with two leads.

CATTLEYA BICOLOR LEWISII, healthy plant; only two other plants are known to exist.

Also **CATTLEYA TRIANSEI**, **C. LAWRENCEANA**, and **C. MOSSIE**, all in fine condition and in sheath; together with two plants of **DENDROBIUM NOBILE NOBILIUS**, the finest form; unfloated **D. NOBILE (Lang-Tang)**, and others, which are very distinct, and from a new district. Choice **LILIAS**, **CYPRIPEDIUMS**, **JODONTOGLOSSUMS**, **ONCIDIUMS**, &c., all in grand condition, and well established.

On view morning of Sale, and Catalogues had.

SALES NEXT WEEK.

DUTCH BULBS, CONTINENTAL PLANTS, ROSES, GREENHOUSE PLANTS, &c.

MESSRS. PROTHEROE AND MORRIS will **SELL** by **AUCTION** at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., as follows, at 12 o'clock each day:—

MONDAY, November 25:—100 Azalea Mollis, 100 A. indica, 50 Camellias, Conifers, and Fruit Trees from Belgium; Hardy Perennials and other Plants and Bulbs, consisting of Carnations, Michaelmas Daisies, Iris germanica, English-grown Lilies and imported Lilium auratum and L. sp. Kraetzerei. Californian Bulbs, 500 Dwarf Roses, and 200 lots of Dutch Bulbs.

TUESDAY, November 26.—Dutch Bulbs—1000 lots.

WEDNESDAY, November 27:—Dutch Bulbs—1000 lots.

THURSDAY, November 28:—Dutch Bulbs—1000 lots. 100 Azaleas Mollis, well-budded; 100 A. indica, 50 Dracaena indica, 38 Aucuba japonica, 24 Pteridium Vetchii, 30 Corypha australis, and 10 Kentias from the Continent. Also rare American Bulbs, Calochorti, Lilliums, Carnations, Dwarf Roses, Stove and Greenhouse Plants, &c.

FRIDAY, November 29:—Dutch Bulbs—1000 lots.

ORCHIDS—see Separate Advertisement.

On view morning of Sale, and Catalogues had.

Friday Next.

By order of Messrs. F. Sander & Co., St. Albans.

Fine Selections of IMPORTED ORCHIDS, embracing **LILIA AUTUMNALIS ATRO-RUBENS**, the richest-coloured, darkest, largest type known, in fine order.

LILIA MAJALIS, "THE FLORE DE MAYO" of the MEXICANS.—The blossoms are immense, often over 6 inches in diameter.

ONCIDIUM UNGUICULATUM, a free-blooming, distinct variety of Oncidium tigrinum; blossoms in the winter.

CYPRIPEDIUM BELLATULUM, the largest-flowered type yet discovered, with intense purple-maroon spots.

CATTLEYA CITRINA, just to hand; splendid plants, in fine order, with firm plump bulbs and dormant eyes.

A **SACCOLABIUM (?) SPECIES** from Northern Borneo (the banks of the Irrawaddy), a most distinct-looking plant, unfloated, and probably new.

A few plants of a **SOLOMBURGIA SPECIES**, obtained from the almost inaccessible mountains in which the River Esiquibo rises and near its source.

THE SPLENDID DENDROBIUM,

D. SANGUINOLENTUM, very rare, delicate fawn-coloured blossoms, borne at the apex of the stems—one of the parents of D. rhodostoma. The remaining plants of the beautiful

ONCIDIUM DICHROMUM, which until our late introduction had never been offered in cultivation.

DENDROBIUM NOBILE from ANNAM, and Dendrobium densiflorum

ONCIDIUM ROGERSII. Fine strong plants of this magnificent Orchid.

A few plants of the new and wonderful **ANGULOBA ALBA MAGNA**, provisionally named; and the splendid purple-flowered **ACINETA COLOSSA**, also

DENDROBIUM CRYSTALLINUM.

HLEMANTHUS KALBREYERII, bright vermilion flowers, borne in dense umbels, a grand plant for decoration.

EUBYCLES CUNNINGHAMII, the Brisbane Lily, a distinct and pretty bulbous plant. A native of Queensland.

BESSEBA ELEGANS, a beautiful scarlet or scarlet-and-white flowered Mexican bulb.

MESSRS. PROTHEROE AND MORRIS will **SELL** the above by **AUCTION**, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on **FRIDAY NEXT**, November 29, at half-past 12 o'clock. On view morning of Sale, and Catalogues had.

Rodmersham Vicarage, near Sittingbourne, Kent. SALE OF CONSERVATORIES, GLASS-HOUSES, with all their contents, GARDEN FRAMES, 500 Choice Show ROSE TREES, &c.

MESSRS. JACKSON AND SONS are instructed by Rev. W. J. Mellor (who is about to travel abroad), to **SELL** the above by **AUCTION**, on **TUESDAY**, November 28, 1895, at 10 for 11 o'clock. Also **GARDEN TOOLS** and Effects, including iron roller, three lawn mowers, garden water-barrel on carriage (nearly new), two wheelbarrows, 90 ft. garden hose, garden chairs, seats and tables, trellis arches, &c. Catalogues may be had three days prior to the Sale of Messrs. JACKSON AND SONS, Valuers, &c., Sittingbourne.

Chesterfield.

TO BE SOLD.—LEASEHOLD NURSERY and **GLASS ERECTIONS**, in one lot, as a going concern, known as The Ashgate Nurseries, Chesterfield, comprising about 10 acres of Ground. Houses heated by Hot-water Piping. No Stock need be taken, as this can be sold by auction. Particulars may be had of Messrs. PROTHEROE AND MORRIS, 67 and 68, Cheapside, E.C.

FOR SALE, a small valuable long leasehold **NURSERY**, 6 miles from Covent Garden. Seven large Greenhouses, well stocked; two Vineries, Cucumber-house, Plant-houses, five-roomed Cottage. Low Ground Rent. Lease eighty-six years to expire. Eighty-five feet Glass. Facing main road. All particulars of **FLORIST**, 11, Dafoine Road, Tooting, Surrey.

FOR SALE, MARKET NURSERY and **FLORIST BUSINESS**. Close to a Provincial Town of 40,000 inhabitants, and within easy reach, on Main Lines, of Manchester, Liverpool and other large centres of population. 9 acres choice Land, dwelling-house, fourteen modern Glass-houses (nearly 1400 feet run), Vineries, Tomato, Cucumber, Plant, and Forcing-houses. All efficiently heated and stocked; in full working order, and in one of the best positions in the kingdom. Address, **PROVINCIAL Gardeners' Chronicle Office**, 41, Wellington Street, Strand, W.C.

Hooton Estate, Cheshire.

TO NURSERYMEN, FLORISTS, and OTHERS.
TO BE LET, the Productive Gardens of **HOOTON HALL**, extent nearly 5 acres, having an excellent stock of Standard Apple and Pear Trees. The Glass comprises Greenhouse, three Vineries, Peach, Orchard, Tomato, Cucumber, and Melon Houses; there are the usual Potting Sheds, Fruit Room, Office, Gardeners' Bothy, Stabling, &c., also good Gardeners' House. For further particulars, apply to Messrs. SMITHS, GORE, AND CO., 6, Newgate Street, Chester.

To Fruit Growers and Market Gardeners.

TO LET, at Enfield Highway, Middlesex, a **LARGE ORCHARD** or **FRUIT GARDEN**, of 40 acres, or thereabouts, planted with Apple, Pear, and Plum Trees, and Gooseberry and Currant Bushes; and also adjoining same 10 acres or thereabouts of **MARKET GARDEN GROUND**, with House and necessary Outbuildings, within easy reach of the London Markets. Immediate possession can be given. Apply for rent and other particulars, and for permission to view, to Messrs. WITHERS and WITHERS, of Maltravers House, Arundel Street, Strand, London. Solicitors; and W. C. ELMS, Esq., 18, Lower Phillimore Place, Kensington, Surrey.

WATERCRESS BEDS.—TO LET, about one acre, thirty miles from London, on Great Eastern Railway; two minutes walk from station.—Apply by letter, 149, Loughborough Road, Brixton, S.W.

TECOMA SMITHII—The finest new flowering plant; as easily managed as a Chrysanthemum. It produces in Autumn large heads of brilliant red and yellow blossoms. New seed of all Seedsmen.

CCELOGYNE CRISTATA, a fine and well-grown variety, very cheap, good plants, 1s.; 15 bulbs, one or two spikes, 2s. 6d.; stronger, 6s. 6d., 6 spikes, 5s.; 100 to 150 bulbs, 8 to 16 spikes, 7s. 6d. to 12s. 6d. each. **TRUSTEES**, late J. STEVENSON, Timperley, Cheshire.

CHRYSANTHEMUM STOOLS of Elaine, La Croix, Jas. Salter, Lady Selborne, Marie Hoste, 5s. per dozen, free on rail. Cash with order. **MR. MUERS**, Hockley Nurseries, Hockley, Essex.

PLUM TREES.—2000 of strong well-rooted Fruiting Plum-trees, will be sold cheap to clear ground. Pampas Grass, strong clumps, 9s. per doz. **GEO. GRAY AND SONS**, Brox Nursery, Chertsey.

STANDARD ROSES, 18s. per dozen; **DWARF ROSES**, 6s. per doz., leading sorts. **CURRENT TREES**, Red, Black, and White, 2s. per doz. Packed, free on rail, for cash with order.—**R. HOUGH**, The Elms, Bisleigh.

SEAKALE for **FORCING**.—Superior selected Crowns, 80s. per 100; under 500, 9s. per 100. Orders to be accompanied by Cheque or Post-office Order.—**ALFRED ATWOOD**, Grower, 24, Luback Street, Battersea, S.W.

SMILAX ASPARAGOIDES.—Strong young Stuff in 60's, ready for Planting or Potting-on; all staked. Price 12s. per 100; free on rail. Cash with order. **P. BOULTON**, Beechenlea Nursery, Swanley.

Herbaceous Calceolarias.—James' Superb Strain. **JOHN FRASER**, The Nurseries, South Woodford, Essex, has a beautiful lot of the above to offer. The plants are strong and healthy; they are in 60's, ready for potting into 48's or 32's. Price 20s. per 100, packing included. Usual trade allowance.

100,000 SPLENDID BUSHY WALL-FLOWERS, to clear at once.—Blood Red, Yellow Tom Thumb, Black-brown Dresden, all at 1s. 6d. per 100, carriage paid; 12s. per 1000. Finest Double German Wallflowers, 2s for 1s., 100 for 3s., carriage paid. The above lots, well mixed, 1s. 6d. per 100, free. **G. F. LETTIS**, Florist, West Haddon, Rugby.

Orchids—Orchids—Orchids.

TWO or **THREE HUNDRED** fine specimen *Phalænopsis grandiflora*, *amabilis*, *Sanderiana*, and *Schilleriana*; also some fine plants of yellow *Cypridium* *insigne* in bloom, and extra fine plants of *Cypridium Boxalli* to be sold cheap for Cash. Apply to—**G. YOUNG**, Florist, St. Albans.

50,000 EUONYMUS, Green and Golden, all splendid bushy plants.—**GREEN**: 12 in. to 15 in., at 30s. per 100; 15 in. to 18 in., at 40s. per 100; 18 in. to 21 in., at 55s. per 100; 21 in. to 24 in., at 75s. per 100; 25 in. to 40 in., at special prices. **GOLDEN**: 5 in. to 12 in., at 3s. to 8s. per dozen. Cash with order. **J. J. CLARK**, Goldstone, Brighton.

SPECIAL CHEAP OFFER.—ENGLISH OAK, extra fine, 12 to 15 feet, stout, straight, well-shaped, and splendid roots; **ASH**, 5 to 9 feet; **BEECH**, 10 to 12 and 15 feet, equal to Oaks; **HAZEL**, extra fine, 2 to 3 and 4 feet; **PRIVET OVAL**, all sizes, 1 to 5 feet, extra cut back and transplanted; **MANETTI STOCKS**, strong, prices on application; **BEGONIAS**, new trade list free. **B. R. DAVIS**, Yeovil Nurseries, Yeovil.

BARR'S ENGLISH DAFFODILS.—The most beautiful and fashionable of Spring flowers. New Descriptive Catalogue now ready, sent free on application.

BARR'S SPRING-FLOWERING BULBS.—Send for full Descriptive List, ready September 1.

BARR'S AUTUMN-FLOWERING CROCUSES, MEADOW-SAFFRONS, CYCLAMEN, SCILLAS, SNOWFLAKES, &c. List free on application.

BARR'S SEEDS for Present Sowing.—Catalogue on application. **BARR AND SON**, 12, King Street, Covent Garden, London.

ANTHONY WATERER respectfully invites from intending Planters an inspection of the following well-grown and finely-rooted **EVERGREENS**:—
ABIES PUNGENS GLAUCA } **COLORADO BLUE SPRUCE**,
" " ARGENTEA } 3, 4, 5, and 6 feet.
These are all SEEDLINGS. The plants usually met with are grafted on the Common Spruce.
CEDRUS ATLANTICA, 5, 6, 7, 8 to 10 feet.
GLAUCA, 4, 5, 6, 7, and 8 feet.
CEDRUS LEBANI, 5, 6, 7, 8 to 10 feet.
ENGLISH YEWS, 4, 5, 8 to 8 feet.
GOLDEN CHINESE JUNIPER, 4, 5, 6, 7, and 8 feet.
GOLDEN YEWS, Seedlings, perfect pyramids 4, 5, 6, and 7 ft. Standards, 6, 7, and 8 feet.
PICEA CONCOLOR
" " VIOLACEA } 4, 5, 6, 7, and 8 feet.
" " LASIOCARPA } 6, 7, and 8 feet.
" " MAGNIFICA } 6, 7, and 8 feet.
PINUS AUSTRACA } 3, 4, 5, 6, to 8 feet.
" " LARICIO } 3, 4, 5, 6, to 8 feet.
THUIOPSIS BOREALIS, 5 to 8 feet.
DOLABRATA, 5 to 10 feet.
HOLLIES, GREEN, Common, up to 10 and 12 feet.
" " HODGINS
" " LAURIFOLIA } up to 10 feet.
" " MYRTIFOLIA }
" " GOLDEN QUEEN } 4 to 10 feet.
" " SILVER QUEEN }
" " WATERER'S, and many other variegated kinds, 6 to 10 feet.
" " PERRY'S WEEPING } with straight stems and
" " GOLDEN WEEPING } fine heads.
YEWS, ENGLISH, 4, 5, 6 to 8 feet, and as much in diameter, Knap Hill Nursery, Woking, Surrey.

100,000 FRUIT TREES

Will be Sold at Perry Hill, Cliffe, near Rochester, Kent (adj. Cliffe Station, South Eastern Railway), on NOVEMBER 27, at half-past 11 o'clock, punctual, consisting of 30,000 Standard and Half-Standard Apples, Pears, Plums, and Cherries; 20,000 Baldwin Black and Red Currants; 15,000 Gooseberries, 60,000 Raspberries, 1000 New Plum, Monarch; 500 Pitmaston Duchess on Quince; 3000 New Apple, Beauty of Bath, and Bismarck; 25,000 New Strawberry, Royal Sovereign; 50,000 Paxtoos and Noble, 15,000 Asparagus, 100,000 Myatt's Spring Cabbage Plants, 200,000 Cos Lettuce, 20,000 Drumhead and Thousand-head Kale, 50,000 Red Picking Cabbage &c.

FERNS!—FERNS!!

A large quantity of well-grown stuff, in 2½-in. pots, for decorative purposes and for potting-on—Pteris cristata, P. nobilis, P. tremula, P. albolineata, P. serrulata cristata, and other sorts, at 9s. per 100. Also, in 48's, Pteris in variety, at 4s. 6d. per dozen. Above prices are for cash with order only. Packing free. An inspection is invited.

B. PRIMROSE, BLACKHEATH NURSERIES,

ST. JOHN'S PARK, BLACKHEATH, S.E.

KENT: THE GARDEN OF ENGLAND.

SUPERIOR KENT ROSES.

George Bunyard & Co., ROYAL NURSERIES, MAIDSTONE,

Are offering well-grown and finely-rooted Roses at the following cash prices. Package free. Selection left to themselves.

SUPERIOR H.P. STANDARDS, 2½ to 3½ feet stems, assorted, choice, per dozen, 18s. to 24s.

HALF-STANDARD H.P.'s, 1 to 2 feet stems, choice, per dozen, 12s. to 18s.

STANDARD or HALF-STANDARD TEAS and NOISETTES, per dozen, 24s. to 35s.

H.P. DWARFS, on Seedling Briar, per dozen, 9s. to 12s.

H.P. DWARFS, on Manetti, per dozen, 7s. fid.

FINE CLIMBERS, for Pillars and Walls, per dozen, 9s. to 18s.

DWARF TEA-SCENTED and NOISETTE, per dozen, 18s.

CHINA, MOSS, and PROVENCE ROSES, per dozen, 6s. to 9s.

Copies of G. B. & Co.'s Fruit List, 6 stamps.

H. LANE & SON

Solicit an Inspection of their Extensive

NURSERY STOCK

Covering over 150 ACRES,

CONSISTING OF

DECIDUOUS AND EVERGREEN

TREES and SHRUBS

IN GREAT VARIETY,

ROSES, FRUIT TREES,

RHODODENDRONS,

FOREST TREES, &c.

All in fine healthy condition.

DESCRIPTIVE CATALOGUE FREE.

THE NURSERIES, BERKHAMSTED, HERTS.

NATIONAL TESTIMONIAL

TO

MR. A. F. BARRON.

THIRD LIST OF SUBSCRIPTIONS.

Treasurer: H. J. VEITCH, Esq., 544, King's Road, Chelsea, S.W.

It is especially requested that subscriptions and communications relating to this matter may be addressed to Mr. E. Wyne, 1, Danes Inn, Strand, London, W.C.

Table listing subscribers and amounts, including T. Glen, W. G. Head, Capt. Bax, etc. Columns for name, amount in £ s. d.

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

SEAFORTHIA ELEGANS.—Good strong Plants from store boxes, 8s. per 100. 70s. per 1000, free on rail.—WILLIAM WHITELEY, The Nurseries, Hillingdon Heath, Uxbridge.

Awarded First-class Certificate of Merit.

GLOXINIA, "AIGBURTH CRIMSON."

THIS is the finest high-coloured variety ever sent out. As its name indicates, it is a vivid-crimson self, of the highest merit. The flowers are erect, of the finest form and substance, of great size, and abundantly produced; the habit of the plant is all that could be desired.

This charming variety was raised in our Nursery in 1893, and was exhibited for the first time at the Liverpool Summer Show, August, 1894, and was much admired by all who saw it, and was unanimously awarded a First-class Certificate of Merit.

Having proved that it is reproduced quite true from Seeds, we now offer Seeds from carefully-fertilised flowers at 2s. 6d. per packet, post-free.

Liberal terms for this sterling novelty, per dozen or per 100 packets, to the Trade, from Messrs. NUTTING AND SONS, Messrs. HURST AND SON, London; or of the Raisers—

ROBT. P. KER & SONS, BASNETT STREET, LIVERPOOL.

EXHIBITION.

NATIONAL CHRYSANTHEMUM SOCIETY'S EARLY WINTER SHOW. CHRYSANTHEMUMS, CHINESE PRIMROSES, CYCLAMEN, &c. ROYAL AQUARIUM, WESTMINSTER, DEC. 3, 4, and 5. Schedule of Prizes on application to—Ealing, W. RICHARD DEAN, Secretary.

WHINHAM'S GOOSEBERRY.—Bushea, extra quality, 1-year-old, 1s. 3d.; 2-year, 1s. 9d.; 3-year, 2s. 3d.; 4-year, 3s. per dozen. Special prices for large quantities.—H. W. KIRSOPP, Nurseryman, Hexham.

TO ROSE GROWERS.—For Sale, SEEDLING BRIARS, strong, off Maiden Loam. Samples and prices on application.—VAUSE, Florist, Leamington Spa.

CHEAP COVERT PLANTS, viz., Rhododendron ponticum, strong, 2 to 3 feet, 15s. per 100; 27 per 1000.—CHARLES WILMOT, Nurseryman, Darley Dale, Near Matlock, Derbyshire.

CHRYSANTHEMUMS FROM SCOTLAND.—We have a very large collection, embracing all the best novelties, and our prices are moderate. Catalogues free on application. DOBBIE AND CO., Florists to the Queen, Rothessy.

ROYAL SOVEREIGN STRAWBERRY.—Strong well-rooted runners. Also Sir Joseph Paxton, and other leading varieties. RASPBERRY CANES.—Carter's Prolific, Semper Fidelis, Norwich Wonder, &c. Special quotations for large quantities. Apply, JOHN CHIVERS, Histon, Cambridge.

FERNS AND DECORATIVE PLANTS!

(TRADE).—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 12s. 100; ditto large, in 48's, 10 best selling sorts, 6s. doz.; strong seedlings, 6s. 100, 50s. 1000; Adiantum cuneatum, in 48's, for cutting, 6s. and 8s. doz.; ditto, for making large plants quickly, 16s. and 20s. 100; Aralias, 10s. 100; Cyperus, Aralias, Grevillea, Solanums, in 48's, 6s. doz.; Marguerites, Solanums, Erica gracilis, in bloom, in 48's, 9s. doz.; Ficus, Palms, Dracenas, Crotona, Bouvardias, Erica hyemalis, and Cyclamen, in bloom, 12s. doz. Lists free. Packed free. Cash with order.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.

MANCHESTER WHOLESALE FLOWER MARKET.

CUT FLOWERS FOR FLORISTS. GEO. FORBES, the largest Salesman of Cut Flowers and Ferns in the North of England, is prepared to SEND consignments on receipt of letter, telegram, or telephone, with quickest possible despatch. Write for weekly PRICE LIST. All Florist's Requisites kept in Stock. National Telephone, 1059. Established 1873.

OWEN'S ROYAL CHRYSANTHEMUMS.

THE BEST, CHEAPEST, and most complete Collection in the Kingdom.

ALL the LATEST and BEST VARIETIES. Awarded 25 Medals and 275 First-class Certificates for NEW VARIETIES. Every variety of merit supplied. CATALOGUE, Penny Stamp. R. OWEN, F.R.H.S., Floral Nursery, Maidenhead.

FRUIT TREES.

To MARKET and PRIVATE GROWERS.

We hold an Extensive Stock of all kinds of the above, in first-rate quality, and at reasonable prices. Intending Planters would do well to send for Descriptive CATALOGUE, free on application.

S. SPOONER & SONS, HOUNSLOW NURSERIES, MIDDLESEX.

To Nurserymen, Builders, Local Boards, Vestries, AND OTHERS WHO INTEND PLANTING TREES and SHRUBS THIS SEASON.

ROBERT NEAL, The Nurseries, Trinity Road, Wandsworth, S.W., begs to offer an extensive stock of FOREST and ORNAMENTAL TREES, SHRUBS, ROSES, GRAPE VINES, FRUIT TREES, CLIMBING PLANTS, &c., which being grown in the neighbourhood of London are especially suitable for Town Planting. Also a large stock of extra fine SEAKALE and RHUBARB, for forcing. CATALOGUES free on application.

RHODODENDRONS.

The finest named hardy varieties, bushy, and full of buds, from £7 10s. per 100, upwards.

CONIFERS, HARDY EVERGREENS, DECIDUOUS TREES, &c., in large quantities. CATALOGUES on application.

JOHN WATERER & SONS (LIMITED),

AMERICAN NURSERY, BAGSHOT, SURREY.

25 PER CENT. SAVED!

THE BEST HYACINTHS THE WORLD PRODUCES AT

2¹/₂d. each.

ROMAN HYACINTHS,

Guaranteed First Size,

9s. per 100.

Other Lines equally Reliable and Cheap.

BEFORE BUYING ELSEWHERE, SEND FOR OUR CATALOGUE (FREE) AND COMPARE PRICES.

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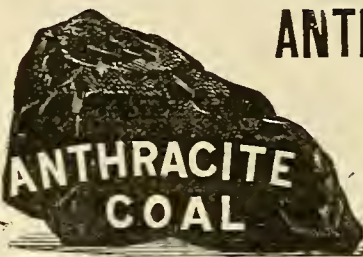
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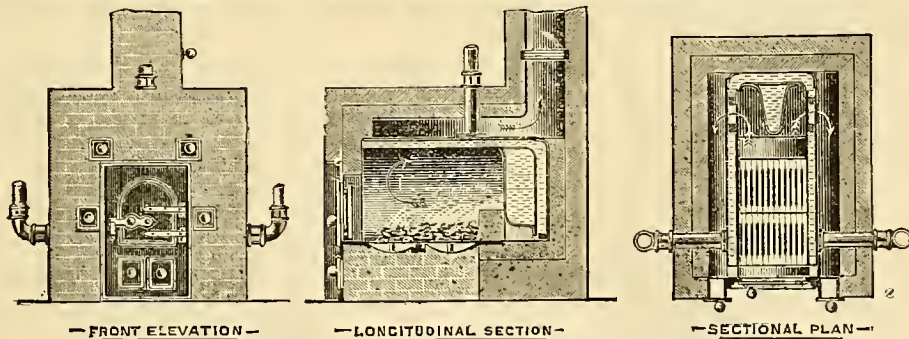
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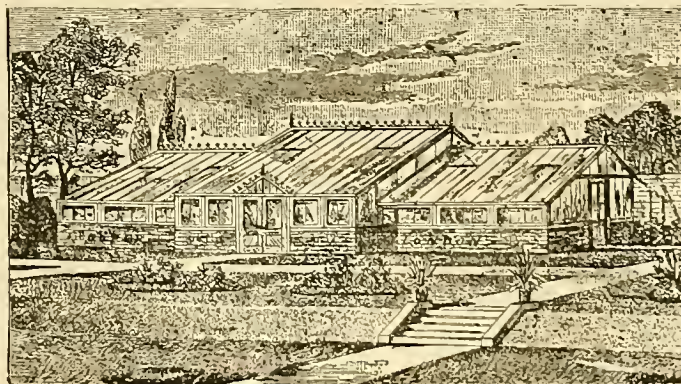
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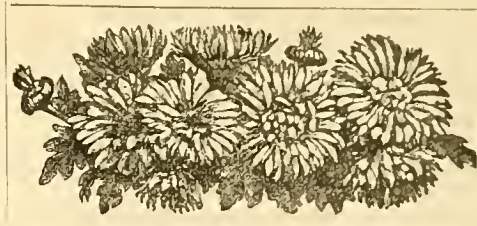
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THE

Gardeners' Chronicle.

SATURDAY, NOVEMBER 23, 1895.

THE LATENT VITALITY OF SEEDS.

M. CASIMIR DE CANDOLLE has lately published an interesting paper entitled *La Vie Latente des Graines* (Archives des Sc. Phys. et Nat.; Bibl. Univers., 1895), in which he comes to the conclusion that if the external conditions necessary for the vital activities of seeds be absent for a long time they may be totally arrested, but yet the seeds may be alive and re-enter an active course of existence after, perhaps, an indefinite period. His experiments were conducted in a cold room of a meat refrigerator, having made a preliminary one as follows:—Three lots of Peas and Haricot Beans were placed (1) in free air; (2) in a tube of air, but sealed; (3) in pure carbonic acid. After two years (1) had increased in weight, and nearly all germinated; (2) had lost weight, while a smaller proportion germinated; air now containing 11.4 per cent. of oxygen, and 3.8 per cent. of carbonic acid; (3) none came up. He asks the question whether the enfeebled vital activities had ceased before the end of the experiment, so that respiration and assimilation had completely stopped; if so, the protoplasm must become quite inert. He believes that to be the case. He now experimented with an intensely cold temperature, having previously determined that Peas, Haricots, and Fennel seed would germinate after an exposure of four days to a temperature of 148° F. He wrapped up some Wheat, Oats, seeds of Fennel, of the Sensitive plant, and of Lobelia Erinus in tin foil. All were well packed in a cylindrical iron box of 3½ cubic feet capacity; the lid being hermetically sealed. This was placed in an open wooden box for protection. The whole was subjected to an intermittent stream of intensely cold air coming direct from the refrigerator, from May to September, 1894, or 118 days.

The cold air was continued from eight to twenty hours per day; the average time being fourteen hours. On the greatest number of occasions (sixty-eight times), the cold was prolonged for twenty hours. The lowest temperature reached was -65° F., and the highest -36° F.

In the intermediate periods the warming was very slow, for the temperature scarcely passed freezing-point at the end of two to three hours, after stopping the machine. Conversely, the cooling of the box was very rapid, as it was directly exposed to the current of cold air.

M. De Candolle asks the question whether the box could check the cooling. As an experiment in this direction, he completely filled a box with corn. The lid, being hermetically sealed, was then pierced to allow the bulb of a thermometer to pass through it, and the hole was then plugged with cotton-wool. He then observed the thermometer outside a window. The rate of cooling varied much according to the initial tem-

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M. C. Gabain, Havre, France.

November 9, 1895.

With the plants you have sent me, it will interest you to learn, at the exhibition held here, I was awarded the "Grand Prix d'Honneur," i.e., the highest award over all other exhibitors, a valuable Févres Vase, presented by the French President; also two Gold and one Silver Medals. It was gratifying to receive the assurance from all competent judges that nothing finer than my display had ever been seen in Paris, or elsewhere. Amongst the most admired was your Sunflower.

SEND FOR A CATALOGUE.

SWANLEY, KENT.

peratures, and in proportion as the exterior air was calm or agitated. Thus, in a strong north-east wind, the temperature of the room being 18° Fahr., and 17.5° Fahr. outside, it took twenty-six minutes to ascend to 21° Fahr. On a calm day when it was 53.6° Fahr. in the room, and at freezing point outside, it took one hour and eight minutes to descend to freezing point.

But, as M. De Candolle observes, this experiment does not bear much, if any, analogy to the cooling by the air from a refrigerator, for the box was placed in the direct current from it. Moreover the seeds were surrounded by a metallic paper, greatly facilitating the conductivity of the box. He thinks, therefore, that not more than a quarter of an hour would be required to put the temperature of the box in equilibrium with that of the cold air. On taking out the seeds, they were at once sown. Nearly all the Wheat, some of the Oats, and some Fennel seeds quickly appeared. Of sixty-six seeds of the Sensitive plant, thirteen only came up; while of numerous Lobelia seeds, only ten germinated.

The failure of the seeds of the Sensitive plant was not solely due to the cold, as many failed to germinate, while many Lobelia plants grew in a control experiment. The conclusion the author arrived at was that life, as expressed by vital functions, was completely arrested for a time; the protoplasm was inert, and could not either respire or assimilate. The cause of some being killed was that their protoplasm had not yet become completely inert.

If this result be true, then, one would expect that seeds could be maintained with impunity in a medium unsuitable for respiration, provided there were nothing which could exert a deteriorating effect upon the internal chemical processes, as does carbonic acid.

He, therefore, tried the effect of plunging seeds in mercury: thus, 8 grains of Wheat were placed below 2.5 cm. of mercury for one month (October 19 to November 19). Of these four only germinated. Of 5 grains of Wheat under 13 cm. of mercury, from November 27 to December 28, four grew. Of 5 grains of Wheat under 5 cm. of mercury, from February 5 to May 5, all grew. Similarly 13 grains of Cress, under 5 cm. of mercury, for two months, all germinated.

This experiment, therefore, as that with a low temperature, shows that seeds can exist in a state of complete vital inertia; and that the internal changes of metabolism can be arrested, as long as the necessary external conditions of temperature, moisture, &c., are withheld.

M. De Candolle thinks that this state of chemical and vital inertia may last, perhaps, indefinitely. He then gives the following cases in illustration:—M. A. P. De Candolle mentions a case where grains of the Sensitive plant germinated very well after upwards of sixty years repose (*Physiologie*, p. 621). Girardin has seen Haricot Beans germinating which were taken from the herbarium of Tournefort, where they had lain for a century. In 1850 Robert Brown sowed, for curiosity, some seeds from the collection of Sir Hans Sloane, 150 years old, several germinated, as for example, one of *Nelumbium speciosum*, of which the plant is still preserved in the Natural History Museum. He refers to the popular notion of "Mummy Wheat" having germinated, only to refute it, adding, that it appears that the grains were sterilised before being placed in the tomb—but he does not give the proof of this. The present writer finds the starch grains to be perfectly sound, and to colour readily with iodine; so that the grains could not

at least have been boiled. The most extraordinary case to which he refers was observed by Prof. De Heldreich (*Garten Flora*, 1873, p. 323), the Director of the Botanic Garden at Athens. In botanising about the mines of Laurium he discovered in 1873 a new species of *Glaucium*, *G. Serpieri*. It made its appearance from under a thick layer of volcanic scoria, to which he would assign a date of 1500 years. He concludes with a reference to the investigations of M. Peter, who took soil from the interior of forests, and, after taking every precaution, found that soil from ancient forests gave rise to woodland species only; but soil from recent forests supplied species of open plains and fields, according as the forest had replaced these respectively. Admitting that his experiments did not decide the question, M. Peter thinks it would be safe to allow at least fifty years of duration of arrest of vital activity in the seeds buried in the soil of forests.

NEW OR NOTEWORTHY PLANTS.

CIRRHOPE TALUM ROTHSCHILDIANUM, *n. sp.*

At the meeting of the Orchid Committee of the Royal Horticultural Society on October 15, the Hon. Walter Rothschild exhibited what was unanimously agreed to be the handsomest of the plume-bearing section of *Cirrhopetalum*, and under the above name it was awarded a First-class Certificate—an honour only once before accorded to a member of this singular genus. The plant was received from an explorer somewhere in the hills beyond Darjeeling a few years ago, but owing to its long and slow journey it, together with a few others, chiefly new botanical Orchids, arrived in so withered a condition that only this season, after careful nursing, has it succeeded in flowering. As the cultivated pseudo-bulbs are scarcely one-third the size of the imported ones, it is but reasonable to infer that the flowers, beautiful though they are, will still improve as the plant gains strength. The pseudo-bulbs vary in form from ovate to Pear-shaped, each bearing a single fleshy light green leaf, more or less distant on the rhizome. Scape erect, 8 inches in height, bearing at the top a one-sided umbel of flowers, each over 6 inches in length, and exceeding 1 inch across the broadest part of the lower sepals. The prevailing colour of the flowers is bright crimson-purple, some blotches of clear yellow appearing on the sepals. The cucullate upper sepal is yellow with purple lines, and with marginal fringe and a very sensitive plume of a purple colour at the apex. The petals are narrower, but similarly coloured and decorated. The lower sepals show little other colour than rich crimson-purple, the same hue pervading their slender tail-like appendages, which sometimes intertwine, and at others are free. The triangular, grooved, hinged labellum is purple, and the whole flower so remarkably attractive as to command attention even from those who profess to care for nothing but the showiest Orchids. Its nearest affinity seems to be *C. Collettii*, Hemsl.

CATTLEYA LABIATA BROOMEANA, *n. var.*

This is one of the finest of that best and most useful section of *C. labiata* known as "autumn-flowering." At a glance its gorgeous flowers remind one of *C. Warszewiczii* (gigas), there being in this a similar broad expansion in the front of its velvety crimson-purple lip, which also bears on each side the roundish cream-coloured blotch usually seen in *C. Warszewiczii*. The broad petals expand to nearly 8 inches, and both they and the sepals are of a warm rosy-purple, the venation being distinctly traced by a darker tint of the same colour. It was flowered by Joseph Broome, Esq., Sunny Hill, Llandudno (grower, Mr. Shill), who is not only very fortunate in getting fine varieties of *Cattleyas*, but is also an adept at cultivating them up to their best. *James O'Brien*.

ANNUALS.

Nor only in every gardening paper, but also in conversation with any member of the ancient craft, do we frequently hear the pithy remark on some floral or fruit exhibit: "Ah, they're what I call well done;" or Mr. —, gardener to His Grace the Duke of Blankshire, exhibited in most classes, and it is needless to say all his exhibits were thoroughly "well done."

To confine my remarks to one very humble class of plants, though one more often ill done than the opposite, "annuals," it will be found that there is scarcely anything a gardener or amateur takes in hand that will more liberally repay care and proper cultivation.

The average amateur, and, I may as well say it as think it, nine out of ten professed gardeners, look upon annuals from such an obtuse angle that rarely do you see a genuine attempt to get the best results out of these most varied and in most cases elegant, not to say beautiful, denizens of our gardens.

For the hardy kinds—to scratch a seed-drill or circle in the soil of the border or bed, or to sow the seed broadcast, and then rake in, constitutes the total that is supposed to be necessary to get a good result, the young seedlings come up, and then are left to take care of themselves. It may be, if the annual sown is what is termed half-hardy, that the seed is sown in a box or pan, and placed to germinate in a hot-bed, or on a shelf in the greenhouse, but even then eventually the poor tender nurselings are left till they being sown thicker than should be, become drawn, and get woody and hard, while the pan or box gets full of roots; and when the time comes to transfer the seedling plants to the beds or borders, they are sickly, spindly, and showing immature buds or blossoms—in fact, they are only fit to be put on the rubbish-heap, as they cannot now repay further trouble, and if planted out will only lead to disappointment. Poor things, they are "ill done."

But let us look on the opposite of this. I have in my mind's eye a young man, whose ambition and desire it is to neglect nothing he has under his care; and who, like the deacon's wonderful chaise, has no weak point, a maxim with him being, and it is a capital one—"Worth doing, worth doing well."

Beginning at the foundation, he treats his soil to a generous coat of half-decayed dung, leaving this on all the winter, and then digging it in. As soon as the soil has "sagged," i.e., settled down to its usual level, selecting a dry and still day, he just stirs the surface with the Dutch-hoe, and then drawing a drill, of a depth adapted to the size of the seed to be sown, he commits the wonderful germs to the care of mother earth, rakes in the soil carefully, and then gently treads the earth firm around and above the seed. If the weather be warm and showery, the minute cotyledons (seed leaves) will soon appear above the surface, and continuing growth will be rapidly followed by the true leaves. Now the first thinning is made; and after this is done, should the weather be dry, a slight watering with a fine-rose pot will again settle the disturbed soil, and give the young nurselings a further impetus to grow. Room to develop themselves fully is thus secured, and the greater distance in reason the plants remain apart, the better the final result. The last thinning may be made when the first buds appear, when, if these directions are followed, the seedlings will be sturdy, evenly balanced and grown, and able to take care of themselves, rarely needing any sticks or ties.

The grower will now be rewarded by plants amply clothed with healthy, well-developed foliage, making them even at this stage pretty objects, for the majority of hardy annuals have elegant foliage. When, however, they flower abundantly, with each flower well developed, the ample reward for all the care will be reaped. Many who never saw annuals so grown will be astonished, and all will at once concede that they are "well done." The dwarfed *Clarkias*, *Godetias*, crimson Giant *Mignonette*, *Eschscholtzias*, *Schizanthus papilionaceus*, &c., making single specimens 18 inches high and the same through; while such coarser-growing subjects

as the annual Chrysanthemums, Malope, Lavatera, Bartonia, Cacalia, Calliopais, Calendula pluvialis, Campanula macrostyla, Centaurea depressa, Entoca,

flower, and Whitlavia will range from 1 to 2½ feet. One can scarcely realise the vast difference in appearance they present when cared for, instead of



FIG. 102.—CIRRHOPTALUM ROTHSCHILDIANUM: FLOWERS BRIGHT PURPLE, WITH YELLOW MARKINGS. (SEE P. 603.)

Hibiscus, Emperor Larkspur, Love Lies Bleeding, Lupine (in variety), Martynias, Nemesia, Nigella, Shirley Poppy, Prince's Feather, Miniature Sun-

being neglected; on the one hand being really handsome, effective, and useful, but on the other little better than mere weeds. Thomas Bunyard.

THE WHEAT CROP OF 1895.

UP to October 20, 1894, on which day the experimental Wheat was sown, the autumn was favourable for agricultural operations. After that date much rain occurred in some parts and but little in others. The winter also was protracted and severe, and to a certain extent injured the Wheat plant.

The following Table shows, in the usual form, the produce of Wheat on the selected plots in the experimental field at Rothamsted for 1895, which is the fifty-second year of the successive growth of the crop on the same land. It also gives for comparison, the average produce of the same plots over 10, 33, and 43 years, 1852-94 inclusive.

YEAR.	Unmanured Plot 3.	Farmyard Manure Plot 2.	Artificial Manures.				Mean.	Mean of plots 3, 2, and 7, 8, 9 (or 10).
			Plot 1.	Plot 8.	Plot 9 (or 10).	Plot 16.		
BUSHELS OF DRESSED GRAIN, PER ACRE.								
1895.	10	43½	32½	40	32½	35	29½ (1)	
Averages:—								
10 years 1885-94	12½	38½	34	37½	36½	35½	29½ (2)	
33 years 1852-84	13	33½	32½	36½	36½	35½	27½ (3)	
43 years 1852-94	13	34½	33½	36½	36½	35½	27½ (4)	
WEIGHT PER BUSHEL OF DRESSED GRAIN, lb.								
1895.	62½	63½	62½	63½	63	62½	62½	
Averages:—								
10 years 1885-94	59½	61½	61	60½	60½	60½	60½	
33 years 1852-84	58	60½	59½	59½	58½	59½	59½	
43 years 1852-94	58½	60½	59½	59½	59½	59½	59½	
TOTAL STRAW, CHAFF, &c., PER ACRE, cwt.								
1895.	6½	31½	22	30	25½	25½	21½	
Averages:—								
10 years 1885-94	8½	35½	31½	39½	38½	36½	26½	
33 years 1852-84	11½	31½	83½	40½	41½	88½	27½	
43 years 1852-94	10½	32½	33½	40½	41	88½	27½	

(1) Equal to 31 bushels at 60 lb. per bushel.
 (2) Equal to 29½ bushels at 60 lb. per bushel.
 (3) Equal to 26½ bushels at 60 lb. per bushel.
 (4) Equal to 27½ bushels at 60 lb. per bushel.

The seed having been sown in October, the Rothamsted experimental crops suffered comparatively little from less of plant during the very severe weather in January and February. Following the much more than average produce of 18 bushels grown on the unmanured plot in 1894, the Table shows that in the present year the yield was only 10 bushels, which is considerably below the average yield of the plot. On the other hand, the land manured every year with farmyard dung gives this year a produce of 43½ bushels, of more than 63 lb. per bushel, which, if reckoned at 60 lb., is about 11 bushels more than the average of that plot; and the crop was generally selected by those who visited the field as much better than that by any of the other manures. The selected artificially-manured plots give in fact an average produce considerably below that of the dung; partly owing to injury in the spring to the plant on plot 16, which receives besides mineral manures a large quantity of nitrate of soda; and as happens in some seasons with such large applications of nitrate, the surface soil became very moist, and when it was rolled in the spring it clotted, and the result was injury to the plant, and defective growth, whilst the leaves had a very dark green colour.

The chief features of the experimental crops this year are high quality of grain, and a very small quantity of straw, and much the same may be said of the crops of the country generally. Whatever may be the actual weight of the bushel grown, farmers are in most districts required to deliver 63 lb., and fortunately this year a measured bushel will very frequently weigh 63 lb., and British grain will be in request by millers. The shortness of straw is, however, a great misfortune, especially since the value of the straw for thatching and other purposes, is stated to be a chief reason why many farmers continue to grow Wheat. As the average weight per bushel of the grain on our selected plots was close upon 63 lb., the average produce of 29½ bushels corresponds to 31 bushels at the official weight of 60 lb. In comparing the estimate of 31 bushels so arrived at, with others given respectively of weight per bushel, which this year would in many cases be as much as 63 lb., and in others perhaps reckoned at that weight, it should be borne in mind that such estimates would this year frequently represent about 1½ bushel more if reckoned at 60 lb. per bushel.

Adopting, for the sake of argument, the average produce of our selected plots as indicating the average produce of the United Kingdom, the question arises what will be the yield of the country, and what will be our requirement from other sources? A careful study of the climatic conditions of the harvest-year would point to the conclusion that they were at any rate not unfavourable for a full average crop of grain where the soil conditions were favourable. Indeed, the Table shows that without manure the produce was much



below the average, with farmyard manure much above average, with the highest artificial manure also above average, but with the others below average. It would seem that the result was much the same in the country at large; that is where the condition and the cultivation of the land were good, more than average crops have been obtained, and where they were bad there have been less than average crops. The very small area of Wheat grown this year is doubtless partly due to the wetness of the autumn; and if we knew how much was got in badly, or sown too late, we might be able to make a more confident estimate of the yield of the country. At any rate there is reason to fear that it will prove to be below the yield we have recorded.

Although there is at present more labour and time spent than formerly to ascertain the produce of our Wheat crop, the question as to who is to benefit from the information when it is obtained, must now frequently suggest itself to the reader of the reports. From the time our experiments commenced until comparatively recently, the yield of the home Wheat crop was an important factor affecting the supplies which we received from other countries; and the rise and fall in our own produce was watched with great interest by both home and foreign growers as well as by dealers. After the bad Wheat crop of 1860, the imports of wheat increased from 4½ million quarters in the previous harvest year to 10½ million in 1860-61; while after our great Wheat crops of 1863 and 1864, the imports fell from nearly 9½ millions in 1862-3, to a little over 7 millions in 1863-4, and to about 5½ millions in 1864-5. It will be of interest to show on the other hand how little the yield of our home-grown wheat influences the foreign supplies at the present time. The Board of Agriculture estimate of the yield of the Wheat crop of 1894 in the United Kingdom was 30.7 bushels of indefinite weight, which would probably represent about 32 bushels at 60 lb. per bushel, our own estimate being 33 bushels at 60 lb. per bushel. As the imports with which we have to compare the home produce are reckoned at 60 lb., it will be more convenient to adopt by way of illustration our own estimate, which was obviously not much higher than that of the Board of Agriculture would be at the same weight per bushel. Now, deducting 2 bushels per acre for seed reckoned on the area of the 1894 crop, we last year estimated that 7½ million quarters would be available for consumption from the home crop, and that rather more than 21½ millions would be required from stocks and imports, to meet the requirement for consumption at 6 bushels per head, and that the total requirement so estimated would amount to 29½ million quarters. But the actual imports within the harvest year 1894-5 were nearly 24½ million instead of only 21½ million quarters, as estimated to be required. According to these figures, the total available supply from home and foreign sources would amount to about 32½ million quarters, leaving a surplus of more than 3 million quarters to be otherwise consumed or to be added to our stocks. We now know, however, that the area under the crop in 1895 was more than 500,000 acres less than in 1894, upon which the above calculations are founded. Adopting the number of acres now recorded as under the crop in 1895 (though it is said that some which was sown was afterwards ploughed up) the amount required for seed was less than was last year estimated, leaving of course more available for consumption; and if we assume the previous calculation to be so corrected, the result would be that the total available supply from home and foreign sources would amount for the last harvest year to 32½, instead of 82½ million quarters, and the surplus would be rather more than 3½ million quarters.

It may be stated that our imports of Wheat last year reached an amount equal to feeding five-sixths of our population. With favourable seed times, our own area under the crop may indeed increase more or less beyond that of the past year; but unless growers over some large areas of the world find that it does not pay them to deliver Wheat into our ports at the prices current at the time, our own growth of the crop cannot be expected to show much life, or to be the important factor in British agriculture which it was before the severe competition of foreign producers in recent years. *J. B. Lawes, Rothamsted*
October 31, 1895.

BERLIN.

GERMAN v. BRITISH CYCLAMENS.

At a recent meeting in Berlin there were exhibited Cyclamen persicum grown from English seeds. Besides these, some German sorts of the same plant were exhibited. The English sorts were the following:—*C. persicum* hybr. and *C. p. h.* purple, from Messrs. H. Cannell & Sons of Swanley; *C. p.* Crimson Queen, Duke of Connaught, *giganteum roseum compactum*, and *Rosy Morn*, from Messrs. Carter & Co., London; *C. p.* Brilliant, *Crimson King*, and *Mauve Queen*, from Mr. George Reid of London. The German sorts were:—*Käthchen Stoldl*, pure white; *White*, with carmine eye; *Rosa*, from Marienthal, and a bright dark-purple form from Mr. C. Stoldl at Hamburg. The plants were grown by a Cyclamen specialist, M. Schwarzburg, at Pankow, near Berlin, who grows every year at least 4000 to 5000 plants. The object of the exhibition was

to ascertain whether the English sorts are so much better than the German ones, that it would be desirable to introduce English Cyclamen blood into German cultures. A year ago similar trials were made with English *Primula chinensis*, which gave the results that the English sorts were in some ways much better than the German ones. This I mention to show that the German gardeners do not hesitate to acknowledge the best even when it come from abroad, and that they by no means assert that all German things are best. On this occasion not one of the English Cyclamens could rival the German varieties; indeed, the flowers were so little satisfactory compared with those of the German sorts that they would rank after all others. But not only were the flowers compared, but also the leaves. I do not know whether in England sorts with self-coloured leaves are preferred [No]. Here, in Germany, leaves are desired which have a rich marbling; the more they resemble those of *C. hederifolium* the higher they are valued. The English sorts were robust and very healthy plants, but the foliage was green, and therefore also, like the flowers, of less value. As Mr. Schwarzburg remarked, the reason for the superiority of the German sorts is that German Cyclamen growers do not buy their seeds, but raise them themselves. They select from their whole stock of many thousand plants only some twelve to twenty plants, for seed-growing. By regular selection during many years, they have raised sorts which are accounted excellent for their pure colours (the English sorts by no means showed this quality), for their very large size (the German sorts are mostly about one-third to one-half larger than the English ones) [!], for the good bearing of the flowers, and for the good colouring of the leaves, which are also of good habit. Mr. Schwarzburg said it may be possible that English growers have a different method of cultivation to that of the German gardeners, and that he would much like to learn the English plan, so as to make a further trial. During the debate a seed merchant, who is also a specialist in Cyclamen culture, Mr. Van der Smissen, of Steglitz, near Berlin, remarked that there are in Germany four centres of Cyclamen culture—Berlin, Hamburg, Frankfurt-on-Maine, and Dresden. The latter place produces sorts which differ notably from those of the three other places. He remarked also that the German seeds cost about one-third less than the English sorts. Whilst among the above-named English sorts are some, of which a thousand seeds cost £3 15s., the best German sorts cost £1 per 1000 seeds. To these general remarks, your correspondent would add a hope that English Cyclamen growers will visit the great international exhibition in the spring of 1897 at Berlin, where they may show what first-class English-grown Cyclamens are. Perhaps some English Cyclamen growers will be kind enough to send some good flowering specimens now, that they may be compared with ours. Should it interest any of the English growers to learn how Cyclamens are cultivated here, I shall be glad to give information. Plants with 100 and more flowers are by no means rare. Only by interchange of knowledge is progress possible. It is not for one or another to hold a monopoly, but it is for all gardeners to make use of the experiences of the successful ones. That is why it is so much wished that English gardeners should come to the large exhibition with their products. We shall learn from them, and we also can promise that English gardeners may here learn a few things from us.

The autumn here is this year quite an abnormal one. Curiously enough, though the average day temperature for some weeks has already been above the normal one, a great many trees and shrubs are still green, a fact quite unprecedented here at the beginning of November. In many places *Dahlia variabilis* is still flowering in the open air, whilst in other years these plants are killed by frost four weeks earlier. The reason is, that we have not yet had a severe frost, and that the plants are gradually accustomed to a lower temperature. It would be interesting to

try if plants grown from seed which ripens now, would be more resistant to our climate than the mother plants. A plant that very seldom fruits here is *Sophora japonica*, which this year bears much fruit; whether these will ripen is another question. *Paulownia imperialis* has flowered here this year, also a very rare occurrence. I do not know whether it has ever done so before.

Chrysanthemum nipponicum is a plant that some time ago was sent over to us as a very fine novelty. It is in flower here now, but it is worth nothing. The plant itself, with its thick fleshy leaves, is interesting, but the flowers are not good.

Saintpaulia ionantha, or, as it is called here, the Violet of Usambara, is, on the contrary, a most delightful and very satisfactory plant. Seedlings raised in January were in full flower in June, and are still flowering now, Nov. 1, in my room. Certainly this Gesneraceous plant is one of the best novelties brought forward of late years. Besides seeding freely, it is easily to be propagated, like a *Gloxinia*, by leaves. The culture is quite easy. It is to be hoped that East Africa, especially Kilimandzaro and Usambara, will furnish us with some other worthwhile plants for our gardens. Prof. Volkens, who has lived for one and a half year on Kilimandzaro at an elevation of 1550 mètres, at Maraungu, showed at the last meeting of the Berlin Horticultural Society, a good many most interesting plants, which grow at an elevation of 4000 mètres and higher, and which would be quite hardy here also. The most interesting one was a new species of *Rubus* of the Blackberry group, with fruits 2 inches in diameter, and of a yellow colour. Also a new *Anemone* is very remarkable. Very large is the number of Monocotyledonous plants from Kilimandzaro which are worth growing by us. Amongst the Polygonaceæ, the most remarkable is *Rumex nervosus* var. *usambarensis*, a climber with stems 8 inches in diameter, with enormous pure purple fruit-stalks. It grows at an elevation of 2800 mètres. The Kilimandzaro plants are of the highest value, especially for English gardeners. Professor Volkens remarked that for eight months the sun is not to be seen, because clouds, and fogs, and rains darken the sky. The rains are not thunderstorms, as in other tropical regions during the rainy seasons, but mild rains. The total rainfall observed during one year, at an elevation of 1550 mètres, was 1900 mm. The highest temperature is not equal to that which we have in the summer months. Potatoes grew very well, also all our other vegetables. Vines do not ripen; it is possible that the damp is the cause of this. Barley grows very well; but when the main stalk begins to show its ear, the plant ramifies, and young shoots grow up, so that afterwards all stages, from young shoots to ripe ears, are on the same plant, which gives much trouble in harvesting. Professor Volkens thinks that this may be altered by selection of the plants and by raising local sorts *U. D., November.*

FRUIT GROWING FOR SMALL GARDENS.*

First, having settled upon the size of the plot of ground we can spare for growing Apples and Pears, the next point to decide is what shape our trees shall take, as the number of trees to be planted in a given plot will depend upon their shape; then, having finally settled upon the number of trees we are able to plant, the next most important step to decide is the kinds to grow, and in what proportion. This we shall find a most difficult task, for, although we may know of several good kinds ourselves, it will not help us much, as most of these are grown entirely for the markets in large orchards, and are wholly unsuitable for growing in small gardens, owing to the large size the trees attain, besides which many of these orchards have been planted for the last generation or so, and other kinds of better flavour, and better keeping qualities have superseded them. As an instance, we probably all of us know what a good

* Extracts from a Paper read before the Streatham Hill Agassiz Society, on Oct. 25, 1895, by Mr. J. C. Waltham.

Apple a Blenheim Orange is, and I have known several, for this reason, who have grown it without making any enquiries about it, and have been terribly disappointed, for the Cox's Orange Pippin has entirely taken its place; first, because it comes into bearing when only three to four years old, whereas the former cannot be got to bear until it is fully twelve years old; and, secondly, it bears more regularly, and keeps a month longer and better than the Blenheim Orange does, and without doubt is a far superior Apple all round. Again, if we look through a catalogue, we find some 150 to 200 apparently more or less good varieties, so that we do not get much information from this source. By far the best plan, when it can be adopted, is to go to a good grower, and get him to give you a sample or two of each of the best kinds ripening each month, and most suitable to the growth of trees you propose to plant; by this means one is able to judge for oneself of the quality of the fruit, and suit one's own individual taste.

TRAINING.

There are some five or six methods in general use for training the trees. First, we have the orchard standard, which, owing to its size, is quite unsuitable for small gardens, as they not only take away too much nutriment from the ground, but prevent light and air from getting to the plants, &c., in its vicinity. As it does not come into bearing until some five or six years old, the amateur standard is not infrequently grown. It is similar to the above, but the straight stem is covered with short spurs, which are allowed to produce fruit until the upper portion of the tree is in full bearing, when they are cut off, thus giving us a bearing tree some two or three years earlier.

Where space in a small garden is very limited, the walk is often bordered by espaliers; these are trees grown on a straight stem, with branches about 9 inches apart running at right angles to it in the same plane, and are trained and kept into position by being fastened to wires stretched from post to post. They usually bear well, and if heavily laden, there is no chance of the branches being broken, nor is the fruit so easily blown off in a high wind; but the greatest objection to this method of growing trees is that it screens the garden far too much from light and air, and plants will not thrive unless there is plenty of air passing through a garden; in fact, they act, in this respect, as a second wall to the garden, as the branches are so close together. Many Apples and Pears will do very well on this principle when grown against a south or west wall, but are very liable, when the stalks are long, to get damaged by rubbing against it; besides which, the sun can only get at one side of the fruit, and the branches are reduced in bearing surface by exactly a half, as those buds next the wall cannot, of course, come to maturity. Such trees should be planted about 15 feet apart, and should never be tied permanently to either wall or wire until they have been in the ground for some four to six weeks, and have had time to thoroughly settle, as otherwise many of the smaller branches will probably become damaged through the strain put upon them by the tree sinking. Trees are also grown against wires or walls in the shape of fans, but there is more trouble in training these than espaliers, and they do not cover a given surface so well and evenly as the former do. For Gooseberries, Cherries, Peaches, &c., this method is, however, more suitable, as the growth of these kinds of fruit trees is not so robust as with Pears and Apples.

Borders are sometimes edged with trees in the form of a letter T, the two side branches forming the top of the T are fastened to a wire about 9 inches to 1 foot from the ground. But these are not much good, as they have to be transplanted so often to prevent them cankering; they are also very liable to be choked by surrounding plants, and the fruit and wood do not become properly ripe. They should be planted about 12 feet apart.

Hedges are made of cordon trees about 2 feet apart, which are also used for covering walls. These are trees with straight stems upon which no branches

are allowed to develop; so soon as the would-be branch is about 6 inches long it is cut, and not allowed to grow any longer, thus the stem in time becomes thickly studded with spurs, as they are usually called, upon which the fruit is borne. They have to be continually transplanted, unless they are allowed to grow to a great height, otherwise they grow too fast and will canker through being pruned so much to keep them within bounds. It is a growth of tree which is not to be recommended except under special circumstances, such as a high narrow wall where no other kind of trees would be suitable, or where several kinds of fruit are being tried for experimental purposes and little room can be given to them. They are usually grown in an oblique form, so that the fruit hangs away from the stem as much as possible; they sometimes take the form of the letter U.

We now come to the bush tree, which requires but very little attention, fruits well, but is very liable to spread about too much for a small garden, but there are a few kinds of fruit that will grow in no other way; when such kinds are required, there is no other alternative than to grow them in this form. (That now before you is a Jargonelle Pear about fifteen or sixteen years old, bears regularly every year, and has only been transplanted once during that time.) If they are planted closer than 4 to 5 feet apart, they would require to be taken up every three or four years.

The best of all trees, and undoubtedly that most suitable for small gardens, is the pyramid. This tree has a straight stem through the centre, with the branches radiating out from it on all sides, and when once fairly started, will keep growing in this shape with but very little trouble and attention other than pruning regularly twice a year. These trees, if not allowed to grow too thickly, produce the finest-flavoured fruit that can be got, and, if proper sorts are grown, will fruit regularly every year. The plan I myself adopt is to plant them 5 feet apart all ways, and not allow any branches to grow lower than 12 to 15 inches from the ground; dwarf Beans, Peas, Spinach, Lettuce, &c., are then grown in rows between them.

Having decided upon the shape of the tree we wish to grow, the next point to settle is whether we will graft our own, buy young trees, or those which are already set with fruit-buds.

GRAFTING.

Grafting is very interesting work, but not to be recommended except for experimental purposes, as one-year-old trees, or "maiden," as they are termed, cost only 10s. to 1s. 6d. each, and will commence to fruit in two or three years; fruiting trees cost from 3s. each upwards, and will bear the next year if kept well watered during the dry season, thereby saving both time and labour. It may not, however, be out of place here to describe the method of grafting. Young well-rooted trees about the size of one's little finger, usually known as stocks, are procured from any grower, and when well-established, are cut down in an oblique form to within an inch or so of the ground, the cutting or scion is taken from the tree just as the sap is rising, and also cut in an oblique form, the two freshly-cut parts are then bound tightly together, care being taken to see that the bark of one is touching the bark of the other, so that the sap which rises between the hard wood and the bark can make an easy passage through from one to the other; it will not matter if the barks on the opposite side do not touch, but the nearer they are the better. Clay, well-kneaded with horse-hair, is then packed closely round the joint in the shape of an egg to keep the air out. If this is covered over with a Rhubarb leaf it will allow it to dry more gradually, and probably prevent it from cracking; all cracks must be filled up as soon as they appear. Various stocks are used according to the tree which is to be grafted on to them. Apple is grafted on to Quince, Pear on to Paradise, and Cherry on to Mahaleb, Plum on Mussel. Old, worn-out trees can profitably be made use of by cutting back half the branches to within 6 inches of the

stem; on to these are grafted some two or three scions. The year following the other half should be cut back and grafted in the same way; they not unfrequently commence to bear the next year.

PLANTING.

As the future of the tree depends largely upon the way it is planted, too much care cannot be expended upon this. The holes to receive the new trees should be dug some time before they arrive, so that the earth can be got into condition by allowing it to absorb as much oxygen as possible; and it should be only just as deep as will allow the tree to be buried to the same depth as formerly, but must be large enough for all the roots to be laid out straight on all sides. Care should also be taken that the roots do not become dry or touched by the frost during removal; and before they are planted all damaged roots should be trimmed with a sharp knife, otherwise they will become diseased and will injure the tree. Before planting, tie the upper fibrous roots around the trunk, then place the tree firmly in the centre of the hole, spread out the lower roots evenly all round, and if large and stiff, stake them in position should this be necessary; work in loose earth around and between them, fill in to the upper lot of roots and tread down lightly. The upper roots should now be untied, laid out all round, and covered with loose loam, to which a little lime has been added, and the whole trodden firmly down. When a second person's assistance can be procured to keep the tree straight, it will make the work all the easier. If the trees are received from the nursery directly the leaves have fallen, and at once planted, they will get thoroughly settled in by the autumn rains before the frost comes, and will commence growing as soon as the other trees do in the spring, and will then experience hardly any check at all, which they would do if planted in the spring.

As the woolly aphis or American blight is about the only enemy which attacks Apple trees, I might just say here that the best way to get rid of it is to brush the part affected with a hard paint brush dipped in a weak solution of paraffin and water.

PRUNING.

Trees, like children, to be properly trained, must be taken in hand when young, and although we can follow a general routine in cultivating them, yet the details of their cultivation must depend, in each case, upon the individual variety. For instance, some varieties grow very erect, and if allowed to continue in this form will choke themselves, produce very little fruit, if any, and this of a very inferior quality. But as our object is to get open trees so that light and air can get at every part of them, it would be no use in this case pruning to a bud on the inside of the branch, as the last bud always forms the leader for the next year, and would therefore grow directly into the centre, and the tree would be still more crowded; we must therefore prune to buds on the *underside*, and the branches will then grow outwards and away from the centre. Again, some kinds have a propensity to droop their branches, so that if the last buds left are under ones, as in the former case, they will very soon grow down to the ground; in this instance a top bud must be left to continue the branch. When the branch is sufficiently long to allow of its being duplicated at the end without fear of crowding, it should be pruned to a point where the last bud is on one side, and the next one is exactly on the opposite side; these two buds can then be allowed to grow, and will form a V at the end of the original branch; but when the two ends of the V are about 1 foot apart, the direction should then be again altered into a parallel direction by pruning to an inside bud on each arm. The aim always to be kept in view being, never to allow the centre or any part of the tree to become crowded. As a general rule, the last three buds on a branch will shoot out and form new growths, while the remainder, if the tree is healthy and not too vigorous, will develop into fruit buds, so that with this knowledge in view we can always prune our trees to form branches in whatever direction we like. It is a

moot point as to when trees should be pruned; some say during summer and autumn, whereas others do not agree with this, affirming that the tree is harmed thereby, and that all pruning should be left till the autumn; again, those who advocate spring pruning give it as their opinion that the newly-cut parts are liable to be injured by the frost coming before they have time to heal over when carried out in the autumn.

There is no doubt that there is some foundation for all these assertions, but, on the other hand, if the pruner has a little common-sense and judgment, they can all be overcome. Naturally, if the tree is pruned all over at the end of June, it is, as it were, suddenly thrown out of gear, as there are no free channels for the sap to flow through, and no doubt a great deal of injury will be the result, but the method I myself have pursued, and with the best results, is to prune only the side-shoots back to two eyes, and not touch the end shoots at all. The sap, then, is checked but very little, and the surplus which is not required for continuing the branch onwards flows into the fruit, which is then large enough to take almost any quantity, and the two buds in most cases will lie dormant, and form fruit-blossoms for next year; if, however, there is not sufficient fruit on the tree to absorb this surplus sap, only the upper of the two buds will shoot, and must be cut back in the autumn to two buds again, while the remaining bud will be sure to develop into a fruit-bud. Here, then, is a distinct gain of one year, for if the shoot had to be left till the autumn to be pruned to the two eyes, it would then have been far too late for them to develop into fruit-buds by the following spring; the remainder of the tree is then pruned in the autumn directly the sap has ceased to flow, and the newly-cut parts will dry before the frost comes on, when no harm will result. When the tree is in the condition it should be in, hardly any pruning will be necessary, other than cutting back the new wood at the ends of the branches to 6 inches from the start. There is still another advantage in summer pruning that should not be overlooked, and that is, that light and air will more freely circulate in and about the tree, and its bearing properties be considerably increased through the wood being ripened, that is becoming hard through the sap being, to a certain extent, dried up, and the fruit is better matured.

SELECTION OF VARIETIES.

As already pointed out, a difficulty that always arises is the choice of varieties most suitable to small-growing trees, and therefore a little guidance as to the best kinds to grow will not be out of place. Tastes vary very considerably; but for my own part, I prefer Apples which are crisp, juicy, and sweet, and with the later kinds, good keepers, and not liable to get woolly (early kinds should invariably be eaten direct off the trees, as they soon lose their freshness); in the case of Pears, they should be luscious, juicy, and remain ripe for some time before going rotten or sleepy.

The following varieties of dessert Apples fulfil the above conditions as nearly as possible, are reliable and constant croppers, and will give a continual supply for ten or eleven months, viz.:—August, Devonshire Quarrenden (which, however, will not thrive in cold, damp localities) (Irish Peach)*; September, Worcester Pearmain (Lady Sadeley); October, Mother; November to January, Cox's Orange Pippin (King of Pippins); February to June, Starmer Pippin; April to May, Allen's Everlasting. Should only one be required, Cox's Orange Pippin should be grown in preference to all others, as it keeps so long (November to January), bears well, and is of medium size. I have had over thirty good-sized fruits on one of these trees when only four years old. Although the above list is very condensed, I consider it far better to plant several trees of a small number of varieties, provided they are good kinds and constant bearers, than few trees of several varieties. Highly-coloured Apples, grown prin-

cipally for show, are usually soft and woolly; some, however, prefer them.

Cooking Apples are usually so cheap, that they are hardly worth growing, unless one has plenty of room; but the following varieties are good bearers, and worth growing where practicable:—August to September, Duchess of Oldenburg; September to October, Lord Grosvenor; October to January, Bismarck; (November to December, New Hawthornden), (November to March, Wellington); November to April, Lane's Prince Albert. As Apples are dearer in the spring of the year than during summer, Lane's Prince Albert should be grown in preference to the others, where all cannot be grown, as they give a supply from November to April (six months).*

(To be continued.)

FORESTRY.

THE EDUCATION OF THE FORESTER.

MR. FORBES' letter on this subject in your last number raises a question which has often been discussed in your columns before, but seldom with any practical result. It is perfectly true that, with the exception of a few great estates in Scotland, a few Royal and Government forests in England, and here and there a property whose owner is in the happy position of being entirely independent of the income derived from it, there is no such thing now-a-days as scientific forestry in England, no demand for scientific foresters, and, as far as I can see, no reason why there should be. The reason is a very simple one. Scientific forestry does not pay. Royal Commissions may be appointed, and schools of forestry instituted, lectures and articles on the subject without end may be written, but all will be perfectly useless, because the people who have to manage properties know that the whole thing is purely speculative, and in my humble opinion there is far less opening for scientific wood management or forestry than there was a century or two centuries ago, when, if there were not many scientific foresters, there were plenty of excellent woodmen who knew their business and did it. In those days there was some certainty of a fair return for their labour and outlay. Now there is none. If any one can show a profit-and-loss account of the woods and plantations on any property in England which during the last ten or twenty years have been so managed as to pay a fair rate of interest on their original cost, it would do more to encourage scientific forestry than all the talking, lecturing and writing in the world; but either such a thing does not exist, or the conditions are so exceptionally favourable that they are no guide to ordinary practice. Is there any sort of timber or wood product which cannot be produced in some other country far cheaper and in many cases better than in England? If so, I have not discovered it, and I have seen more of the forests of North America, Europe, and India, than nine out of ten of those who talk about scientific forestry.

There was one tree which for a long time did seem as if it would prove a source of profit to many English planters. I mean, of course, the Larch; but what is the present condition of half the Larch plantations in England under twenty years old? and what have the scientific foresters done, or what can they do to stop the progress of a disease which seems to be spreading and increasing everywhere? As far as my experience goes, absolutely nothing.

Mr. Forbes says very truly that the majority of British woodlands owe their existence to the game they harbour, and I believe it is a literal fact that the most scrubby, ill-manged, neglected woodlands, if well situated for game preserving, are worth far more to-day to sell or to let, and give more satisfaction to their owners than the most scientifically-managed forests where there is no game.

* The paper was illustrated with practical demonstrations of the various methods of grafting, samples of well and badly-grown branches, besides a good collection of the above-named fruit.

Another reason for the neglect of forestry in England is the absence of any certain market for the produce. It is true that the owner of a large quantity of clean, sound timber not too far from a good road, and a manufacturing or mining district, may get a price of some sort for it; but what can the average English landowner get for the few scores or hundreds of trees that he has to cut from time to time? What can he get for his bark or his underwood compared to what he got in bygone times?

As a rule, he only cuts heavily when he wants money badly, and in ordinary times cuts only what he wants for estate purposes, firewood, fencing, and so on. He could very often buy it better and cheaper, but he does not like to turn his woodmen off, and at any rate the money stays on the property. But he hates the very name of a timber merchant, who is most difficult to deal with in such transactions as an average landowner has to do with. If he can get enough out of his woods to pay expenses, and the young trees which he plants are not totally crippled or destroyed by rabbits, drought, spring frosts or insect pests, he thinks himself lucky, and though he may plant for ornament or shelter, he now hardly ever plants for profit.

I have often thought that a time must come when the price of English timber will rise considerably—and no doubt this time will come; but whether the successors of the men who planted it will get any adequate return for its original cost is as much a matter of speculation as the price of coal a hundred years hence. The finance bill of last year has done more to check scientific forestry, or any other so-called improvements of the kind which English landowners have hitherto done so much of, than the supporters of the bill have any idea of. When they have starved out the land-owner they will want the State to do what he used to do, but the goose will be killed by that time, and it will be too late to cry out. *H. J. Elwes, Colesborne, Cheltenham.*

WEST INDIAN PLANTS.

CYRTOPODIUM WOODFORDI, Benth. (CYRTOPERA WOODFORDI, Lindl.).—In one or two districts of Grenada this Orchid is fairly common. Along the roadside on stiff loamy soils it grows naturally, and also near at hand oftentimes its greenish-purple scapes may be observed quite at home in swampy flat patches of land, peering out of the Sedges and other swamp-loving plants. Its leaves simulate *in situ* somewhat those of a common Grenada grass, namely, *Panicum palmifolium*. I am told by an old white settler—one C. W. Prosin by name—that the lower portion of the plant yields a viscid sap, by whose aid broken wares may be repaired. Grisebach records (at p. 630) in his *Flora of the British West Indies*, upon the authority of Craeger, that in colour the flowers are "white, with a yellow spot on the lip." This reference seems to me to raise a doubt as to whether Craeger did not mean *Cyrtopodium cristatum* of Grisebach instead, for—if my memory serves me correctly—this latter terrestrial is a pure white with a yellowish tint somewhere about the flower. When I saw it growing in the Aripis savanna of Trinidad (B. W. I.), about three years since, it brought to mind the Lily of the Valley. Our Grenadan *C. Woodfordi* certainly shows no tendency to white; but, on the other hand, is decidedly of a brownish green-purple colour. When collecting herbarium material last year, I noticed the flowering stem to be succulent and pliable, and the leaves brittle. It flowers during the months of August and September, and possibly October. *W. E. Broadway, Botanic Garden, Grenada, B. W. I.*

POLYPODIUM (EUPOLYPODIUM) XIPHOPTEROIDEFOLIUM, Jenm. n. sp.

Stipites tufted, wiry, filiform, stiffly erect, brown, naked, slightly scarious, margined to the base, $\frac{3}{4}$ to $1\frac{1}{2}$ or inches long; fronds bipinnatifid, firm, erect, dark green, naked, 4 to 6 inches long, $1\frac{1}{2}$ to 2 inches wide, suddenly reduced at the base to minute deltoid spur-like segments, the apex terminating in a pinnatifid pinna 1 to $1\frac{1}{4}$ inches long, broadest at the base, but otherwise similar to the lateral ones; pinnae spreading, linear, $\frac{3}{4}$ to $1\frac{1}{4}$ inch long, $1\frac{1}{2}$ to 2 lines wide,

* Those in parentheses give a more extended list of good kinds.

broadly adnate and narrowly decurrent, forming a slightly interrupted wing to the brown wiry slightly flexuose rachis, terminating in a minute obtuse lobe, cut two-thirds to the dark filiform mid-vein into obtuse obliquely deltoid decurrent segments $\frac{1}{2}$ to $\frac{3}{4}$ line wide and deep, with an open, oblique, sub-acute sinus between; veins simple or forked,

the latter abruptly pass. Though the fronds are larger, the pinnae are only half the number of those of *melanotrichum*. The cutting of the pinnae is exactly like that of *Xiphopteris* fronds. *P. achilleifolium*, Kaulf., of Ecuador and Brazil, is the only other species of this small group. *G. S. Jenman, Demerara, Oct. 24, 1895.*

Winton, and represents a specimen of the Banks' Palm-lily planted as a seedling on the Island of Ulva, Paterson's Inlet, Stewart Island, by the late Mr. Charles Traill in 1888, and flowering for the first time in 1894. Its present height from the base of the stem to the apex of the panicle is about 11 feet; the leaves are between 5 and 6 feet long, and about 3 inches broad in the middle, being narrowed into a rounded leaf-stalk, which becomes slightly expanded at the base; a longitudinal red band runs down the middle of most of the leaves, and increases the beauty of the plant. The huge open panicle, which in old plants is drooping, and often from 7 to 8 feet in length, is characterised by the long, slender, and rather distant branches usually forming a right angle with the rachis, and is at once singular and beautiful, resembling a large specimen of ramifying white coral. The common Palm-Lily, *C. australis*, differing in its short stiff leaves, and smaller more compact panicles; although scarcely less beautiful than *C. Banksii*, is certainly less graceful, and presents a strong contrast with that species, while it attains a much larger size, specimens 60 feet high, with a trunk 6 feet in diameter, being occasionally observed; *C. Banksii* rarely exceeds 10 feet in height. *C. australis* is distributed throughout the Colony from the North Cape to Stewart Island, but *C. Banksii* is only found in the North Island, and in the northern part of the South Island as far south as Westland. Stewart Island is separated from the South Island of New Zealand by Foveaux Strait, and has a very interesting flora, containing many endemic plants of great beauty; its climate is mild and remarkably equable. Although the atmosphere is almost constantly saturated with moisture, the actual rainfall is scarcely larger than that of Cook Strait, say about 42 inches per annum.

An account of its flowering plants and Ferns was published in the *Transactions of the New Zealand Institute*, xii. (1888), pp. 213, 234. Stewart Island is of especial interest as forming the extreme southern limit of arborescent Ferns, which extend to the South Cape, lat. 47° 20', instead of to 45° 50', as usually stated in our text-books.

The tree Fern on the right hand side of the drawing is *Dicksonia squarrosa*; the trees shown at the back are the Kamahi, *Weinmannia racemosa*, *T. Kirk, Colonial Museum, Wellington.*



FIG. 103.—CORDYLINÉ BANKSII, ON STEWART ISLAND.

not excurrent; sori terminal on the short spur-like anterior branch, one to each segment.

Gathered in Cuba, by Eggers, matted with other species, and apparently not detected. Near to *P. melanotrichum*, Baker, of Roraima, British Guiana, but distinguished by the obtuse—not finely subulate—final segments, forked veins, the sori on the short, nearly basal spur, much longer petioles, with minute spur-like segments apart near their top, darker colour, and the distinct terminal pinna similar to the lateral, and into which

CORDYLINÉ BANKSII, ON STEWART ISLAND.

This fine "Palm-lily" is one of the most beautiful and interesting plants in the New Zealand flora. Although occasionally cultivated in the southern portions of the British Isles, it is not so well known as it ought to be, from the beauty of its inflorescence, and the picturesque effect of its long drooping leaves. The drawing presented herewith, fig. 103, is from a photograph taken by Dr. J. R. Riley, of

VEGETABLES.

KITCHEN GARDEN CROPS IN 1895.

We may now compare notes with previous years, and it is well to do so for future guidance. In this district we suffered somewhat severely from the extreme cold in February, not only so, but the ground was rendered unworkable till quite late, which prevented us from getting many of the crops sown and planted at the time we should have preferred. April was a somewhat cold month, there being only one night throughout it in which the thermometer registered over 45°, and only two days that might be considered hot, or when the thermometer in the shade registered as many as 70°, the consequence being that vegetables made but slow progress during the whole time, and this, together with the drawbacks of the previous two months, began to make things look rather serious. May was a very dry month, when only 0.14 of an inch of rain fell with us, the same being the case in June, when 0.36 fell, while July was by far the wettest month of the whole year.

Asparagus was by no means so plentiful as in some former years, while Peas suffered so much from the slugs in April, that they made but a poor show for a long time, and were therefore much later than usual. Many of the varieties, however, did exceedingly well, even till the end of the season; particularly fine were Sutton's Late Queen, Veitch's Main Crop, and Eckford's Memorial. Cauliflowers got well established during the showery weather in April, and these produced heads, the like of which

we have seldom had, all kinds being satisfactory alike. The first to turn in were Early Forcing from seed sown in pans early in January, and these were followed by Walcheren that had been protected in a cold frame during winter, and planted out in the open quarter at the end of March; after which Mammoth and Autumn Giant that were raised on a slight hot-bed and planted out in April, the roots having time to take a good hold of the soil before the hot weather set in, and on that account, they did not bolt as did some of the summer varieties planted out at the same time. We can therefore recommend this plan to others situated like ourselves with a certainty of success. Root crops of all kinds are very good this season. Carrots are excellent, particularly those that were not sown till late. With us, Carrots sown about the middle of June will usually grow large enough even for exhibition by the end of September, and finer samples need not be than those sown at that date this year, the bountiful showers during the latter part of July being just the thing for them. Seed sown during the second week of that month on ground that had been cleared of an early crop of Potatoes, have produced a fine sample of useful roots. Those who are troubled with the Carrot-maggot, and have to find supplies to carry them on through the winter, would do well to adopt this plan. For these late sowings we use Model, Intermediate, and Gem. Beet-root that were sown early have grown far too coarse, being more of the stamp of Mangel Wurzel. Those who have good ground would do well to confine themselves to growing the dark-leaved kinds, which need not be sown before the end of May or early in June. Seakale Beet is one of those useful vegetables not so well known as it deserves to be, for at this season of the year, when both Beans and Peas outside are over, and before forced Asparagus and Seakale come in, there is always something needed for a change, and few vegetables than this, particularly if a good strain be obtained, the pearly-white leaf-stalks being very tender. Globe Artichokes have done well this autumn, and continued forming heads from young plantations till they were cut down by the frost, which, with us, was very severe for about a week, there being 14° registered on the night of October 26, and 11° and 10° the two following mornings. Jerusalem Artichokes, especially the white variety, have grown very strong, and will, no doubt, prove useful during the coming winter.

Turning to the winter green crops, Brussels Sprouts form the principal, as these continue to give a supply during bad weather, when Broccoli outside are cut down. There are now so many fine varieties that it is difficult to say which is best. Those, however, who have good ground would do well to grow the smaller kinds, unless the others are planted late, as they grow far too large. With us it is seldom that Brussels Sprout seed is sown before the second week in April, and then a north border or open quarter is selected on which to sow it, otherwise the plants would be too forward. Plenty of sprouts are then usually ready for use by the time Peas and Beans outside are getting over. Celery is a vegetable so much esteemed in most places, that a good supply should always be had. Last winter, the one that withstood the frost best with us was Major Clarke; this fine solid variety when well grown, is hard to beat. Broccoli with us are not so good this season, the hot dry weather in September affecting them very much, and if we should have a severe winter, many of them will no doubt succumb. Borecoles are much more hardy, and on that account ought to find more favour in our gardens. There are some very useful kinds amongst these, such as Al, Arctic, Favourite, and Exquisite. Runner Beans have become so numerous that one would almost wonder how more can be added, but when we come to consider that half-a-dozen or so varieties may be had out of one pod, the marvel is that they are kept so true. A variety we grew this season under the name of Exhibition, produced an abundance of straight, well-shaped pods about 13 inches in length. We hope, therefore, to give it another trial next season. *H. C. Prinsep, Sussex.*

WALCHEREN CAULIFLOWER.

Although I have cultivated several varieties of Cauliflower for wintering in frames and for an early supply, I have so far found none to be equal to the Walcheren, and were I limited to one variety, I would give my preference to that one when true. Early London Cauliflower may be a few days earlier, but it is more apt to "button;" at least, that is my experience. It is a mistake to get these plants for frames too early, quite small plants being best. Lift and transplant them into frames, hand-glasses, or to a spot where hard frost can be warded off, and give the soil a gentle stir occasionally between them, and plenty of air at all times when there is no actual frost. It is seldom that they will then fail to turn in well about the first week in June, earlier or later according to the season.

At all times Cauliflower should be planted where they are to form their heads, on deeply-trenched, well-manured land, and not left too close together. Walcheren is more hardy than many, and is of a compact habit of growth. I always plant them out at 7 inches apart in frames for the winter. The Erfurt type is useful for sowing in pans in heat in late winter and early spring, and if duly attended to, it will come into use at an early part of the summer, but great care must be taken they do not get a check, or nearly every plant will "button." *H. Markham, Kent.*

THE WEEK'S WORK.

THE ORCHID HOUSES.

By W. H. WHITE, *Orchid Grower, Bursford, Dorset.*

HINTS ON CULTURE.—Plenty of light at all times is necessary for the healthy growth of Orchids, and at this season more than at any other. The glass in all the Orchid-houses should be kept clean by washing it inside and out. The wood-work should likewise come in for an occasional cleaning; a white, clean surface increases the light in the houses. Examine every plant for insects, and sponge the leaves with clear water; wash the pots, and keep everything about the plants trim, clean, and tidy. Whilst re-arranging the plants in the cool-house, examine each for slugs, which are nearly always present in the sphagnum-moss, sparing no trouble in getting rid of them; failure to do this will lead to numbers of young roots and succulent flower-spikes being lost. Lettuce-leaves, small shallow pans filled with bran, slices of Potato, &c., are useful as baits for slugs, and these should be placed on the stages and the moss, and often examined. When the flower-spikes of *Odontoglossums* push, a piece of rough wadding should be wrapped around them, as over which slugs seldom pass. As to *Odontoglossums* of the cool-house, the majority are in full growth, and it will be noticed that at the base of many of the leading breaks there is a brown-coloured outer sheath, which sometimes clasps the growths so tightly as to prevent the young roots from emerging, and it should be carefully slit in several places, and pulled off in small pieces. Failure to do this causes the roots to come up inside the sheath into the air, and make no further progress, instead of the sphagnum-moss. The plants of *Miltonia vexillaria* now growing freely will require similar attention, as also the new growths, which should be examined occasionally, and the tender young leaves that stick to each other and become crumpled gently separated from each other. Among Orchids of small growth the pretty yellow-flowered *Oncidium cheiroporum* is now opening its flowers, and till the flower-spike is fully developed, the plant should be hung up close to the roof-glass in the intermediate or Cattleya-house, so that it may obtain plenty of light. It is a plant that should be sparingly watered at all times, and especially during the winter, or the pseudo-bulbs and leaves will rapidly decay. After the flowers fade, the plants may be afforded rest by applying just sufficient water to keep the pseudo-bulbs plump-looking, and when growth recommences fresh material should be placed about the plant. Shallow well-drained pans, with a thin layer of peat and sphagnum-moss to root in, suit this plant. *Oncidium Phalaenopsis*, *cucullatum*, *olivaceum*, and *nubigenum*, although their flowers are small, are very lovely, and they keep fresh-looking for several weeks; still, it is inadvisable to retain them on the plants too long, or they will suffer in health. Like many other species of *Oncidium*, these fail in some instances to grow as satisfactorily as their owners would wish; and being

purely cool-house plants, they require a light position in the *Odontoglossum*-house, and plenty of water at all times. The same kind of treatment will suit *Mesospidium vulcanicum*, *M. sanguineum*, *Odontoglossum roseum*, and *Cochlidia Noeiziana*. These species should be potted rather high up in well-drained pots filled with peat and sphagnum-moss, and the best time for repotting them is just when root activity begins.

FRUITS UNDER GLASS.

By RICHARD PARKER, *Gardener, Goodwood, Chichester.*

GENERAL WORK.—The practice of placing numbers of plants of *Chrysanthemums* in every available fruit-house is reprehensible, because it leads to an improper treatment of the Vines, Peaches, Figs, &c., permanently planted in them. For instance, fire-heat has to be used in frosty weather, the ventilation is also not what the Vines, &c., require, the borders are made unduly wet, and the surface trodden down and made impervious to the air. To lessen the evils of housing the *Chrysanthemums* as much as may be, they should be removed as soon as they are past their best, so that the freest ventilation may be afforded the permanent occupants, and the necessary operations of cleaning, pruning, tying, &c., pushed on without loss of time.

PEACHES AND NECTARINES.—Trees in borders which will be started in December, will require to be thoroughly cleaned with soft-soap and hot-water or Gishurst Compound, or simply a weak solution of tobacco-water, whichever may appear to be the more suitable. Having done this, and scrubbed all wood-work, limewashed the walls, and rendered the glass clear and bright, the training of the trees may be proceeded with. This operation finished, the borders should be raked clear of rubbish and clods, and not disturbed with a digging-fork unless their hard condition renders it necessary, digging however shallow, destroying many roots situated near the surface; moreover, a firm soil is productive of the finer roots. A dressing of fresh loam 2 inches thick laid on the border will do much to encourage the roots to the surface, and will not promote gross growth. The hot-water-pipes, if not new, may require a coat of lamp-black and linseed oil (no turpentine), and to have valves and joints put into good order. The house should be kept cool until forcing begins.

CUCUMBERS.—With short days and gloomy skies growth gets less and less vigorous, and aphides, red-epider, and thrips attack the foliage, rendering much attention necessary to keep their numbers so low that but little injury is done by them. A mild fumigation once a week with the XL All Vaporiser will check aphides, &c., which is a safe means. Guard against high temperatures with their consequent dry air, which should be avoided, as red-epider and thrips are not then so much encouraged. Some fresh horse-dung spread on the borders occasionally has a beneficial effect on the growth of the plants.

THE FLOWER GARDEN.

By BAILEY WADDS, *Gardener, Birdsall Gardens, York.*

PLEASURE GROUNDS.—Now that the greater portion of the foliage has fallen, much sweeping of lawns and walks is entailed, and which cannot be neglected if the garden is to have a neat and tidy appearance. What is swept together should be wheeled to the leaf-heap at once, as to leave them is to have to do the work over again. There should always be three heaps of leaves: that which is old, and therefore in a state of mould; that which is less decayed; and lastly, the freshly-fallen leaves. The autumn, whilst frosts are not intense, may be utilised in taking up the turf on uneven lawns, making the land level by digging it a few inches deep, and then levelling it, or by the addition of soil. Make it quite firm before relaying the turf. When worm-casts are so numerous as to be unsightly, choose a dry day for sweeping them up, and then a light wood roller used frequently for the purpose of keeping them down. Poor grass should receive a dressing of charred garden-refuse, quicklime, or rather fresh-slaked lime and loam, which will greatly improve it. If put on the turf on a dry day, and brushed or raked about, and afterwards rolled, it is readily distributed regularly. No work on a lawn should be carried on in frosty weather.

WALKS AND ROADS should have the edgings, when these consist of turf, neatly cut, and the material of which the walk or road is made weeded and rolled after rain, or whenever the surface gets loosened. The regravelling of walks may now be undertaken, and old gravel may be turned and the

surface made good again. In parts of the country in which gravel is not cheaply obtainable, the roads are made of flint or Macadam and sea-gravel or sand; and such walks and roads should not be dug up or disturbed, but be dressed with Weed-Killer, or weeded by hand, made level, and rolled once a week. When much snow has fallen, do not sweep the gravel walks, but use triangular snow-ploughs of various sizes. The broom throws the small stones and grit on to the lawn and grass verges, to the detriment of the mowing-machine.

FLOWER-BEDS which will not be planted till the spring should be deeply dug, and the surface left in a rough state.

CHARRING REFUSE.—On dry days, burn in a smothered or open fire the prunings of trees and shrubs and other garden refuse, passing the ashes when cold through a wire screen or coarse-meshed sieve. This fine powdery material is excellent for mixing with the potting soil in which Pelargonium and other bedding plants are grown, as also when mixed with manure as dressings for the Rose beds and herbaceous borders. Compost for a variety of purposes may be got together at this season, throwing the materials into conical heaps, so that they may not become unduly moist. When the weather permits, the digging, carting, and stacking loam and peat, sand, &c., for future use, may be proceeded with. The decaying leaf-heaps may be sifted, and the usable portion put under cover in readiness for use, the rest being again thrown into a heap to decay still further.

PLANTS UNDER GLASS.

By W. H. SMYTH, Gardener, West Dean Park, Chichester.

THE FORCING-HOUSE.—Batches of Lilac, Lily of the Valley, early varieties of Tulips, *Deutzia gracilis*, *Spiræa*, Tea and other Roses, *Weigela* (rosea and others), *Azalea indica*, *A. mollis*, hybrid *Rhododendrons*, *Hydrangea hortensis* and *H. paniculata*, *Staphylea colchica*, *Choisya ternata*, *Dielytra spectabilis*, and the double-flowered variety of *Prunus sinensis*. All plants, excepting Lily of the Valley should be syringed overhead three or four times daily, less or more according to the weather, and the air of the house maintained in a moist state. Buds of Roman Hyacinths and other plants now coming into flower should be less syringed, and removed into a slightly less warm-house, for the purpose of inuring them to bear the temperature of the conservatory and apartments. In establishments requiring great quantities of cut bloom, *Narcissus*, Tulips, Lily of the Valley, Roman Hyacinths, *Freeseias*, and *Helleborus niger* should be planted in suitable boxes, with a view to economising space in the forcing-house. *Rhododendrons* may still be lifted from the open ground, and potted in leaf-mould and peat. A Peach-house just started is a capital place for the forcing of Lilacs, *Kalmias*, *Gueldeas Rose*, &c., which are plants that should be very gradually forced into bloom at this season. The temperature of the ordinary forcing-house should be 60° at night, less in very cold weather, 70° by day in cloudy weather, and 75° or higher with sun-heat. Lily of the Valley requires a bottom-heat of 85°, and to be forced in darkness, crowns being employed, not clumps, which do well enough after February. Only force *Azaleas*, *Rhododendrons*, Lilacs, and *Staphylea* which possess prominent flower-buds, or which have been suitably prepared. The watering-can must be carefully used, applying no more root-moisture than suffices to keep the ball moderately moist, or excessive leaf and shoot-growth will occur, to the detriment of the appearance of the plants. If the shoots start to grow on *Azalea indica* and *Rhododendron*, pinch them back or break them out.

CARNATION SOUVENIR DE LA MALMAISON.

When early blooms are wanted, some of the forwardest plants should be placed in a house with a temperature of 55° by day to 50° by night. Only those plants which are throwing up a flower-stem should be chosen at this date. Afford a light overhead syringing in bright weather, and examine them for signs of the Carnation disease, cutting off all affected parts as soon as detected, and burning them. Fumigation should be resorted to once in three or four weeks, as means of checking the increase of aphides. Young stock of this variety of Carnation should not receive too much water at this season, and if the plants can be plunged in Cocoa-nut fibre refuse, they will scarcely need any water. It is safer to err in affording too little than too much water. A good place for the plants in the winter is a low pit to which artificial heat can be applied, and which

should be used in very damp or frosty weather. If young plants affected with the spot disease (*Cladosporium*) are carefully examined once in three weeks, and all affected parts removed with the knife, the plants usually grow out of it.

EUCHARIS GRANDIFLORA.—The flower-spikes in most cases should be pushing up, and copious root-watering, together with the use of liquid-manure occasionally, must be resorted to. As a mild kind of manure, I can advise the use of soot-water, if made weak, for keeping the leaves of a deep green colour. The house should be kept in a moist condition, and be syringed twice or thrice a day. If the bed in which the pots of bulbs are plunged is getting deficient in heat, some fresh stable-litter and tree leaves in a fermented state should be added to the old materials. It is an easy matter to keep the air of the house cooler if the blossoms come in at too early a date.

THE HARDY FRUIT GARDEN.

By W. POPE, Gardener, Highclere Castle, Newbury.

PRUNING AND NAILING FRUIT TREES.—The work of pruning and nailing, or otherwise securing the branches and shoots, should be pushed forward, whenever practicable, instead of being (as is often the case) postponed till the colder days of midwinter, it being possible for the work to be done with less discomfort than at that season. The Cherry, Pear, and Plum trees should be first taken in hand, following with Apple, small fruit bushes, and lastly, the Apricot, Peach, and Nectarine, the nailing, &c., of these being usually deferred to the spring months for the sake of somewhat retarding their flowering. If these trees were properly attended to in the matters of pinching and regulating the shoots during the summer and early autumn months, but little pruning will now be required. The side-shoots of the sweet Cherries that were shortened back in the month of August to 6 or 8 inches, should now be still further reduced, leaving two or three buds on the base of each. In doing this make a short clean cut from below the terminal bud, but not so close as to endanger it. Look well to ties, shreds, and nails, and see that no nail is close enough to the rind as to be a cause of canker. All of the larger branches should be secured with rather large and soft tarred-string, with plenty of space allowed for the swelling of the shoots. Shoots for extending the area covered with the trees may be fastened with shreds and nails or ties of well twisted bast. The shoots of newly-planted trees should not be shortened at this season, but loosely fastened to the walls or stakes, so as not to interfere with the settlement of the plant in the soil of the border. Prune such plants in the spring before growth has begun.

PRUNING AND TRAINING OUT-DOOR GRAPE VINES.—These Vines should be pruned as soon as the leaves have fallen, early pruning being especially called for if large branches are removed to make space for the accommodation of young shoots, of which some should be laid in yearly. Such old wood, if not taken off in good time, is liable to "bleed" excessively when the sap rises in the spring, to the detriment of the Vine. To still further guard against "bleeding" it is advisable to dress all large wounds with styptic, or patent knotting, when the wood is dry, so as to close the cells. In ordinary pruning, cut to a stout plump bud near the base of the lateral shoot, long spurs not being desirable in these Vines. In training the main rods on walls, the intervening spaces should not be less than 2 feet in width, and fasten these rods with stout tarred-string or leather strips. If an increase of the stock of Vines be wished for, cuttings from 9 to 12 inches in length, taken off with a heel, should be chosen; cutting the buds out of the part to be inserted in the soil, and leaving one or two on that part that is above it, and inserting them where it is wished to have Vines—or, they may be put into a cutting-hed and transferred when just about to start into growth the second year.

THE KITCHEN GARDEN.

By JOHN LAMBERT, Gardener, Powis Castle, Welshpool.

THE GLOBE ARTICHOKE.—The plants of the Artichoke, owing to much rain having fallen on a soil abnormally warm, were still quite green, and producing usable heads when they were cut off by frost. Being so green and soft, there is the more reason for well protecting them against injury by hard frost. After removing all the stems that have borne flower-heads, and a few of the leaves, afford the land a dressing of rich farmyard manure, forking it in lightly, and afterwards place stable-litter or tree leaves around the plants to a depth of not less than

8 inches, making this secure by spreading a little soil over it. When the tops are quite decayed, remove them, and cover the remainder of the plant, in very severe weather with light litter, removing this material on mild days.

THE JERUSALEM ARTICHOKE.—These should be left in the ground till towards the end of the year, the stems being cut off at 3 inches above the ground. Lay them evenly over the soil, which they will serve to protect from frost; or if that be thought too slight a covering, some long litter may be used. The tops this season are very strong, and almost all have flowered. When lifting the crop generally or for current use, carefully pick out those intended for consumption—that is, the best and largest—and select the tubers of a fair size and good shape for next year's sets. The white-tubered variety has the nicest shape, and it is a good cropper as well as an improved variety.

PEAS.—Where seed is not as yet sown out-of-doors, the matter should be borne in mind, and a dry day chosen for getting it into the ground. The site of the early Pea crop should be, if possible, a well-drained south border, which should be dressed with well-decayed manure or leaf-mould before digging or bastard-trenching it. The drills should be about 8 inches wide, and before and after the Peas are sown, sifted refuse-soil from beneath the potting-bench should be placed in the drills; a covering of the depth of 1 inch of the staple will be sufficient, making in all a covering of about 2 inches in depth. Above each drill a half-inch layer of fine coal-ashes may be placed as a deterrent to the slugs. The distance at which the drills are drawn will depend on the height to which the variety of Pea grows; and Dr. Maclean, Sangster's No. 1, Veitch's Chelsea Gem, Dickson's First and Best, and Sutton's Improved Ringleader are excellent as early Peas. Mice must be trapped, or the seed rolled in a mixture of red-lead and petroleum before sowing.

BROAD BEANS.—A sowing of the Mazagao and Beck's Dwarf Green Gem varieties may now be made when the ground is not too moist to be trodden upon. Sow either in drills, or dibble in, the distance at which the rows stand apart being determined according to the purposes the ground between them may be put to, and whether large or small-growing crops, or none at all, are to be grown in the spaces. In wet land, ridges should be thrown up, and the drills drawn either on the top or at the sides of the same, and as soon as the young plants appear, afforded protection by drawing the soil up to them, and placing branches of the common Yew or Fir on either side of the rows.

A NEW PERFUME OIL.—Under the name of "Kuromoji," the essential oil of *Lindera sericea*, is stated by the *Chemist and Druggist*, to be slowly acquiring some degree of popularity among manufacturing perfumers. Several lots, it seems, have recently passed through the Liverpool market, and gone into consumption. It having been noticed by some of the buyers that the several parcels of oil differ in odour from one another, enquiries were set on foot to discover the cause, and these enquiries have elicited the fact that the Kuromoji oil is not produced on a large scale by essential oil distillers, but by small farmers in Japan, each of whom distils the yield of the shrub growing on his own estate. These small stocks are then bought up by dealers in various centres, and mixed together, almost precluding the possibility of getting exact uniformity in aroma. The oil is obtained from the young shoots and leaves of the plant, which is a Laurineous shrub of from 4 to 6 feet high, growing in the mountainous districts of Japan. The old wood is much used for making toothpicks. The oil, which has a pleasant, aromatic, balsamic odour, is of much value in perfumery, especially for soap making. It is stated to have been introduced into Europe in 1880. On the authority of the same journal from which the foregoing is gathered, referring to the interruption, owing to the war, of the Camphor trade of Japan and Formosa, it is said that efforts are being made to get Ceylon planters to take up the cultivation of the Camphor tree, a few specimens of which have been growing for some years in the botanical gardens of the island. It is thought that in the parts of Ceylon where the climate is comparatively dry Camphor trees would be a profitable culture. The great objection from a planting point of view, is of course, the long time which must elapse before the trees become productive; but the same objection was raised years ago against the cultivation of Cinchona.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

SATURDAY, Nov. 23.—Royal Botanic Society.

TUESDAY, Nov. 25.—Royal Horticultural Society's Committees, at the Drill Hall, Westminster.

SHOWS.

TUESDAY, Nov. 25.—Tredegar Chrysanthemum (two days).

FRIDAY, Nov. 28.—Alderley Edge Chrysanthemum, at Wilmslow (two days).

SALES.

MONDAY, Nov. 25.—Continental Plants, Roses, Dutch Bulbs, &c., at Protheroe & Morris' Rooms.

TUESDAY, Nov. 25.—Dutch Bulbs, at Protheroe & Morris' Rooms.

WEDNESDAY, Nov. 27.—Dutch Bulbs, at Protheroe & Morris' Rooms. Great Sale of Fruit Trees, at Perry Hill, Cliffe, near Rochester, by order of Mr. W. Horne, by Protheroe & Morris.

THURSDAY, Nov. 28.—Dutch Bulbs, at Protheroe & Morris' Rooms. Greenhouse Plants, Roses, and Plants from Belgium, at Protheroe & Morris' Rooms.

FRIDAY, Nov. 29.—Dutch Bulbs, at Protheroe & Morris' Rooms. Orchids, from Messrs. F. Sander & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—41°.4.

The Royal Botanic Society seems to have fallen upon evil times, and to be going through a crisis similar to that which befell the Royal Horticultural Society a few years ago. Other points of similarity between the two Societies may be found in the retirement of the Superintendents in both cases, and in the abolition of the office of garden-manager at the "Park."

We see that application is to be made to Government for a pecuniary subsidy to aid in carrying on the work of the garden. We do not wish to undervalue the work of the Society, but we imagine that before such an application can be entertained, the society must be able to show some reason for the allotment of a portion of the national revenue for its support. The garden is charming, the houses contain some interesting plants, and useful work has for years been done in supplying students with specimens. As for the flower-shows, they have become so stereotyped that it is not a difficult matter for the reporters for the press to concoct a sufficiently accurate report of any particular show by referring to the account given of the corresponding show the year before. An inspection of the prize-list, to see if perchance any new exhibitor is forthcoming, is nearly all that is necessary, as we know from experience. The policy of the Society, hitherto, has been to exclude the public by a high rate of subscription, to pander to fashion by evening *fêtes*, and even to descend to frivolities, appropriate enough in a tea-garden, but quite unsuited to a Society calling itself Botanic. The result of similar procedures was sadly exemplified some years since at the Royal Horticultural Society, which, however, never

sank quite so low as to offer prizes for the decoration of donkeys. We have not a word to say against such diversions in their proper places and at suitable times, *dulce est desipere in loco*, but we demur to any portion of the taxes being devoted to their promotion; and we protest against the incongruousness of mixing up such amusements with the pursuit of horticulture, and still more with that of botany!

The work that the Royal Botanic Society has done for botany is not large; and as for horticulture, it must be admitted that the influence it has exerted, and still exerts, is quite inconsiderable, as compared with that exercised by the sister society. If any Government aid is to be granted at all, it should be given first, and in fullest measure, to that society whose record is, in spite of many vicissitudes, and occasional backsliding, so highly honourable to it.

THE ROYAL HORTICULTURAL SOCIETY.—The next Fruit and Floral Meeting of the Royal Horticultural Society will be held on Tuesday, November 25, in the Drill Hall, James Street, Victoria Street, Westminster; and at 3 P.M. a lecture will be given by Mr. JAMES MASON on "Asparagus Culture." The committees will meet as usual at 12 o'clock.

HORTICULTURAL CLUB.—The usual monthly meeting and *conversations* took place on Tuesday evening, November 12; the chair was occupied by Mr. GEORGE PAUL. There were present Messrs. PHILIP CROWLEY, H. SELFE LEONARD, GEO. MONRO, PETER KAY, H. TURNER, J. WALKER, &c. An address was given by Mr. D. T. FISH, on "Flowers, Fruits and Plants in the Life and in the Home," it ranged over a wide area and many interesting facts were brought forward; at its conclusion a hearty vote of thanks was proposed by the chairman. The table was decorated with Chrysanthemums from the Royal Nurseries, Slough; and some dishes of well-grown fruit of Emile d'Hayst Pear were added to the dessert by the kindness of Mr. JAMES WALKER.

NATIONAL ROSE SOCIETY.—A prize of five guineas, presented by ALEXANDER HILL GRAY, Esq., will be awarded by the above Society for the best essay on the "Hybridisation of Roses." Intending competitors are requested to forward their essays to one of the Hon. Secretaries—H. HONEYWOOD D'OMBRAIN, Westwell Vicarage, Ashford, Kent; EDWARD MAWLEY, Rosebank, Berkhamsted, Herts, on or before March 1, 1896.

NATIONAL CHRYSANTHEMUM SOCIETY.—The General Committee met at Anderton's Hotel, Fleet Street, on the 18th inst., Mr. B. WYNN presiding. The Secretary reported some correspondence he had with Mr. J. RITCHIE, the chairman of the Royal Aquarium Society in reference to the imperfect lighting of the building on the occasion of the exhibition at the Aquarium, especially in the matter of lighting up earlier in the day; and an amendment was promised in respect of this matter. The Secretary also reported, that in addition to the Challenge and other Cups, Medals, &c. the money prizes awarded at the November show amounted to £245 14s, and he read a list of the medals awarded to miscellaneous subjects by the arbitration committee, all of which were passed; an interim financial statement was submitted of a decidedly satisfactory character, the Secretary reporting that the cheques for the November prize-money would be sent out within the next ten days. A statement was made on behalf of the Catalogue revising committee by Mr. C. HARMAN PATNE, setting forth the course determined upon by that body. A start would be made from the Catalogue issued at the time of the Centenary Celebration in 1890, thus superseding the two Supplemental Catalogues issued in 1892 and 1894; a new alphabetical arrangement will be made, and the services of some thirty experts residing in various parts of the country will be requested to

assist in compiling selections of the best varieties in their several sections. It is proposed to issue the Catalogue in September, 1896. Three new Fellows and twenty-two members were elected. The usual vote of thanks to the chairman closed the proceedings.

BOTANICAL MAGAZINE.—The plants figured and described in the November number are:—

Angracum Kotschyii, Rehb. f., in *Gardeners' Chronicle*, 1880, ii., p. 456 and p. 693, fig. 131.—A native of Eastern Tropical Africa. The pendulous racemes have numerous white long-spurred flowers, each about 2½ inches across. Sir Trevor Lawrence; t. 7442.

Spathoglottis Kimballiana, Hort. Sander.—A native of Borneo. Leaves 5-7 nerved, 4 cent. (1½ inch) broad; flowers 8 cent. (3 inches) across, segments oblong-ovate, rather obtuse, pure yellow, internally red, mottled externally, lateral lobes of lip ear-shaped. Flowered at Kew; t. 7443.

Catasetum Lemosii, Rolfe, in *Kew Bulletin* (1894), 394.—A native of Hede Marago, Province of Para, where it was discovered by Dr. LEMOS. Flowers greenish, male only known; t. 7444.

Amazonia erecta var. *late bracteata*.—A Verbenaceae shrub, native of Tropical South America, and remarkable for its ovate, rose-coloured bracts, from the axils of which proceed short racemes of pendulous flowers, with a cylindrical narrow tube, and an irregularly 5-lobed limb, with short white segments, traversed by pink veins. Introduced by Messrs. Sander; t. 7445.

Selenipenium Sargentianum, Rolfe, in *Orchid Review* (1893), p. 239; *Gardeners' Chronicle*, 1894, ii., 781, f. 100. F. Sander; t. 7746.

THE BOOK GARDENER.—"In my younger days," writes Mr. MEEHAN, "progressive young men were often informed by the eminently practical youth that he could grow Potatoes just as well without any knowledge of the countries they came from, the true nature of a tuber, or the differences between a Cabbage and a Cauliflower. In many cases they could do so, but it was interesting to note as the years rolled by that while these excellent practical men never rose above raising Potatoes and Cabbages, most of those with a broader education became eminent and useful members of society." In the same number of *Meehan's Monthly* from which we have taken the above, is a story of a practical gardener twitting a companion who was reading his *Meehan's Monthly*, with, "Oh, is that the sort of gardener you are? a book-gardener;" and then comes the moral. The unthinking man never advanced in his profession. He is practical still—at the spade and the shovel.

THE REIGATE AND DISTRICT CHRYSANTHEMUM SOCIETY.—This vigorous Society has been unfortunate this year in holding its show on a wet day (November 8), and in consequence suffering a considerable diminution in its gate-money. This is the more to be regretted from the fact, that the Society hands over each year a certain sum of money to the Royal Gardeners' Benevolent Institution, and Royal Gardeners' Orphan Fund. In point of excellence the exhibits equalled those of any previous year—groups, cut blooms, and plants, being capital.

CAMPANULA MIRABILIS.—Under this name M. CORREYON speaks in the *Revue Horticole* of a species discovered in the Caucasus by M. ALBOFF, and described in the *Bulletin de l'herbier Boissier*, t. 3, p. 5. It is described as an exceptionally beautiful species, closely allied to *C. medium*, and growing naturally on calcareous soil. It is supposed to be a survival from some previous geological era, most of the representatives of which have vanished. M. CORREYON has seedlings, so that we may hope in due time to make the acquaintance of this wonderful Campanula.

THE SURVEYORS' INSTITUTION.—The next ordinary general meeting will be held on Monday, November 25, when a paper will be read by Mr. R. M. D. SAUNDERS (Fellow), on "Landlords and Tenants in Ireland." The chair to be taken at 8 o'clock.

MEETING OF THE BRUSSELS ORCHIDÉENNE.—The meeting held on Nov. 10 was a most interesting one, and largely attended. Among the visitors was M. L. DE BRUYN, the Minister of Agriculture, who rarely fails to attend the monthly meetings of this society. Among the more remarkable

for the first time in 1894. These details, furnished by the exhibitor, are given in hopes that others may follow his example. C. × Mantini obtained a First-class Diploma of Honour. M. Flor. Panwels staged a splendid *Cypripedium Charlesworthi*, the standard of which is unusual in development and colouring;

splendid *Vanda Sanderiana*, with two trusses, one of five, the other of eight fine blooms; and *Oncidium Forbesi*, with a pretty truss of beautifully tinted flowers. Md. Triende Terdonck showed *Cypripedium nitens*, which was very beautiful. M. Knight, Director of the Royal Parks, staged a large specimen of Catt-



FIG. 104.—CATASETUM CHRISTYANUM: FLOWERS, CHOCOLATE BROWN WITH A GREEN LIP. (SEE P. 618.)

Orchids I may mention the following:—From M. Georges Mantin, Château de Belair (Loiret): flowers of the hybrid *Cattleya* × *Mantini* (G. Mantin) = *C. Skinneri* (Bateman), var. *Bowringiana* (Veitch), sub-var. *floribunda colorata* (G. Mantin), × *C. labiata* (Lindl.), var. *Dowiana* (Batem.), sub-var. *anrea* (Williams), fertilised in October, 1889, flowered in October, 1890, sown in November, 1890, bloomed

M. Stepman showed a group of *C. Charlesworthi*, comprising six specimens, one of which bore an unusually dark standard. M. Linden sent a very fine example of *C. regale*; a specimen of *C. insigne montanum* Lindensæ, of a yellow colour, much admired by connoisseurs; *Cattleya Warocqueana*, bearing a great resemblance to *C. gigas*; *C. maxima gigantea*, with the petals veined with purple; a

leya Warocqueana, a fine variety with thirty flowers. M. de Lombaerts sent a beautiful *C. aurea*; M. Warocqué, *C. Warocqueana fulgens*, of a pretty deep rose colour; M. Madoux, *C. Gaskelliana*, of a distinct shade of pale colouring; MM. Lucien Linden et Cie., cut flowers of *C. Trianaei*, very good varieties; M. Van Imshoot, *C. Warocqueana marmorata*, of a beautiful dark colour, and with all the divisions of

the flowers indistinctly streaked; and *Lælia Lawrenceana* (Botanical Certificate). M. Madoux also staged a *Lælio-Cattleya* species, with divisions of unusual width and beautiful colouring; M. Coppens, a very distinct *Cattleya Eldorado alba*. In the houses of l'Horticulture Internationale there are now in bloom numerous varieties of *C. maxima gigantea*, *C. Warocqueana*, *C. gigas*, *Cataetum*, and *Mormodes*. *Ch. D. B.*

TECHNICAL EDUCATION.—A course of four lectures on the cultivation of vegetables and fruit was concluded on Monday evening last at the Public Hall, Fawley, under the auspices of the Hampshire C. C. The lecturer, Mr. GARNER, of Cadland Gardens, Southampton, illustrated his lecture with diagrams, showing both good and bad specimens of vegetables, also the right and wrong way of pruning both the branches and roots of fruit trees, as standards, bushes, and espaliers. The winter treatment of soils and its preparation for the reception of seeds in spring was explained, and the economical uses and application of manures of different kinds were with the above listened to by a large attendance of the public at each lecture.

REGULATIONS AT THE DRILL-HALL.—In reference to a note on this subject on p. 587, it is pointed out that our correspondent has been misinformed. The rule which is generally observed, and only occasionally infringed by inadvertence, is that the entry-cards are not brought up to the table, so that the committee is supposed not to know, and often does not know, upon whose exhibit they are adjudicating. We can confirm this in the case of the Orchid Committee, where the chairman exercises care to prevent the entry-card being seen till after a decision is arrived at. "First-class Certificates" are confined to new and rare plants, and are not given to florists' flowers unless they represent an entirely new type. "Awards of Merit" only are given to ordinary seedlings, &c. Some arrangement should be made to preclude members of the Committees seeing the exhibits before the meetings.

NEWCASTLE AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.—The monthly meeting of this society was held at 25, Westgate Road, on Tuesday evening, Nov. 12, Mr. JOHN BULLOCK occupied the chair, and there was a good attendance of members. Among the specimens exhibited on the table was a collection of Apples from Mr. TOWN, care of Messrs. WATSON & Co., nurserymen; *Chrysanthemum* blooms by Mr. LABE, Northdene, Gateshead; and three splendid pots of Cyclamen by Mr. LAWSON, Heathdale, Gosforth, all of which were much admired. Mr. LAWSON, Heathdale, read a practical paper on the Onion, which was followed by discussion.

SHIRLEY AND SURROUNDING DISTRICTS GARDENERS' AND AMATEURS' MUTUAL IMPROVEMENT ASSOCIATION.—The monthly meeting was held at the Parish Room, Shirley, Southampton, on the 18th inst., when Mr. E. J. WILCOX presided over a good attendance of the members. The "Culture of the Mushroom" was the title of a paper read by Mr. F. D. WOOLF, of Totton, who is a grower for market of some experience. A long and interesting discussion followed, and a hearty vote of thanks to Mr. WOOLF closed the proceedings.

KEW IN SEPTEMBER.—The fine weather in September induced many persons to visit the gardens. On Sunday, September 22, the number reached 22,427. The highest shade temperature in September was 28.8° C. (84° F.), on the 24th. It was remarkable as following a minimum on the grass of 0.55° C. (31° F.). This, says the *Kew Bulletin*, gives a range of temperature during the twenty-four hours of 53° F. The hot weather lasted exactly a week, the maximum temperature never falling below 24.4° C. (76° F.), from the 23rd to the 30th.

CAUSE OF "FINGER-AND-TOE" IN TURNIPS.—The connection of an attack of "Finger-and-Toe" in Turnips, &c. with a previous impoverishment of the soil in lime, is well shown by two soil analyses

just completed at the South Eastern Agricultural College, Wye (County Councils of Kent and Surrey). One portion of a 16-acre field in the south of Kent was badly affected by "Finger-and-Toe," the rest being only slightly attacked. Samples of the soil taken from that part of the field where the disease was prevalent, showed on analysis only .13 per cent. of available lime, while the soil from the rest of the field contained .43 per cent. Wherever "Finger-and-Toe" (Anbury or Club Root) shows itself, the land probably wants a dressing of chalk or lime.

PROFESSOR HELLRIEGEL.—The death of Professor HERMANN HELLRIEGEL, at the age of sixty-four, removes the discoverer of the important fact that leguminous plants are capable of absorbing free nitrogen from the air, through the agency of micro-organisms existing in the nodules on their roots. During his career he devoted his attention almost exclusively to researches dealing with chemical and physiological questions relating to the nutrition of plants. For some years he acted as director of the agricultural experiment station at Dahme, Brandenburg, and after occupying other positions, made the great discovery of his life at the experimental station founded by the Verein für Zucker-Industrie, jointly with the government of the Duchy of Anhalt. *Pharmaceutical Journal*.

DWARF FORM OF LILIUM AURATUM.—Mr. L. CUMMING of Eastfield, Rugby, sends us a photograph of some plants of *Lilium auratum* growing only a foot high, and bearing well-developed flowers. The bulbs were imported ones, and now, when in bloom, manifest no trace of weaklines or unhealthiness, the only unusual feature being the shortness of the stem. Mr. CUMMING questions whether this habit would be of permanent character, and if a similar peculiarity has been observed in other Lilies of this variety. The dwarf habit would have, for certain positions, a value of its own, and such plants would prove a welcome addition to those already known to us.

"RUBBER."—A new source of this precious material is brought under notice in the last number of the *Kew Bulletin*, where an Apocynaceous plant, *Kickxia africana*, is figured. This is one of the most beautiful forest trees of western tropical Africa. The rubber it produces is of high quality. A very important rubber industry was started at the Gold Coast by Governor MOLONEY in 1882, and ten years after the exports are noted as amounting to the annual value of £200,000—a remarkable and striking instance of the creation of a new industry by official action. Similar measures have been taken at Lagos, in which colony the tree above mentioned grows. Indeed, it extends from Sierra Leone to the Gold Coast, and beyond the banks of the Niger to the Bight of Biafra. The development of the rubber industry at Lagos is shown by the circumstance that in January the weight, in round figures, was 21,000 lb., the amount gradually increasing till in June of the same year the weight exported was upwards of 268,000 lb., and the value over £12,000.

"ORCHIDS, THEIR CULTURE AND MANAGEMENT."—A second edition of Mr. WATSON's useful treatise has just been published by Mr. UFCOTT GILL, 170, Strand. This is a book specially suitable for amateurs and beginners. The general principles of cultivation are clearly laid down, and if the grower once grasps these intelligently, the rest is a question of attention merely. The arrangement of the genera is alphabetical, and slight descriptions are given of the most noteworthy species. The book is copiously illustrated, and well fulfills its object.

"ORCHID GUIDE BOOK."—Mr. H. A. BURBERRY has just published a second edition of his work, entitled, *The Amateur Orchid Cultivators' Guide Book*. We commend it to growers and to would-be growers as a simple and reliable authority. It is not too much encumbered by notes about florists' varieties of Orchids, but gives clear descriptions of the sorts best suited for cultivation, and the means to be adopted to succeed with them. It is illustrated with

coloured and other plates, and is of handy size; this, the new edition, being altogether an enlarged and improved one.

SYNOPTICAL FLORA OF NORTH AMERICA.—The first fascicle of this work (prepared at the herbarium of Harvard University), in continuation of that commenced by the late Dr. ASA GRAY and Dr. WATSON, and, on the death of the latter, by Dr. ROBINSON, is now ready, and includes the orders Ranunculaceæ to Frankeniaceæ. A second fascicle, dealing with the orders Caryophyllaceæ to Polygonaceæ, was begun by Dr. ASA GRAY, and is being continued by Dr. ROBINSON (the Editor), assisted by Professor J. M. COULTEB, Professor WILLIAM TRELEASE, and Professor L. H. BAILEY. This part is in advanced preparation, and will be issued at an early date.

CATASETUM CHRISTYANUM.

(FIG. 104.)

THIS remarkable species was originally described by the late Professor Reichenbach in the *Gardeners' Chronicle*, May 6, 1882, when he mentions its affinity to the less showy *C. saccatum*, Lindl. It is, indeed, perhaps the most extraordinary of a large section of the genus *Cataetum*, having the curious bearded or fringed lip, and which invariably attract considerable attention when in flower, no matter how many showier things may be in bloom at the time in the same house. For a long time the plant was very scarce, but recently Messrs. F. Sander & Co. have imported it, and our illustration was prepared from a plant exhibited by them at the meeting of the Royal Horticultural Society, Oct. 29, 1895. In colour *C. Christyanum* varies in the different specimens, the sepals and petals being usually chocolate colour, and the lip greenish-yellow, with dark purple fringe; but in some the petals are slightly freckled with green. It is pleasant to note that in several collections the *Cataetums* are given a proper amount of attention, and in each case they amply reward their cultivators with their singular flowers.

There appears to be but little difficulty in growing *Cataetum* if the proper cool resting season after the leaves wither is observed. It was the neglect of this which unjustly got for them, in former times, the character of being difficult subjects to grow.

ABOUT CHRYSANTHEMUMS.

(Continued from p. 580.)

AT CASTLE HILL NURSERIES, MAIDENHEAD.—After a journey to see Mr. R. OWEN's collection at these nurseries, we have a very good opinion of many seedlings now in bloom. Possibly some weeding out has already been done—though we do not know this to be the case; but whether or not, the percentage of promising varieties among the unnamed seedlings appeared to be good—certainly higher than that which usually rewards the raiser of new *Chrysanthemums*. Mr. OWEN has a few nice span-roofed houses, in which the plants are sheltered; and though there is consequently no effort made to mass the whole of the plants to produce a general effect, the display in each house is by no means inconsiderable.

The first novelty to be noticed was a sport from Robert Petfield, which has been called *Chas. Haigh*. As far as could be seen, this is a sport in respect to colour only, the habit of growth of the plants and the quality of the bloom will probably be about equal to the type. In colour, the bloom is pale rosy-purple, and on the reverse side the petals are gold or bronzy at the tips. Whilst speaking of incurveds, mention should be made of Mrs. R. C. KINGSTON, one of the very largest of the newer incurveds. The florets are not broad, but the flower is high and good, colour full rose tipped with white. *Chas. H. Curtis* (H. J. Jones) was noticed in more excellent form than we have seen it on the plant previously. *Copper King* is a promising seedling from America, flowers deep but not very large; and Miss E. SMITH, an incurved and twisted Japanese, a pretty mixture of silver and rose. *Lady Ridgway* is an English seedling of warm buff, base of the florets rose coloured, the flower globular, florets not long but very numerous. Mrs.

Higginbotham is a first-class, large, hairy variety of rosy-lilac and silver. Pride of Maidenhead, a long-petalled loose Japanese, white with lemon centre. Jno. Lightfoot, a silver-coloured Japanese, with lilac-rose-margined florets, gradually spreading over same as the flower develops; florets forked. Certificated by the National Society on the 11th inst.

Amongst a number of unnamed seedlings was noticed a very wide-petalled Japanese, slightly twisted, and an incurved Japanese white, both of which were full of promise. Graphic is a Japanese incurved with a very large flower, and broad florets, upper surface striped rose, below silvery. A seedling Anemone-flowered variety from America, pale lilac in colour, lacking grace; and Freedom, an American seedling, Japanese of warm blush, were noticed; and two Continental introductions are Madame Lebeque (Chantrier), a globular Japanese reflexed, white, with amber-coloured centre, when fresh; and Dame Blanche (Crozy), a white, smooth Japanese, in the instance under notice, having more yellow on the otherwise white flowers than we had previously seen.

AT DOVER HOUSE, ROEHAMPTON.

The collection of Chrysanthemums annually cultivated in the gardens of J. P. Morgan, Esq., is like in most respects to some others we have seen in well-appointed private places. Though none are required for exhibition purposes, the system practised is essentially—but not quite—the same as where the first prize in a particular competition is the expected finale of all the care and labour expended on the plants during the year. Naturally, therefore, when the plants are grouped together in the vinerias or other convenient structure, they furnish a display quite worthy the visit even of the specialist, for he will be sure to see good exhibition blooms of many of the choicer as well as of the latest varieties; and, moreover, the plants present a better cared-for appearance, by reason of their dwarf character and their retained foliage, than is sometimes the case when the grower's sole object has been to secure flowers for his exhibition stands.

To some minds, perhaps, it may seem wasteful to grow large blooms at the expense of numerous small ones, when the purpose is but to provide material for cutting. We do not think so, but, on the contrary, are of opinion that the best culture of ordinary varieties, if the object is to furnish vases in living-rooms with blooms, is to use medium-sized pots—pots 9 inches in diameter are quite sufficient in most cases; grow the plants well and fairly strong, and thin the blooms to three, four, five, or six to each plant, according to the habit of the variety. By such means excellent blooms are obtained, of good size and colour, and these are more handsome, and will last very much longer, and are, therefore, no more expensive than thin, small, poorly-developed flowers. We said ordinary varieties advisedly, because there are some which we generally style decorative varieties, and there are the single-flowered and the Pompon-flowered sorts, which are admittedly more effective, when little, if any, thinning is practised.

The collection under notice numbers about 1500 plants, and Mr. J. F. McLeod has added almost all the novelties that have proved themselves worthy a place in a collection containing already as many as 387 varieties. It is thought, and reasonably enough, that this number is needlessly large, and Mr. McLeod intends to seriously reduce it before another season. As most of the varieties which have done well here this season have been noticed pretty fully in other collections, we shall only mention a few that were conspicuous a week ago. In the first place, a word is deserved by Golden Gate, a very pretty Japanese flower of soft yellow smooth florets, and no doubt a very good one to cultivate for cutting from; the plants only grow moderately high. Jno. Shrimpton, with usually four blooms on each dwarf sturdy looking plant, is likewise very useful, the habit being so good. Sunflower is not always kind, but here we noticed a number of good blooms. Robert Owen, Mdle. T. Rey, Viviani Morel, President Borel, Mrs.

F. Jameson, G. C. Schwabe, H. L. Sunderbruch, Florence Davis, Empress and Golden Empress of India, Golden Beverley, Hairy Wonder, and Jno. Salter were all good. A variety much in Mr. McLeod's favour is Lady Saunders, a tolerably short-growing good habited Japanese, bearing smooth white flowers with warm lemon centre when first opened. Madame Calvat, a moderate-sized Japanese flower with broad florets, and Duke of Wellington, may also be remarked. Anemone-flowered sorts included the old Fleur-de-Marie, and the new and excellent Descartes; also La Marguerite, violet-purple; Delaware, white, with pale lemon centre; and Marguerite Solleville, lilac, tipped with shaded white. Liberal and excellent culture is afforded everything that is given a place in this garden, and there will soon be a capital display of early-flowered Cyclamens.

AT MR. STEVENS', POTNEY.

For very many years has Mr. Geo. Stevens been growing Chrysanthemums at Putney, and during these years he has raised and introduced not a few sterling varieties. He may have been engaged in the work thirty seasons, perhaps more; certainly, not appreciably fewer. Now, however, his concern chiefly rests in the cultivation of blooms for the market, and for the florist's business, represented by his shop in the High Street. There can be no question that Chrysanthemum culture for market was rewarded a few years since by much higher prices than can now be realised; true, the public are buying these in common with almost all kinds of flowers more freely now than they have ever done, but parallel with this is the better supply. Of late years, not only have a greater number of growers to be reckoned with, but many of these cultivate the plants in prodigious and hitherto unheard-of numbers. These large producers are also content with such a return that must make many of their contemporaries wonder how and by what means they secure any profit at all. The outcome of all this is, without doubt, a boon to the public, who are now able to get their "bunch" of Chrysanthemums for as few pence as once they paid shillings. On the other hand, the growers themselves are driven to the strictest economy in labour and other respects, and they must grow only varieties which by reason of their adaptability to the production of a quantity of bloom, will furnish a profit at the present market prices. In spite of this, there is little doubt that the 4000 plants which Mr. Stevens cultivates give a good account of themselves when the blooms are upon the market, but he is inclined to grow fewer large blooms than formerly, owing to the desire of the buyer to have as large a number as possible for the price he pays.

Among varieties in bloom a week ago in this collection were Florence Percy, white, included owing to its disposition to free flowering. Mdle. T. Rey, a very useful sort for supplying a number of better-class blooms; Wm. Stevens, a variety raised by Mr. Stevens some seven years ago, and similar to Source d'Or, but of better colour; W. H. Lincoln, than which few varieties are better suited for market supply; Rubra perfecta, a pretty little crimson flower; Golden Gem, of which a number of plants were in bloom; and Mrs. C. Orchard, another of the Source d'Or class. Boule de Neige is still kept in good quantity for the production of white blooms at a late date, though the flowers are not so pure as could be wished; and L. Canning is grown largely. As interesting as any, perhaps, was a batch of Niveum, with a number of good blooms upon each plant. It will likely prove very desirable from the market growers' point of view for the supply of what they term "better-class blooms." P.

AILANTHUS BARK.—Mr. David Hooper, in the *Pharmaceutical Journal* for October 26, has an article on the medicinal qualities of the bark of this tree. The bark is intensely bitter, and is used in dysentery and as a vermifuge. It would in all probability be as good an insecticide as quassia.

HOME CORRESPONDENCE.

SPORTING IN POTATOS.—I cannot admit, in response to "D. T. F.'s" suggestion, that I have met with numerous sports in Potatos in my time. So far from that being the case, I have very rarely met with a sport; indeed, in my own personal experience, never. Mr. Fenn has a striped Potato which he says sported from the white Rector of Woodstock; and Mr. Chopping, of Sittingbourne, has a pretty mottled Potato which is said to have sported from Vicar of Laleham. I know only so much of them. The sportiveness I have chiefly met with in relation to Potatos is their tendency to appear from time to time under diverse appellations—but Nature has nothing to do with that. Diversities come only as the product of intercrossing the flowers, but that is not sporting. If I were told that a white flesh Potato had sported to a yellow one, or *vice versa*, I should simply laugh at the suggestion. Naturally sceptical, I am not credulous, and always doubt what personal observation leads me to regard as the reverse of fact. A. D.

THE TRUTH ABOUT PRICES.—My scepticism as to the amount of the prices mentioned in the prize essay is not to be regretted, since it has produced positive proof that such things are; but let no general market grower flatter himself that he can obtain them. He may strive to grow his fruit well, and insist on his gatherers rejecting all unsound Apples, so that they may not infect his stored heaps. He may sort and pack carefully, and allow no unfair trading, so that he will gradually acquire a good character. Then his goods become known and appreciated, and are enquired for and cleared off the salesman's stand, while others are neglected; but he certainly will not get double the prices ruling in the market. *Mid-Kent.*

REGULATIONS AT THE DRILL-HALL MEETINGS.—It is much easier to suggest what should be done to secure absolute anonymity for products of any description sent or brought for consideration by the committee at the Drill-Hall meetings, than to carry them out. No doubt all that "Visitor" suggests could be done, but, all the same, in the majority of cases it would be known whose exhibits were presented. It is so difficult for anyone to take produce to the Hall and stage it without being seen and noticed by members of the committees. Still further, it is very possible for many members to tell intuitively from whom things come. If anonymity cannot be absolutely secured, what use is it to attempt securing it at all. But again, what harm is done if it be known to whom the respective products belong? It would be a matter of surprise to learn that such knowledge made any material difference to the awards. I can speak for the Fruit Committee, at least, and say that it treats everybody, members or non-members, known or unknown persons, alike; merit in the products alone secures awards. It must be understood that in entering for the respective committees' awards, there is no competition. At ordinary exhibitions, such secrecy as to exhibitors may be desirable; although I think few men would, as judges, be influenced by personal knowledge of the competitors. In any case, I do not think any evil results at the committees from the present system. If there be any, I have not seen it. A. D.

ANONA CHERIMOLIA.—Amongst the Kew notes in last week's issue of the *Gardeners' Chronicle*, mention is made of the successful treatment of this plant. When living at Warwick a friend gave me a plant of it, thinking I might be able to fruit it. I kept it in an intermediate-house, and gave it special attention, but without success. I have an idea that if it was treated as Peaches are in a Peach-house (as your correspondent recommends), good results would be obtained. I should like to know what age the plant now fruiting at Kew is, and what is the size of the pot that it is in. *Geo. Burrows, Berwick, Shrewsbury.*

LILIUM AURATUM AT BRICKLEHAMPTON HALL GARDENS.—A bulb of the above Liliium was purchased in the early spring from Messrs. Sutton & Sons, of Reading, and potted in an ordinary compost, used for the generality of greenhouse plants here. It was kept in a cold frame until it started into growth, when it was turned out-of-doors, and plunged up to the rim of the pot in coal-ashes. During the summer it was attended to regularly with water; when the pot was filled with roots, we gave it weak manure-water occasionally. As soon

as the buds began to appear, and the first flowers ready to expand, it was removed into the conservatory, where it remained until the blooming period was over. On August 12 it contained thirty-two expanded flowers, and one bud unopened, when the photograph was taken in the conservatory. The thirty-third flower opened shortly after, and before any of the others began to fade. It was a grand sight; the grateful odour exhaled filled the house with a most delightful perfume, and it was the admiration of all visitors during the time it was in flower. *Edward Lott, Bricklehampton Hall Gardens.*

TODEA SUPERBA.—A magnificent specimen or the above was noted last week at Brinkburn, Darlington, the seat of H. F. Pease, Esq. The plant measures from tip to tip over 6½ feet, and at the present time it is carrying five years' growth, and the fronds are of the most intense dark-green colour, a feature which distinguishes healthy plants of this species. I was informed by Mr. Wand, the gardener, that the plant is twenty-seven years old. So fine a plant indicates very careful attention during a long period of time. The house is unheated, and the temperature in it last winter was as low as 12°, or 20° of frost. In the same house is a grand mass of the Killarney Fern (*Trichomanes radicans*) in a 24-inch pan measuring over 5 feet across. *J. C.*

THE CRAB FOR FLOWERING AND FRUITING.—I am very glad to see Mr. Harrison Weir and others trying to bring the Crab so prominently before the readers of the *Gardeners' Chronicle*. I quite concur with "D. T. E." that many of our shrubberies are too much filled with evergreen shrubs, which are very good in their way, but when nothing else is planted our gardens and landscapes are apt to become somewhat monotonous. A judicious mingling of deciduous trees and shrubs would have an entirely different and more agreeable effect. Crabs being both useful as regards their fruit and ornamental, either in fruit or flower, should be more commonly planted in the shrubbery than is now the case, and also at the margins of ornamental plantations, where they would show out well in contrast with the more sombre hues of other trees. But why should we not plant a number of the strongest and hardiest of our Apples, such as standards, amongst the shrubbery and ornamental borders, for nothing looks better in the spring, nor could there be anything more useful in autumn. I have seen Apple-blossom greatly in demand for decorative purposes when it could be had. But no one would care much about cutting blossom from a tree they expected fruit from; but, on the other hand, if there was a number of Crabs and Apples planted amongst the shrubs and odd corners, the blossom could be taken without fear of in any way curtailing the supply of fruit in the garden. I once planted a large shrubbery with a groundwork of the common Laurel and Rhododendrons, dotting it over with standard trees of the Apple, Crab, Craegus, Almond, Prunus, and Libanum, and the effect was exceedingly fine. *D. L. M.*

CEDRUS LIBANI BLOOMING OUT OF SEASON.—According to my experience, the Cedar of Libanon blooms in May and June. I was therefore surprised to see, about the middle of last month, a tree of middle size growing in Tooting Graveney, the branches of which were laden with a great number of its yellow flowers. Are Cedars generally blooming at this unusual season about the country, or is the above an exceptional occurrence? *William Earley.*

DIPLADENIA AMABILIS.—When well done this species ranks amongst the most showy and useful stove climbers we possess. When at Chevering Park Gardens, Sevenoaks, a few days ago, I found the roof of the stove adorned with this plant and the beautiful *Dipladenia boliviensis*, and a grand specimen of *Allamanda Hendersonii*, all of them flowering profusely, especially the *Dipladenia amabilis*. This plant is growing in a 20-inch pot, and covers a roof-space of 12 feet by 6 feet. It has had upwards of 150 racemes of flowers, the strongest of which bears no fewer than from thirty to forty blooms, it being a wonderful example of good cultivation, and one which naturally enough attracted my attention. All-round gardening is done well at Chevering Park, and reflects great credit upon the head gardener Mr. C. Sutton. *A. O.*

THE ROYAL HORTICULTURAL SOCIETY AND CHISWICK GARDENS.—No doubt when Mr. Barron formally retires from the management of Chiswick, new arrangements will be made in connection with

the management of the gardens, but that such arrangements must necessarily be improvements is open to question; at the same time, it is to be hoped that some steps may be taken in order to render the Royal Horticultural Society and its doings more truly national. The importance of horticulture, and especially commercial horticulture, is daily becoming more apparent; and the aim of the Royal Horticultural Society in the future should be to foster horticulture as a national industry. The Society should encourage, by all means in its power, all efforts made to improve culture, to increase and improve varieties, and to extend the use of fruits and vegetables as essentials of daily national life and health, and also the free use of plants and flowers as important factors in the sum of human happiness. There can be no doubt that fruits, flowers, and vegetables, when put before the public in a fresh and proper way, constitute an important element in the production of a contented and healthy state of national life. Amateur horticulture should, of course, be encouraged by all the means at the disposal of the Royal Horticultural Society, but at the same time much prominence should be given to the importance of commercial horticulture. In these times of enormous foreign imports of fruits, flowers, and vegetables, not to mention eggs, poultry, and butter, it becomes us as a nation to seriously consider whether or not we can compete more thoroughly with the foreigner. Preferential railway rates in favour of the foreigner exist at the present, but is it too much to hope that a time is coming when this will not be the case? Is it too much to hope that British agriculturists will rise to the occasion, and go in for producing more of those articles that are always in demand? And is it too much to hope that the Royal Horticultural Society will become alive to the importance of fostering, by all means in its power, the important industry of British horticulture, in all its branches? The immense importance of fresh, well-grown fruits and vegetables is daily becoming more evident to the people generally. A better general state of health can be maintained by the judicious use of fresh fruits and vegetables than by any amount of medicine. The sooner this comes to be universally acknowledged the better for our people, and if the Royal Horticultural Society will make it its endeavour to spread abroad the glad tidings of peace and good health to men and women, through the extended use of fruits and vegetables in a proper condition, the Society will have done much to earn the national gratitude and to deserve national support. *John Thomson, Clovenfords, N.B., Nov. 13.*

— Thank you for your leader on Chiswick. It is said that history repeats itself, but another Lindley is not likely to appear there, I should say. I think it is time the Royal Horticultural Society Council gave the Fellows some notion of their proposed new movement. One thing is pretty clear, there will be no peace and progress till the governing body puts itself more fully in touch with gardeners generally. As it is, the Royal Horticultural Society is simply a trade society—it scarcely touches the amateurs or gardeners of England beyond a radius of 30 miles of London. My idea is, that such a society should have branches or agencies in all large centres of the British isles, and especially it should bind all *bona fide* gardeners into a national society, or union, or guild, call it whatever you will. Pottering about in London, giving medals to nurserymen, and helping them to advertise their goods, is all very well in its way, so is the carrying on of trials for the trade at Chiswick; but there is a higher and wider field untouched. We want union, we want science, we want progress and extension, and if country gardeners will not come to the society in London the Society must go to them. *F. R. H. S.* [An elaborate scheme for the institution of local secretaries and branch societies was formulated at the time of the exodus from Kensington, but nothing has been heard of it since. Perhaps the failure of the last provincial show at Liverpool discouraged further efforts in that direction. It was certainly worthy of a better fate. Ed.]

A FREAK OF NATURE.—The production of a green pitcher on *Nepenthes Curtisii* in these gardens is an occurrence worth commemorating. The plant, a small one, carries only six normal pitchers, besides the green one. This freak may not be uncommon, although no similar case has hitherto come under my notice. By stopping the shoot immediately above the leaf which possesses the green pitcher, and thus cause a shoot to break from its axil, it is possible that a sport may be secured. *Thos. Coomber, The Hendre, Monmouth.*

SOCIETIES.

ROYAL HORTICULTURAL. Scientific Committee.

NOVEMBER 12.—*Present:* Dr. M. T. Masters (in the chair); Mr. McLachlan, Mr. Michael, Rev. W. Wilks, Dr. Bonavia, and Rev. G. Henslow, Hon. Sec.

Death of Prof. Riley.—Mr. McLachlan spoke of the great loss sustained by the death of this eminent entomologist of the Museum of Natural History, Washington. He was the State Entomologist of the Agricultural Department, and formerly for that of Missouri.

Hybrid Asters.—With reference to the specimens sent to the last meeting by Rev. C. W. Dod, Mr. Dewar reports as follows:—"Although not quite prepared to agree with him fully, neither am I disposed to materially differ from his suppositions. The chief difference was one of colour; the flowers of the supposed hybrids are undoubtedly somewhat larger than I have before seen; the colour, however, is quite distinct from that of typical *A. Thomsoni*. The cross between *A. Thomsoni* and *A. Pyreneus* (?) is in every respect, except its large flowers, typical *A. Thomsoni*. The other cross (?) differs little except in colour of flower from seedlings. *A. Thomsoni* is a very variable species, becoming of course considerably more so by cultivation." Mr. Dod having kindly forwarded fruiting specimens of *A. Thomsoni* (*Clarke*) and of the hybrid to the Secretary, he found that they differed as follows:—The leaves selected from similar places were much larger and broader in the former, with more serratures; the hairs on the stem were shorter, but the involucre bracts were less hairy, the tips being nearly glabrous. The pappus was markedly shorter than that of the hybrid; a few bore ripe achenes. In the hybrid several of the ray florets were bisexual with perfectly free stamens, the anthers being more or less rudimentary; a few of the ray corollas were of the killed form. All the ovaries, disk and ray, were abortive. The above characters might be varietal only, but the presence of stamens, &c., perhaps indicate the effect of crossing.

Fungus on Pears.—With reference to the specimens received from Messrs. Veitch of Exeter, at the last meeting, the following report was received from Kew:—"The fungus on the Pear is *Monilia fructigena*, *Pers.* The individual patches of fungus are limited in extent; the first formed exhausts the necessary food for a limited distance beyond its fruiting area. Its spores germinate and grow just beyond this sterile zone, hence succeeding crops are more or less concentric, and separated by narrow sterile zones without fungi." They thus resemble *Fairy-rings*.

Cocos australis.—Dr. Masters exhibited orange-coloured Plum-like fruit received from Antibes, and sent by M. Naudin, and also by Mr. Hanbury from La Mortola. It is a native of Paraguay and Chili. It was the first occasion of its ripening in South Europe. The flavour resembled that of a Pine Apple.

Cypripedium, Hybrid.—Mr. Veitch sent plants of *C. Mioua* and cut flowers of the parents—viz., *C. × Arthurianum* (male) and *C. Spicerianum* (female). The former is the result of a cross between *C. usigne* × *C. Fairieanum*. Two offspring from the same pod showed considerable "dissociation," in that one more resembled the male, and the other the female; but the peculiar purple and white stamens of the male was lost, the green one of the female parent being present in both. The spotted perianth of the male was very pronounced in one, while the white sepal of the female was reproduced with no spots, though the purplish labellum of the female appeared on both.

Woodstockian, Hybrid.—Mr. Veitch also sent a new form, *Numa*, the result of crossing the "bigener," *indico-javanicum* by *R. multicolor* var. *Curtisii*. *Indico-javanicum* resulted from crossing Lord Wolsley (a hybrid containing the three true species, *R. jasminiflorum*, *R. javanicum* (twice), and *R. Brookianum* var. *gracile*) with *Azlea indica*, "Stella." This produced rather contracted flowers of a brick red colour. This was crossed with the small crimson-flowered (1 inch) *R. multicolor* var. *Curtisii*, *Numa* bears large flowers (2 inches) of a deep red orange, with a shorter tube than that of the female parent. Hence the effect of the male is to transmit the form of the corolla; but that of the female, the colour as well as the foliage, which is lanceolate, larger and broader than the leaf of *R. multicolor* var. *Curtisii*.

Black-skinned Apple.—Dr. Masters exhibited an Apple, the rind of which was of a deep purplish black colour, the cellular tissue within being light brown, apparently due to fermentation. It was forwarded to Kew. Mr. Michael remarked that he had known Bleheim Oranges to assume a similar appearance.

Flies, Dead, adhering to Barley.—Mr. Henslow exhibited a specimen prepared by the late Professor J. S. Henslow, in 1840, of flies attacked by a fungus, and which had died upon ears of Barley. It was also forwarded to Kew for further investigation.

KINGSTON CHRYSANTHEMUM.

NOVEMBER 12, 13.—Held, as usual, in the roomy but very cold Drill Hall, and, for the time of year, in fair weather auspices, the Kingston Society is to

* Figured and described in *Journ. R.H.S.*, vol. xiii., pt. ii., p. 21 (1891).

be congratulated on having a capital show. In some features, perhaps, notably in the popular Challenge Vase class, there was a falling off in the competitions, but in the fruit classes a great advance. The schedule includes so many classes, numbers of which are merely local, that we present results only in those of wider interest.

Plants.—The miscellaneous groups were relieved from their usual dulness here by a very light graceful arrangement set up by Mr. Ridge, gr. to SWINFEN EADY, Esq., Q.C., Weybridge, who was a good 1st. Mr. F. Hopkins, gr. to Mrs. WOODERSPOON, Walton, was 2nd; and Mr. Takell, gr. to B. F. S. McGEACH, Esq., Kingston, 3rd.

Chrysanthemum groups were of the usual very solid order, simply plants and flowers crowded into a semicircular mass. Mr. French, gr. to Mrs. BARCLAY, Wimbledon, was 1st, having the best front; Mr. G. H. Sage, gr. to Earl DYSART, Ham House, coming 2nd, having the freshest blooms, but a bad front; Mr. Forbes, gr. to D. NICHOL, Esq., Surbiton, came 3rd.

Treated Plants.—Six very fine specimens, superbly bloomed, were shown by Mr. Swan, gr. to MURRAY SMITH, Esq., Weybridge, who had Florence Davis, W. Tricker, Mrs. Stevens, Pink Christine, Mrs. Dixon, and Mrs. G. Ruade. Mr. Pead, gr. to R. S. BOND, Esq., Surbiton, was 2nd. Mr. SWAN also had the best three trained plants. The best three standards came from Mr. King, gr. to A. F. PERKINS, Esq., Holmwood, who had good specimens of Vivand Morel, Pink Christine, and Chinaman. Mr. SWAN was again 1st with four trained Pompons, having Black Douglas, Rose Margaret, W. Westlake, and Marguerite St. Coe; Mr. J. Plowman, gr. to C. LAVERS SMITH, Esq., Long Ditton, was 2nd, with better flowered plants; Mr. PEAD came 3rd.

Cut Blooms.—Only four growers competed for the seventh grand Challenge Vase this time. The competition comprised twenty-four Japanese and twenty-four incurved flowers. Last year the Cup was won by Mr. Higgs, gr. to J. B. HANKEY, Esq., Fatcham Park, Leatherhead, who takes the 1st place this time, and thus in two years wins the trophy outright. He had fine incurved, the varieties as they ran from back to front being L. Lambert, Lord Wolseley, Jeanne d'Arc, W. Tunnington, Princess of Wales, Violet Tomlin, Lord Alcester, C. B. Whitnall, Lord Rosebery, Mrs. B. C. Kingdon, and others of recognised merit. Of Japanese, the best were Mdlle. Thérèse Rey, Charles Davis, Mons. Panckoucke, Deuil de Jules Ferry, Sunflower, Vivand Morel, Col. C. B. Smith, M. Marie Hoste, W. M. Seward, and other popular varieties. Mr. Hunt, gr. to P. RALLI, Esq., Ashstead Park, was 2nd, but had some fine Japanese, including Golden Gate, Violet Rosa, Sunflower, Col. Chase, Madame Marie Hoste, V. Morel, &c.; Mr. Neville, gr. to F. W. FLIGHT, Esq., came 3rd, his stand including a good Madame Carnot; Mr. Quarterman, gr. to C. E. SMITH, Esq., Cobham, was 4th. The executive will now have to provide a new Vase for next year.

Incurved Blooms.—In the class for twenty-four, Mr. Mease, gr. to A. TATE, Esq., Leatherhead, was a good 1st, having fine flowers of Lord Alcester, Major Bonnajon (selected as the premier incurved in the show), J. Lambert, C. H. Curtis, Empress of India, Lord Rosebery, J. Doughty, Golden Empress, Jeanne d'Arc, Princess of Wales, Globe d'Or, &c. Mr. HIGGS was 2nd, with very fair flowers. In the class for twelve blooms, Mr. KING was 1st with fine flowers; Mr. RIDGE coming 2nd; and Mr. COOMBS, gr. to W. FURSE, Esq., Teddington, 3rd. In the class for six blooms, Mr. QUARTERMAN was 1st, having good Queen of England, Lord Alcester, John Lambert, Empress of India, Violet Tomlin, and Miss M. A. Haggas. Mr. MILLHAM, Leatherhead, was 2nd.

In the class for six blooms of any variety, Mr. HIGGS was 1st with large, but rather rough, Empress of India; Mr. Felgate, gr. to the Duchess of WELLINGTON, Walton, having Violet Tomlin, 2nd; and Mr. KING was 3rd with Robert Patfield.

Japanese flowers were very plentiful, the best twenty-four coming from Mr. MEASE, who had very good Vivand Morel, Mr. Owen, Silver King, Good Gracious, W. G. Newett, Golden Gate, Charles Davis, Mrs. W. H. Lees, Duke of York, &c. Mr. G. ELLIOTT, gr. to P. W. GRAHAM, Esq., West Molesey, was 2nd, having some very fine flowers. Mr. Standing, gr. to Mr. GOOD, Worthing, was 3rd.

Mr. KING had the best twelve Japanese, including fine Vivand Morel, Sunflower, Lord Brooke, Louise, Mdlle. Thérèse Rey, Viscountess Hambleton, &c. Mr. COOMBS was 2nd, and Mr. Holden, gr. to C. W. IZOD, Esq., Esher, 3rd.

Mr. MILLHAM had the best six Japanese; Mr. QUARTERMAN being 2nd. In the class for six Japanese of one variety, Mr. KING was 1st, with fairly good Mdlle. Thérèse Rey; fine Golden Gate and Madame Carnot (the premier Japanese bloom) from Mr. C. HUNT, who was 2nd; and the first-named from Mr. HIGGS, 3rd.

Other Sections.—Mr. MEASE was again to the front with the best twelve reflexed, having the usual varieties.

Japanese Anemones were very good indeed, the best twelve coming from Mr. Turner, gr. to O. F. MURRAY, Esq., Epsom, who had Sir W. Raleigh, John Bunyan, Enterprise, W. W. Astor, Madame Jules Benedict, &c., very fine. Mr. O. J. Waite, gr. to the Hon. Col. TALBOT, Esher, was 2nd; and Mr. Springthorpe, gr. to A. A. BEAVAN, Esq., 3rd.

Mr. J. PLOWMAN had the best Anemone Pompons, and the best twelve Pompons in trebles. With three varieties of the Rundle family, six blooms of each, Mr. READ was 1st.

Singles were very fine indeed, and beautiful. The best box of twelve varieties came from Mr. FORBES, who had Admiral Seymour, Charming, Rose Pink, Parity, Mary Anderson, &c.; Mr. PLOWMAN was 2nd.

Mr. MILLHAM had the best six table plants; and Mr. Port-

bury, gr. to W. N. FROD, Esq., Putney, the best nine plants; whilst the best six Bouvardiae came from Mr. PEAD.

Mr. FRENCH had in well-fruited, long red Capsicums, the best berried plants; and Mr. MILLHAM the best six double Primulas.

FRUIT.

These exhibits were plentiful and good. The best four dishes of various kinds came from Mr. W. Davies, gr. to J. B. CHAPPELL, Esq., Teddington, who had Alicante Grapes, small Pine, Cox's Orange Apples, and Baurré Diel Pears; Mr. G. H. SAGE was 2nd.

Black Grapes were in fine form, the best, pretty, well-finished Alicante coming from Mr. G. ELLIOTT; Mr. J. BURY, Byfleet, coming 2nd, with other good Alicantes.

The best whites, all being Muscat of Alexandria, were from Mr. Taylor, gr. to S. BAYER, Esq., Forest Hill; Mr. COLE, Feltham, coming 2nd.

There were fifteen lots of six dishes of Apples, Mr. WILL TAYLER, Hampton, coming 1st, with beautiful examples of Cox's Orange, Bibston, and King of the Pippins, Empress Alexander, Annie Elizabeth, and Blenheim Pippin; Mr. Tubbs, gr. to B. CURRIE, Esq., Frimley Manor, Farnborough, was 2nd.

The best four dishes of Pears, came from Mr. DAVIES. He had good Doyenné du Comice, Glou Morceau, Baurré Bosc, and Baurré Dieu.

Mr. C. J. WAITE had the best basket of vegetables.

A nice collection of fruit was shown by Mr. WILL TAYLER; and Messrs. TUTTOK and SHEPHERD, exhibited a capital dish of Héricart de Thury Strawberries from the open ground quite ripe.

FARNHAM, SURREY.

NOVEMBER 12.—This exhibition was held in the Corn Exchange and the Assembly Rooms, each of which was well filled, whilst by judiciously engaging two rooms there was no overcrowding in any section of the show.

Groups were a feature. Mr. Cresswell, gr. to Miss KENNEDY, Aldershot Park, was deservedly 1st, both from point of quality and arrangement. Mr. Gaymer, gr. to Mrs. ANDERSON, Waverley Abbey, Farnham, was a good 2nd.

In another group class for trade-growers only, Mr. MORTIMER, Swiss Nursery, Rowledge, was an excellent 1st with plants not so severely disbudded, each plant bearing several fine flowers, with buds also showing colour. Mr. S. BENE, Alma Nursery, Farnham, who was 2nd, had done even less thinning, this group being very bright and showy.

Specimen Plants were not shown to much extent, but the miscellaneous group by Mr. Butler, gr. to Mrs. MARSHALL, Farnham, was both bright and good.

The Challenge Class for cut blooms was won by Mr. GAYMER; this being the third time he has won the Cup, it now becomes his property. Very fine blooms were noticed in both sections, the best of the Japanese were those of Fairy Wonder, Madame Thérèse Rey, Mr. W. H. Lees. Of incurved, Empress of India, Miss Haggas and Princess of Wales. Mr. Fry, gr. to Sir W. ROSE, Moor Park, Farnham, was a capital 2nd. In another class, also twenty-four Japanese and twelve incurved, these same two exhibitors occupied similar positions.

The best six blooms of one variety of Japanese were those of Vivand Morel, shown by Messrs. DOLLEY & SON; Mr. OSMAN, Ottershaw Park, Chertsey, having six good blooms of Jeanne d'Arc in the incurved class.

The best Grapes were of Blacks, Alicante, shown by Mr. MORTIMER; and of Whites, Muscats, by Mr. OSMAN.

The best vegetables in two classes came from Mr. Pownay, gr. to Colonel FITZROY, Hale Place, Farnham, twelve varieties in each case being required. The best six dishes of dessert Apples were shown by Mr. PRAWELL, gr. to T. J. WOODROFFE, Esq., Frensham; and the best six culinary by Mr. Turner, gr. to R. H. COOMBE, Esq., both exhibits being good.

LIVERPOOL.

NOVEMBER 12, 13.—The autumn exhibition of this Society was held in the St. George's Hall, and was very satisfactory. The quality of the cut blooms of Chrysanthemums was better than has been the case during the last few years. Fruit, usually good at Liverpool, was excellent. The arrangements were very good under the direction of Mr. Dickson, the Secretary. Cut blooms receive most encouragement, and they were staged in large quantity.

The principal prize was that for forty-eight blooms, to be composed equally of incurved and Japanese varieties. There were seven competitors; the 1st prize being somewhat easily won by Mr. J. JULLICOE, gr. to F. GOSSAGE, Esq., Camp Hill, Woolton, with blooms possessing much merit.

The incurved were particularly fine and well staged, and included Lord Alcester, Emily Dale, Queen of England, Beauty, Princess of Wales, and Lucy Kendall. Mr. G. Eaton, gr. to W. H. SHIRLEY, Esq., Allerton House, was 2nd.

For eighteen incurved blooms, Mr. J. HEATON, gr. to R. P. HOBSTON, Esq., M.P., Nursery Road, Aigburth, won with excellent blooms, including leading varieties. Japanese blooms in eighteen varieties were distinctly meritorious, as well were they staged. Mr. J. HEATON again won the premier position with large brightly-coloured blooms. Mr. J.

Williams, gr. to J. PROCTOR, Esq., was 2nd. Mr. C. SHERLOCK, gr. to E. EDMONSON, Esq., Woodlands, Aigburth, won the premier position for twelve Japanese in a brisk competition. Anemone-flowered varieties were best shown by Mr. G. EATON, in the class for six blooms, the centre, or disc, being thoroughly well developed. A like remark applies to the reflexed varieties, also staged by Mr. EATON.

The class for exhibitors who have not previously won a prize at this show was an extremely good one. Mr. J. HEATON staged extraordinary blooms in the class for six incurved, and the same number of Japanese blooms.

Japanese blooms staged with long stems for effect were well shown by Mr. B. CROMWELL, gr. to F. SUTTON TIMMIS, Esq., Cleveley, Allerton, who was 1st. He had good blooms displayed on an extra-sized sloping stand.

PLANTS.

Plants were contributed in large numbers. For three trained specimens, Mr. T. GOMAN, gr. to J. A. BARRETT, Esq., Lynton, Mossley Hill, Liverpool, was 1st with plants freely flowered and not too stiffly trained. For one untrained specimen, Mr. W. LYON, gr. to A. MACKENZIE SMITH, Esq., Luca, Boltonmoor, won.

The best group of Chrysanthemums was from Mr. J. BRACEGIRDLE, gr. to W. H. WATTS, Esq., Elm Hall, Wavertree. The plants were dwarf and carried good blooms, nor were they too closely packed.

Orchids made a pleasing display.

FRUIT, &c.

Fruit formed a remarkable feature. For six dishes Mr. CROMWELL secured the premier award with capital Grapes, Muscat of Alexandria and Alicante, Marie Louise Pears, a Melon, and a dish of Ribston Pippin Apples. Mr. R. HANAGAN, gr. to T. COMBER, Esq., Saughton, Chester, won for six dishes of Pears, and for a like number of Apples. Mr. J. DAVIES, gr. to W. E. KING, Esq., Bodenham Manor, Leominster, was an easy 1st with beautifully-coloured examples. Exhibits of Grapes were numerous and good. For four bunches, distinct, Mr. T. ELSWORTHY, gr. to A. R. GLADSTONE, Esq., Court Hay, Roby, won the premier position with excellent examples of Alicante, Alanwick Seedling, Golden Queen, and Muscat of Alexandria.

Messrs. P. P. KERR & SONS staged a remarkably fine lot of Cyclamans, and the Liverpool Horticultural Society had Orchids in variety.

THE WEST OF ENGLAND CHRYSANTHEMUM.

NOVEMBER 12, 13.—The annual exhibition of the above Society took place on Tuesday and Wednesday, at the Plymouth Guildhall, and in every way the show was a great success. This year, by a better system of grouping and arrangement, the whole of the exhibits are placed in the hall, and the result has been a finer effect, and it gave much greater pleasure in viewing the show as a whole.

CUT BLOOMS.

The entries in the majority of the classes were numerous, and as a consequence the competition was very keen, so much so that in several instances it was but by a matter of a few points only that the winners secured their coveted positions.

In the class for Horticultural Societies within the four counties of Devon, Somerset, Dorset and Cornwall, the class being for thirty-six blooms, to consist of twenty-four Japanese and twelve incurved, the Teignmouth Horticultural Society was awarded 1st, the 2nd falling to that from Newton-Abbot. The class for forty-eight Japanese, not fewer than twenty-four varieties, was a very strong one, the flowers all through being exceptionally fine. The premier position was ultimately awarded to J. B. FORTESCUE, Esq., Boconnoc, Cornwall (gr. Mr. C. Page). Here we noticed Mrs. J. DENNE, G. C. SCHWABE, E. MOLYNEUX, Violetta, and Col. Chase amongst the best. H. HAMMOND SPENCER, Esq., Teignmouth (gr. Mr. G. Foster), was 2nd, having, amongst others, Madame Carnot, Mrs. C. H. Payne, and Richard Dean, very fine. W. HERBERT FOWLER, Taunton (gr. Mr. G. Hawkins) was third; his Silver King, Viscountess Hambleton, L. E. SAUNDERS were especially fine in a very good display.

For twenty-four incurved blooms, H. HAMMOND SPENCER was 1st, C. G. PRIDEAUX BRUNE, 2nd. The incurved blooms were mostly neat, pretty flowers; but every season, classes for these seem to suffer in size, through the greater size of the leading Japanese flowers.

For six Japanese white, W. HERBERT FOWLER, was well 1st with grand blooms of Madame Ad. Chaton; and H. HAMMOND SPENCER 2nd with Madame Carnot.

For six Japanese, any colour but white, J. B. FORTESCUE, Esq., was 1st with M. Panckoucke; and Miss FRIPP, 2nd with Duchess of Wellington.

Twelve Japanese, T. WILKINSON was 1st, beating numerous competitors; and W. H. VEALE, 2nd.

The class for twenty-four blooms Japanese and incurved was well filled, but the immense size of the former kinds, placed in close proximity to the smaller incurved varieties, somewhat detracts from the interest of this class. Sir JAMES JENKINS, Mannamead, was 1st, whilst G. HAWKES, and H. ENDICOTT, gr. to Mr. E. ALLEN, Ivybridge, were close up as 2nd and 3rd.

Several classes of cut blooms were set apart for amateurs, and 1st prizes were secured by T. F. USHER, and other

awards falling to J. NEWTON, F. M. BRIDSON and GEORGE HOSKIN.

O. FOSTER was awarded 1st in a special class where the prizes were offered by Mr. W. J. Godfrey, of varieties sent out in England during 1894-5 to include Mrs. W. J. Godfrey and Miss Rita Schroeter.

GROUPS.

A number of these were arranged round the Hall, and in the principal class filling a space of 100 square feet, Mr. C. WATTS, Plymouth, was 1st, with a fine display, the quality good, and arrangement and general effect most pleasing. Some Crotens, Bamboos, Eulalias and Ferns were used with discrimination and advantage. Mr. Chelwell deserved praise for his arrangement; and W. B. Greenslade, gr. to A. GROOMBRIDGE, was placed 2nd.

Other groups confined to residents within 15 miles of Plymouth, were shown by BENNETT BROS., who were first, and Mr. W. B. GREENSLADE, 2nd. Primulas were shown by Dr. SQUARE, who was 1st, and Sir JAMES JENKINS, 2nd; whilst for some double Primulas, Major-General CAMPBELL was 1st; Mr. S. H. PHILLIPS, 2nd.

MISCELLANEOUS.

Some nice Orchids were shown, including fine varieties of *Cattleya labiata*, *Cymbidiums*, *Cypripediums*, *Dendrobium Phalenopsis*, &c., the 1st prize falling to Dr. ALDOUS, Mannamend; 2nd to F. H. HONORS.

Some fine collections of Apples and Pears were staged by Miss FRIPP, 1st; and Mr. F. BRADSHAW, 2nd. Grapes were only represented in one class, Mr. G. CHAMBERLAIN, Ivybridge, 1st; Mr. C. NORRINGTON, Abbotshfield, 3rd.

Prizes for vegetables were offered by Mr. W. J. GODFREY and JARMAN & Co., Chard, the 1st prize in both classes being secured by Mr. F. BRADSHAW; Mr. G. WATTS being successful with Mr. Lethbridge prize, and Lady WALKER securing that offered by Messrs. Sutton & Co., Reading. Messrs. A. T. Westlake, Plymouth, J. Lethbridge, W. Thorn, South View Nurseries, Compton, Messrs. Jarman & Co., Chard, and Messrs. Veitch & Son, Exeter, staged groups not for competition, the latter having many choice Orchids, amongst them being a number of plants of *Cypripedium Charlesworthii*, and good forms of *Cattleya labiata*. Mr. W. J. Godfrey had a fine stand of new and choice Chrysanthemums, as well also as a pretty display of Carnations, including the new ones recently sent out by him.

DEVON AND EXETER GARDENERS' ASSOCIATION.

NOVEMBER 13.—At the meeting held on Wednesday, presided over by Mr. P. C. M. Veitch, and well attended by the members of the association, the Rev. Dr. Dangar (Principal of the Diocesan Training College at Exeter), gave a lecture on "Carnations," and their propagation and cultivation.

In the course of his remarks he said, with regard to the mode of propagation, three methods at once presented themselves—(1) by seeds, (2) by cuttings, (3) by layers. As to raising from seed, this at once raised the question as to what seed one meant to sow. In England it was difficult to raise seed at all from double flowers. In some few especially favourable seasons this could be done, but the large growers on the Continent had the best chance by reason of their long summers. To attempt to raise Carnation seed under glass generally ended in failure. They needed out-of-door treatment. But given the seed, they should sow in a cool frame early in February in a box containing crocks in the bottom, a layer of well-rotted turf, and on the top a compost of loam, sand, and dung finely sifted. One should sow in rows, water after sowing, and place in a cool frame, quite at the top and near the glass. Much sun-warmth was required, and plenty of air. His plan described above gave both. The moment that weeds appeared they should be pulled up. In May, or early in June, the plants would be quite large enough to handle, and to be potted into 3 or 4-inch pots, and placed back in the same frame. There they should remain until the pots were nearly, but not quite, full of roots. It was best to plunge the pots in ashes—(a) to draw the warmth, and (b) to keep out worms, slugs, &c. In September, or possibly earlier, but in a rainy time, plant out, and in the following July the plants would bloom. They could not force nature; if they sowed the seed in autumn, as soon as it was ripe the plants would come up, but they will not, as a rule, get a flower worth looking at until the following July year. Some people said it was a mistake to increase Carnations by cuttings. That was not his experience. He took his cuttings at the end of the first week of summer rain, so as to get some growth in the grass. If potted singly in four-inch pots, with the same compost as had been detailed above, and if well pressed down into the soil, a very large percentage would strike. They should be placed in a cool frame, previously well lime-washed, and rendered free from insects, and the cuttings should be kept just damp. Most of them would strike in two or three months, but some might remain dormant until the spring. Layering, known to all Carnation growers, was the one usually adopted, but the lecturer said he thought it not so satisfactory as cuttings, especially in very light land, where the damp was so apt to run out of the surface soil, nor in land infested by slugs or other depredators. They were all fond of the soft tissues of Carnations. As to planting out, into blooming quarters,

growers would have noticed how constantly it happened that beds of Carnations on the flat, where over-much water was provided on a clay soil, did badly, whereas those on a bank did well. In a very hard winter whole beds on a slope had escaped when those on the level had perished. A Carnation is a capricious plant, but, after all, one of the most beautiful flowers.

CARDIFF CHRYSANTHEMUM.

NOVEMBER 13, 14.—The ninth exhibition of this society was held on the above dates in the Park Hall, Cardiff. The show of Chrysanthemum blooms was more than usually good, particularly the Japanese varieties, and the competition in many of the classes was very keen. The groups were excellent, and devices, bouquets, &c., of the florists' art, remarkably tasteful; making, as is always the case at Cardiff, a fine feature of the exhibition.

Messrs. PAELPS & Co. and CASE BROTHERS, both of Cardiff, had fine large displays in this way, and were suitably awarded a Silver Medal. Mr. W. J. GODFREY, Exmouth, and Messrs. CLIBRAN & SON, Altrincham, each exhibited several stands of cut blooms of Chrysanthemums, many of them being extra good novelties; Aroma, the variety shown by Mr. GODFREY, being singled out for special award; as also Messrs. CLIBRAN'S Lord Lisburne, a good Japanese of terra-cotta colour, and Messrs. CUTBUSH and Sons' Mrs. Bick. In the fruit classes Apples were well shown. Mr. J. WATKINS and Messrs. CRANSTON had collections similar to those shown by them at Hereford last week. Amongst Mr. WATKINS' dishes a new kitchen or dessert variety, named Lady Emily, was conspicuous. It is of middle size, of handsome colour, good quality, and said to be a heavy cropper. He also had Byford Wonder in splendid condition.

CHRYSANTHEMUMS, CUT BLOOMS.

For Twenty-four Japanese distinct.—1st, Mr. G. W. DRAKE, Catharp-terrace, Cardiff, with grand blooms of Madame Carnot, Mrs. H. Payne, W. H. Lincoln, Robert Owen, Madame A. Mohin, &c. 2nd, R. A. BOWRING, Esq. (gr. Mr. H. A. Joy), whose best blooms were, Madame Carnot, Etoile de Lyon, Chas. Davis, Viscountess Hambleton, and Lord Brooke.

Twenty-four Incurred Varieties, distinct.—1st, Earl of LISBURN, Cross Wood Park (gr. Mr. Williams), with well-finished blooms of Prince Alfred, Miss M. A. Haggas, John Lambard, Mrs. Robinson King, Princess of Wales, &c. 2nd, Sir C. E. G. PHILLIPS, Picton Castle (gr. Mr. Dumble), with good blooms of favourite varieties.

Twelve Japanese varieties, distinct.—1st, J. C. HANSBURY, Esq., Pontypool (gr. Mr. J. Lockyer), with fine well-coloured blooms of Edwin Molyneux, Mrs. H. Payne, J. S. Dibbens, Vivand Morel, Chas. Davis, Etoile de Lyon, &c.; 2nd, R. A. BOWRING, Esq., with Lord Brooke, Duke of York, Duchess of York, Madame Carnot, Mlle. T. Rey, &c.

Twelve Incurred varieties, distinct.—1st, J. MASTERS, Esq., Lanely (gr. Mr. J. Howe), with good Princess of Wales, Golden Empress, Mrs. J. Gardener, Miss M. A. Haggas, Lucy Kendall, &c.; 2nd, Sir C. E. G. PHILLIPS, with Baron Hirsch, &c.

Twenty-four distinct blooms, for which a Challenge Cup, value £5 5s. was offered, to be won twice before it comes the property of the exhibitor. A similar cup was won last year by Sir C. E. S. PHILLIPS. 1st, R. W. D. HARLEV, Esq., Hereford (gr. Mr. Robinson), with grand blooms of Madame Carnot, Vivand Morel, Niveum, Duke of York, E. Molyneux, Mons. Panckoucke, Miss D. Shed, Mrs. H. Payne, Mons. C. Mofin, Empress of India, Golden Empress, Lord Alcester, and Queen of England. Madame Carnot in this stand was selected as the best bloom in the show, and was awarded the N. C. S. certificate; 2nd, Sir C. E. G. PHILLIPS, who also had a splendid lot of well-finished blooms.

The N.C.S. certificate offered for the best Chrysanthemum plant in the show, was won by R. DEAN, Esq., Newport, with a well cultivated, and profusely-flowered plant of Louis Boehmer.

LEWES CHRYSANTHEMUM.

NOVEMBER 13, 14.—Both the Town Hall and Corn Exchange were filled with good exhibits; but the cut flowers and miscellaneous groups formed the features of most interest. Groups of Chrysanthemums were generally not good.

The group covering a space of 60 square feet placed Mr. C. Fennell, gr. to Mrs. THORNE, The Grange, Lewes, 1st. It was a closely-arranged lot. The mixture of Ferns, stove and greenhouse plants, was well done, Mr. J. Adams, gr. to the Rev. Sir G. SHIFFNER, Coombe Place, Lewes, was 2nd.

Cut flowers caused strong competition, and in the class for 24 Japanese, Mr. J. HARWOOD was 1st, and Mr. A. SLAUGHTER, 2nd, in a very strong class. Mr. J. HEASMAN, gr. to Mrs. OXLEY, Turner's Hill, was a good 1st for 24 incurved varieties, and Mr. C. Sayers, gr. to the Misses COOK, Nutley, was 1st for 12 of these varieties. Mr. A. SLAUGHTER, Jarvis Villa, Steyning, put up a grand lot in a class for 12 Japanese, and Mr. J. Coles, gr. to H. F. WALKER, Esq., Balcombe, beat him for 6 Japanese distinct. The competition in these two classes was strong. Mr. J. HEASMAN, was 1st for 6 incurved distinct; and Mr. J. Hopkins, gr. to Mrs. THORNTON, Framfield, a good 1st with grand blooms of Empress of India in a class for six of one variety. In a strong amateur's class, Mr. A. SLAUGHTER was 1st for 6 Japanese.

HULL CHRYSANTHEMUM.

NOVEMBER 13, 14.—Many fine exhibitions have been held in the Artillery Barracks under the auspices of the Hull Chrysanthemum Society, but never has there been one of better quality throughout than this one. Messrs. Harland & Dixon are to be congratulated upon their success. Cut blooms though perhaps slightly less numerous than on some previous occasions, were better in quality than ever.

In the class for twenty-four incurved blooms there was a brisk competition, and Mr. W. H. LEES, gr. to F. A. BEVAN, Esq., Trent Park, New Barnet, won 1st place with a clean lot of medium sized splendidly staged blooms. Mr. J. P. Leadbetter, gr. to A. WILSON, Esq., Tranby Croft, Hull, was 2nd. For twelve incurved, similar positions were taken by these two exhibitors.

Japanese classes were much the stronger. In that for twenty-four blooms, distinct, Mr. LEES was invincible. A bloom of M. Panckoucke was awarded the premier position in the show as the best Japanese bloom. Messrs. J. P. PEARSON and Sons, Chilwell, Notts, exhibited well, and were 2nd. In the class for twelve blooms, Mr. H. Thompson, gr. to C. J. RINGROSE, Esq., Cottingham Grange, Hull, was 1st with a good collection. For thirty-six blooms in twelve varieties, to be shown in vases, three in each, Mr. LEADBETTER made a creditable display, and was 1st. Anemone-flowered varieties were especially well shown by Mr. F. Mason, gr. to A. SMITH, Esq., Woodleigh, Hessle. Mr. R. Walker, gr. to Col. CLITHEROW, Hotham Hall, Brough, had extremely fine specimens of reflexed varieties in his first prize stand of twelve blooms; Mr. WALKER also presented the best Pompon blooms. Mr. WELLS, Earlswood Nurseries, had a remarkably fine stand of single-flowered varieties. Amateurs staged very commendable stands of blooms in classes set apart for them.

PLANTS.

Specimen plants formed a prominent feature of the show. Vast improvement was shown in this section. For three trained plants, any varieties, Mr. J. Clark, gr. to A. MAYFIELD, Esq., Beverley Road, Newland, Hull, was 1st with freely flowered and not too formally trained specimens. Mr. F. POPE, Butcher Row, Beverley, had six really meritorious examples of bush-grown plants in the class for that section. "Cut-back" plants receive considerable encouragement here; for six of these Mr. C. C. Coates, gr. to W. WHEATLEY, Esq., Anlaby Road, Hull, 1st, the plants being but a little over 3 feet high and carrying good blooms.

GROUPS AND TABLE DECORATIONS.

Groups of Chrysanthemums interspersed with foliage plants are exhibited splendidly at Hull. A Challenge Vase value twenty guineas being annually offered in this class Mr. Coates was successful on this occasion for the third time and the vase now becomes his property. Five extreme good groups were entered. Not only is the arrangement praiseworthy in these groups, but the plants employed are of the highest quality, producing a splendid effect, arranged as they are around the sides of the central building. Miscellaneous plants arranged for effect added much to the interest of the show. Mr. G. Wilson, gr. to Sir J. RICKITT, Bart., Swanland Manor, Brough, exhibited one of the most effective groups possible, and secured the premier award.

Table decoration under artificial light adds to the interest of the show, open as the competition is to ladies only.

Upon this occasion Mrs. F. TOPHAM, Hotham Hall, Brough, was the most successful exhibitor, Mrs. T. FAWLEY JUDGE, Helmsley, Cottingham, following, both having tastefully-arranged tables.

BOURNEMOUTH AND DISTRICT CHRYSANTHEMUM AND HORTICULTURAL.

NOVEMBER 13, 14.—This admirably managed society held its annual exhibition of plants, cut blooms, fruits, vegetables, &c., in the Winter Gardens attached to the Hotel Mont Doré, Bournemouth, on the above-mentioned dates, and must be pronounced as one of the best hitherto held by the society, a fact which redounds to the credit of the excellent committee and energetic secretary (Mr. James Spong) and every one connected with the show.

CUT BLOOMS.

The class for 36 cut-blooms, one-half Japanese and the others incurved, and not more than two of any one variety, was well won by Mr. N. Molyneux, gr. to J. CARPENTER GARNIER, Esq., Rooksbury Park, Fareham, Hants; Mr. Woodford, gr. to Major BLOUNT, and Mr. Prosser, gr. to H. J. MILES, Esq., The Knolls, Wimborne, 2nd and 3rd.

Mr. Grace (gr. to W. R. NEAVE, Esq., Fordingbridge) had the best stand of twelve Japanese, distinct varieties, including, among others, very fine blooms of Colonel Smith, President Borel, and Madame Carnot. Seven lots were staged in this class. Mr. N. Molyneux led in the corresponding class for a like number of incurved blooms, staging very fine specimens of popular varieties. Mr. GRACE taking 2nd place with a good even lot of blooms.

Mr. Boots, gr. to F. RICARDO, Esq., had the best 6 blooms

of Japanese (grand examples of Vivand Morel) as well as the best 6 blooms of incurred (Hero of Stoke Newington). Mr. GRACE coming in 2nd in each class with Vivand Morel and Robert Petfield in fine form. Mr. BOOTE was also 1st out of six stands staged for 12 Japanese, distinct, to which stand the N. C. S. Bronze Medal was also awarded. Charles Davis, Mons. H. Payne, Etoile de Lyon, and Vivand Morel being the most prominent blooms in this stand.

GROUPS, covering an area of 100 square feet in the open and 50 square feet in the amateur classes, were remarkably good. The plants were well-grown dwarf, clothed with large, rich-looking foliage from the pots upwards, and surmounted with large, fresh, fine blooms. In the open class, foliage plants were allowed in the arrangement, Messrs. G. WATTS & SONS, Palace Nurseries, Bournemouth, were accorded premier position; Mr. INGRAM, Parkston Nurseries, taking 2nd place. The 1st and 2nd prize groups were very close to each other in point of merit.

Mr. W. STRETCH put up a grand group in competition for the Challenge Cup; Mr. G. Eldridge, gr. to G. W. YOUNG, Esq., was a good 2nd.

GRAPES.—Mr. J. MENZIES, South Lytchetts, Pool, had the best 3 bunches of Grapes in the open classes in Gros Colmar, fine in bunch, berry, and colour; and Mr. Mitchell, gr. to J. W. FLEMING, Esq., Chilworth Manor, Romsey, was 2nd, with Black Alicante. Mr. James Chalk, gr. to Geo. READ, Esq., Westwood, Salisbury, had the best 3 bunches of white Grapes, showing Muscat of Alexandria good in every respect; and Mr. MITCHELL was second. Mr. MENZIES was a successful exhibitor in the minor classes for Grapes.

APPLES AND PEARS made a good show. Mr. Osborne, gr. to Rev. H. HOPKINS, took 1st for three dishes dessert Apples, and Mr. Masley, gr. to Miss EVANS, was 1st for a like number of dishes of culinary varieties, the former staging excellent fruits. Pears were creditably shown by Mr. MENZIES and others. Vegetables were shown in great quantities, and in fine condition.

TUNBRIDGE WELLS, MID-KENT, AND EAST SUSSEX CHRYSANTHEMUM.

NOVEMBER 13, 14.—A pretty show was arranged in the Corn Exchange and Assembly Rooms. Groups of Chrysanthemums and others of mixed plants were very good, but specimen plants were poor. Nor were the Solanums and Poinsettias so good as usual. Taken collectively, there was considerable falling-off in the cut-flower classes, some of these, including that for twenty-four incurred blooms, not obtaining one competitor.

A Silver Cup for eight plants in pots, not to exceed 12 inches in diameter, was secured by Mr. J. Smoother, gr. to Mrs. HALL, Broadwater Down. A second Silver Cup for a group 12 feet by 8 feet, occasioned considerable competition, and the winner, Mr. J. Howes, gr. to W. COBB, Esq., Dulcote, Broadwater, had plants carrying really fine blooms. This group was more formal than that from Mr. J. SMOOKER, who was 2nd, but the flowers were better.

A group of miscellaneous plants from Mr. Berwick, gr. to J. GODDEN, Esq., Tunbridge Wells, was prettily arranged; but that from Mr. L. Dupond, gr. to C. B. POWELL, Esq., Southborough, was even more tasteful in arrangement, yet lacking in colour. For six dwarf-trained plants, Mr. J. SMOOKER was well in front, also for single specimens of incurred and Japanese.

CUT BLOOMS.

Nine competed in a class for twelve Japanese cut blooms, Mr. J. Howes, gr. to W. COBB, Esq., Broadwater Down, being 1st with some grand blooms, although closely followed by others that gained no award. The exhibits in this class were to be arranged on a table 4 feet by 2½ feet, with Ferns and other foliage for effect. The result was a very pretty lot, but we could not agree with the judges in their 2nd award. The blooms were not good, but the arrangement far behind that in others.

Twelve incurred blooms were shown in good form by Mr. J. Legg, gr. to Rev. E. H. BOARDMAN, Groombridge, who was followed by Mr. C. HARRIS, gr. to O. A. SMITH, Esq., Hammerwood, East Grinstead; Mr. J. SNOW, The Gardens, Wadhurst, being 1st for six varieties.

Mr. HARRIS was 1st for twenty-four Japanese, closely followed by Mr. J. W. Moss, gr. to Mrs. ROBINSON, Matfield. For twelve Japanese, Mr. E. Dove, gr. to J. W. HARCASILE, Esq., Hill Court, Edenbridge, won; Mr. HARRIS again coming in front for six blooms; and Mr. J. SNOW for six of any one variety, with Mrs. H. Payne.

MISCELLANEOUS CLASSES.

For six berried plants, Mr. G. TICKNER won with a well-grown lot of Solanums; and Mr. W. AUSTIN was in front for six Poinsettias.

A class for six Orchids brought out some good pieces from Mr. C. Earl, gr. to Sir J. GOLDSMID, Tonbridge; and Mr. J. Howes, gr. to W. COBB, Esq., Broadwater Down.

Fruit was bright and sound, but not numerous. Mr. F. Bridger, gr. to Lord DE LISLE, Penhurst, was almost invincible in these classes, taking premier honours for six dishes of dessert Pears, and for three dishes of the same; for six dishes of dessert Apples, for one dish, and for six dishes of cooking Apples. Mr. LEGG was 1st for three dishes of dessert Apples; but Mr. BRIDGER again came to the front for three dishes of kitchen Pears, and also for a similar quantity of cooking Apples.

Vegetables were very good, the 1st prize for a collection

open to members only, going to Mr. W. H. Wickens, gr. to J. WHEELWRIGHT, Esq., Nevill Park, who just beat Mr. STANDEX.

Mr. J. CHARLTON put up a grand collection of vegetables and horticultural sundries not for competition and a good lot of fruit came from Mr. A. Wilson, gr. to the Marquis of ABERGAVENNY, Eridge Castle.

BRISTOL CHRYSANTHEMUM.

NOVEMBER 13, 14.—The above show was a great success in every way. Exhibits were good and numerous, competition being in most cases keen. Cut flowers and specimen plants, likewise groups, were well done. The show was varied by the introduction of classes for miscellaneous plants and flowers. Great interest was taken in the competition for the Challenge Vase, value 12 guineas, £5 being added to the 1st prize. This was well won by Captain MARLING (gr., Mr. McDonald), who was also successful in other classes.

Fruit was well shown also, the various classes being well filled; the Grapes, although not sensational, were of good quality; likewise the Apples and Pears.

The vegetable competition being strong, for the special prizes offered by Messrs. SUTTON & SONS, drew a strong competition of first-rate quality; as did also those offered by the Society, Messrs. BROWN & SON, Messrs. W. GARRAWAY & CO., and others.

LICHFIELD CHRYSANTHEMUM.

NOVEMBER 13, 14.—The second exhibition was held on the above dates in the St. James's Hall. The Mayor, T. Ashmall, Esq., informed the large audience that Lichfield had held flower shows without a break for seventy successive years. Judging from the present display the exhibition should become a popular one.

The best group of Chrysanthemums (open) was one from General DYOTT, Freefold Hall (gr., Mr. Dix), who showed well-grown plants of Vivand Morel, W. Seward, Mrs. H. Payne, Beauty of Exmouth, and others. 2nd, W. F. GORDON, Esq.

Plants of Japanese varieties, distinct, were best from Sir CHARLES FOSTER, Bart., Longdon; 2nd, General DYOTT.

Plants of Chrysanthemums suitable for table decoration were good from Mr. A. O. WORTHINGTON; and a group of miscellaneous plants from Col. SWINPIN BROWNE, Lichfield, containing nice specimens of Cattleyas and Dendrobiums, with Palms, Crotons, &c., was deserving of commendation.

The best twelve cut blooms of Japanese Chrysanthemums were from General DYOTT; as was also the best collection of twelve cut blooms incurred.

Of Fruit, there was a large display in the class for two bunches of Black Grapes. Mr. JOSEPH HARVEY was 1st.

Apples, in three dishes, dessert varieties, were good from General DYOTT. Mr. C. H. INGE won for three dishes of kitchen Apples.

General DYOTT was 1st for a collection of vegetables in eight dishes.

Amongst the non-competitive exhibits, Messrs. RIVERS & SONS, Sawbridgeworth, had fine collections of Apples and Pears.

EDINBURGH BOTANICAL.

NOVEMBER 14.—The first meeting of the sixtieth session of this Society was held at 5, St. Andrew Square, on the evening of Thursday, Professor F. C. Bower in the chair. Owing to the unfavourable weather prevailing the attendance was small. After the election of office-bearers for the session, which were balloted for and elected unanimously as proposed by the Council, the public business was proceeded with.

The principal item on the list was the address by the retiring President, Professor F. C. Bower, F.R.S., who gave a paper on the life and work of Robert Brown; and in a very interesting manner pointed out the important work and principal traits in this great botanist's life, from his earliest efforts. The death of Professor Babington, who was one of the early members of this Society, was noticed with sympathetic regret, and Professor Bower was asked to furnish an obituary notice of this old and celebrated botanist, for the Society's Transactions. In the absence of the writer, Dr. David Paul, a communication on "Fungi observed in Glen Urquhart, Inverness-shire," was read by the Assistant-Secretary, Mr. J. TERRAS, B.Sc., which, from the list given, seemed to be a happy hunting-ground for these forms of plant-life. The Assistant-Secretary also read the Report of Vegetation made in the Royal Botanic Garden by the Curator, Mr. R. Lindsay, for the past three months. During October, it was found that plants in flower were much injured by frosts, the following having during the month come into bloom in the rock-garden, viz., *Campanula garganica*, *Morina longiflora*, *Stachys densiflora*, *Verbascum Chaixii*, *Helleborus niger grandiflorus*, and *Veronica Bachofenii*.

In the meteorological observations recorded at the Royal Botanic Garden during October, the following few items from Mr. A. D. Richardson's report were noted. The mean of barometer readings reduced to 32°, and taken at 9 A.M., was 29°708 inches, or the same as the average for five previous years. The highest reading of the protected maximum thermometer

was 62°8, on the 1st; minimum, 25°2, on the 24th. Frost occurred on six days. Hygrometer in screen: Mean of dry-bulb, 41°1; wet-bulb, 41°8; dew point, 35°6. Radiation thermometer: Maximum in sun, 107°7, on the 12th; minimum on grass, 14°9, on the 28th. Frost occurred on grass on eighteen days. Rain, &c., fell on seventeen days. Total fall, 3·230 inches. Greatest fall in twenty-four hours, 0·620 inches on the 1st. A few plants and specimens from the houses of the Botanic Garden were exhibited, including *Melastoma malabathrica*, *Vitis heterophylla humulifolia*, *Vanda Kimballiana*, and others; and notes upon plants of interest therein, were read by Mr. R. L. Harrow. The new President for the session, Dr. A. Aitken, M.A., D.Sc., &c., occupied the chair during part of the evening.

EALING HORTICULTURAL.

NOVEMBER 14.—The eighteenth annual exhibition of Chrysanthemums, &c., took place in the Victoria Hall on the above date, bringing together a satisfactory display, both of plants and cut flowers.

The 1st prize and Silver Medal of the National Chrysanthemum Society for a group, arranged for effect, was well won by Mr. C. Long, gr. to E. P. OAKSHOTT, Esq., Orchard Dece, who was also placed 1st for three specimens (incurred, Japanese, or reflexed), with finely-flowered plants of John Shrimpton, and E. Beckett. A good 2nd was Mr. C. Edwards, gr. to W. OWEN, Esq., The Elms. In three Pompons, Mr. LONG was again well to the front, with Sœur Melanie, Mr. Westlake, and Antoinette, closely followed by Mr. C. EDWARDS.

CUT BLOOMS.

Twelve incurred: a grand lot of flowers of well-known varieties gained the premier position to Mr. C. EDWARDS, whilst scarcely inferior were the blooms staged by Mr. C. LONG.

Six incurred.—1st Mr. H. Knightley, gr. to — ROBINSON, Esq., Southall; Lord Wolsey and Miss M. A. Haggas, amongst others, were here shown well.

Mr. C. EDWARDS was 1st for twelve Japanese varieties, very good being those of C. H. Payne, Beauty of Castlewood, and Silver King.

Nine Japanese.—A fine lot of flowers gained Mr. C. EDWARDS the 1st prize, noteworthy being Madame Carnot, Philadelphia, and Lord Brooke.

Six Japanese.—The leading prizes here were won with fine blooms by Messrs. LONG and EDWARDS, who maintained the same positions in the class for three Japanese.

Twelve hunches, Pompons.—This was a pretty class, Mr. C. EDWARDS being placed 1st; and Mr. C. LONG 2nd.

In Pompons, some fine flowers were contributed by Mr. W. Roberts, gr. to J. HARRIS, Esq., Braemar, noteworthy being Prince of Orange, W. Westlake, and Sœur Melanie.

The two Medals for premier blooms (Japanese and incurred) were awarded to Mr. C. EDWARDS, who staged in the former a fine flower of Lord Brooke, and in the latter a well finished bloom of Lady Dorothy.

WINCHESTER.

NOVEMBER 14, 15.—An excellent show was held in the Guildhall on the above dates, of which cut blooms formed the more important part.

The winner of the 1st prize in the highest class both for forty-eight Japanese and incurred, in eighteen varieties, was Mr. NEVILLE, gr. at Twyford, Winchester. His blooms were of middle size, and neatly staged. Mr. J. AGATE was 2nd.

Mr. J. Bowerman, gr. to C. HOARE, Esq., Hackwood Park, Basingstoke, was the winner in the twenty-four cut bloom class, Japanese, with a very even stand; and Mr. G. Best, gr. to F. D. LEYLAND, Esq., The Vine, Basingstoke, was 1st for twelve Japanese, distinct. Mr. N. Molyneux, gr. to J. C. GARNIER, Esq., Rookesbury Park, Farnham, succeeded in gaining the 1st prize for twelve incurred, with medium-sized, neatly-finished examples.

Single-flowered and Pompon varieties were best shown by Mr. AGATE. For the former he received a Certificate of Merit, and for the latter he won premier place.

Plants.—Specimen plants were best staged by Messrs. H. & J. VANE, who were 1st in all the classes. The best group of Chrysanthemums was a good one from Mr. G. H. Street, gr. to Dr. FEARON, The College, Winchester. Mr. ELAN, gr. to W. A. GILBERT, Esq., Fair Oak Lodge, Bishopstoke, arranged a nice group of miscellaneous plants.

Messrs. HILLIER & SON, Winchester, had a meritorious collection of Apples and shrubs; Messrs. JEFFRIES, miscellaneous plants; Mr. B. LADHAMS, Shirley, wreaths, bouquets, &c. By far the finest exhibit, not for competition, was that from Mr. E. Molyneux, gr. to W. H. MYERS, Esq., Swanmore Park, Bishop's Waltham, who staged several dozen cut blooms, Japanese and incurred, along with two dozen hunches of single and Pompon-flowered varieties in vases.

WIMBLETON AND DISTRICT HORTICULTURAL.

NOVEMBER 14, 15.—This exhibition took place on the above dates, and there was good competition in most of the classes. A praiseworthy feature was made by the groups of plants in flower. In the cut bloom section some of the Japanese flowers were very fine, but incurred varieties were not remarkable.

A Silver Cup, given by the tradesmen of Wimbledon for a group (semi-circle, 10 feet in diameter) was well won by Mr.

S. Mynett, gr. to J. CARLISLE, Esq., Ashburton House, Putney Heath; the Japanese flowers in this collection were excellent. A good 2nd was Mr. A. Newell, gr. to Sir E. SAUNDERS.

In the class for a smaller group, a bright lot of plants secured 1st position to Mr. F. Kiehl, gr. to R. T. BAYNES, Esq., Glenovarne, who was closely followed by Mr. G. Coleman, gr. to G. T. GILES, Esq., Copse Hill House.

A group from which Pompons were excluded, and open only to cottagers who must have grown the plants from cuttings, was remarkably well shown by Mr. C. HULL, Denmark Road. The best specimen large-flowered plant was one of Colonel W. B. Smith, shown by Mr. W. Thornton, gr. to T. E. CROCKER, Esq., Draxmont; 2nd, Mr. C. Bentley, gr. to Captain BOSWORTH, Roehampton.

Cut blooms.—An important class was that for twenty-four incured and twenty-four Japanese blooms, and a grand collection from Mr. W. Mease, gr. to A. TATE, Esq., Downside, Leatherhead, gained the 1st prize. Amongst some of the best Japanese were Madame Hoste, Madame Thérèse Rey, Silver King, and Golden Gate. Incured, B. Petfield, Queen of England, Chas. Gibson, C. H. Curtis, and Empress of India.

Mr. MEASE was well to the front again for twelve Japanese and twelve incured blooms, in the former section he had fine flowers of Etouille de Lyon, Marie Hoste, and Golden Gate. Amongst the incured were Princess of Teck, Hero of Stoke Newington, and Golden Empress of India; 2nd, Mr. A. Ratcliff, gr. to J. B. JOHNSTONE, Esq., Coombe Cottage, Kingston.

Twelve incured blooms were shown best by Mr. A. RATCLIFF, the blooms of Flora Macdonald, Lord Rosebery and Lucy Keedall were good; Mr. W. J. Wright, gr. to H. A. TUFFNELL, The Grove, was 2nd.

Mr. A. Alderman, gr. to C. CZERNIKOW, Esq., Effingham Hall, Dorking, had the best twelve Japanese, and included amongst others, fine blooms of Mille, Marie Hoste, Sunflower, and Madame Ricourd. A good even lot of flowers securing 2nd place, was staged by Mr. A. Skeggs, gr. to Mrs. DAUS, Copse Hill. The last-named exhibitor had premier place for six incured; Mr. C. BENTLEY being 2nd.

Mr. A. ALDERMAN had very fine blooms in the class for six Japanese; and Mr. A. SKEGGS was 2nd.

The best six Japanese of one variety, were of Robert Owen, from Mr. G. Mileham, gr. to A. T. MILLER, Esq., Emlay House, Leatherhead. 2nd, Mr. A. SKEGGS, with Mille, Marie Hoste, Mr. W. J. WRIGHT won for six large Anemose-flowered varieties; the best were W. W. Astor, Sir W. Rae, and Madame Ghyb.

The six best reflexed were from Mr. MEASE, and fine flowers were noted of Cloth of Gold, and various coloured Christines. A very pretty class was that for twelve Pompons, and good flowers of Mille, Martha, President, Antonius, Aglais, and others, secured the 1st prize to Mr. W. J. WRIGHT, who was closely followed by Mr. C. BENTLEY.

In the section for amateurs who do not employ a gardener regularly, some good blooms were shown. The leading prize-winner for twelve incureds here was Mr. G. WALKER, jun., Lingfield Road. Mr. W. G. P. CLARK, Hitchin, won for six incureds. The best twelve Japanese were from Mr. W. G. P. CLARK; 2nd, Mr. E. H. DOUET, Surbiton. Mr. CLARK led also for six Japanese, the best being W. H. Lincoln and Vivand Morel; 2nd, Mr. J. BROWN, South Wimbledon. Six Japanese, of one variety, were well shown by Messrs. CLARK and BROWN, who had Vivand Morel, and won in the order named.

The classes devoted to cottagers brought out some good flowers.

Miscellaneous.—There was a good competition in the class for Primulas, the principal prizes being taken by Mr. A. NEWELL and Mr. T. P. Macgregor, gr. to Dowsager Lady HAY, Putney Hill. The best group of miscellaneous plants was from Mr. R. Bradford, gr. to W. HOPE HALL, Esq., Addington, Wimbledon; 2nd, Mr. T. CHANDLER, gr. to Rev. Canon HATGARTH, The Vicarage. Mr. F. Chandler, gr. to Mrs. WILSON, Burfield, won 1st for a smaller sized group.

Table plants were shown well, Crotons being finely coloured. The principal prize winners were Messrs. A. ALDERMAN and W. MEASE.

The best six berried plants (Solanum), were from Messrs. J. FRENCH and J. LAW. Baskets of foliage and flowering plants were well represented, the leading prizes being taken by Mr. W. THORNTON and Mr. T. P. MACGREGOR.

There was a good competition in the vegetable classes, Messrs. C. BENTLEY and W. THORNTON being the principal winners.

Fruit was well shown. For three dishes dessert Apples, Mr. WILL TAYLER, Osborn Nursery, Hampton, took 1st place, having, amongst others, some fine King of the Pippins; 2nd, Mr. A. ALDERMAN. Mr. TAYLER was an excellent exhibitor of kitchen varieties; 2nd, Mr. C. BENTLEY. The principal prizes for Pears were taken by Messrs. W. TAYLER and A. MEEHVEN.

Non-competitive.—These exhibits were numerous and good. Messrs. THOMSON & SONS, The Nurseries, Wimbledon, sent some charming floral devices in Chrysanthemums, Orchids, &c., also a nice group of flowering and foliage plants. Mr. Alderman, gr. to G. HATFIELD, Esq., Morden Hall, sent a very fine collection of Apples and Pears, tastefully arranged amongst cut Chrysanthemums and small decorative foliage plants.

Mr. A. Luff, gr. to J. F. SCHWANN, Esq., J.P., Oakfield, Wimbledon Park, sent a good selection of Apples and Pears, with well-finished Muscat of Alexandria Grapes. A nicely-arranged group of Cyripediums in flower was contributed by Mr. R. Bradford, gr. to W. HOPE HALL, Esq., Wimbledon Park. Mr. WILL TAYLER sent a good lot of Apples and Pears; also clusters of Grape Reine Olga de Wurtemberg, which produces delicious fruit on open walls. The show was well managed by the Secretary, Mr. W. S. THOMSON.

BECCLES AND DISTRICT CHRYSANTHEMUM AND FLORICULTURAL.

NOVEMBER 14, 15.—The sixth annual exhibition held in the Town Hall, notwithstanding it clashed with other shows in the county, was satisfactory.

The plants in pots were superior to those shown in former years, not only in the better quality of the blooms, but the plants were furnished with good foliage down to their base. For three plants in pots (Japanese), Sir B. BEAUCHAMP, Langley Park, was 1st; and Alderman MASTERS, Beccles, 2nd.

In the classes for plants of incured, reflexed, and Pompon varieties, Alderman MASTERS, Mrs. H. READ, and Mrs. W. W. WORSWICK were the principal exhibitors, the prizes being awarded in the order named.

Groups of Chrysanthemums were an attractive feature of the show, Mrs. H. READ taking the 1st prize for a remarkably fine lot; 2nd, Mr. E. LAWRENCE, also good.

For cut blooms, Japanese, in twelve varieties, Mr. NEWMAN, Yarmonth, was 1st; 2nd, Alderman MASTERS. Good examples of Vivand Morel, C. Davis, Stanstead White, Mrs. H. Payne, Mille, Thérèse Rey, G. C. Schwabe were seen on their respective stands.

Miss TAYLOR, Starston, was 1st for six Japanese blooms, showing good specimens of Colonel Smith, Beauty of Exmouth, and Princess May. Incured varieties were shown well by Mr. STITTON, Yarmonth, with Mrs. H. READ and Alderman MASTERS.

Amateurs, or those not employing a gardener regularly, also contributed largely towards the success of the show.

SCOTTISH HORTICULTURAL.

NOVEMBER 14 15, 16.—The ninth annual Chrysanthemum show of the Society was opened in the Waverley Market on Thursday, the 14th inst. It must have been apparent to visitors who have been in the habit of seeing the annual exhibitions that this one was at least as good as any previous display. The market presented a full and well-furnished appearance from all sides, and a view from the gallery, owing to the brilliant colours being toned down by the foliage plants and Ferns, as well as by occasional groups, was distinctly pleasing.

In the large classes for cut blooms, more than the usual number of exhibitors competed, and their flowers were of high merit. Plants, although better than in previous years, still lack the dimensions occasionally seen in some other leading shows.

Fruit also was indicative that the past season has been favourable to its proper development. Vegetables, which we usually expect good at Edinburgh, were excellent, and the competition in most classes keen. Several of the nurserymen contributed to the display by the exhibition of specialities in plants, flowers, and other miscellaneous exhibits.

Mr. CAMPBELL, of High Blantyre, arranged a table of Carnations and Ferns, and a circular stand of Crotons, Palms, Heaths, &c.

Mr. H. JONES of Rycroft Nurseries had a table of excellent kinds of Japanese and incured varieties of Chrysanthemums.

A table of highly-coloured Kale, from the original stock of the late Miss BOPE of Wardie Lodge, Edinburgh, was interesting; while some enormous Marrows and other vegetables were staged from Mr. J. SCARLETT of Inveresk; examples of preserves from these being also shown.

There was a table of articles for sale in aid of the Gardeners' Orphan Fund, which we hope was successful.

Messrs. DOBBIE & Co., Rothesay, staged a table of Chrysanthemums, including some of the newer varieties.

PLANTS.

For six distinct varieties of Chrysanthemums there were four competitors. It was the principal class for pot-plants, and Mr. D. CAVANAGH, St. Edward's, Murrayfield, was deservedly 1st, though Mr. J. HOLMES, Winton Castle, Peccaitland, was a good 2nd.

Pompons.—In the class for four trained plants, those from Mr. HUNT, Colbridge, Murrayfield, were very commendable; Mr. J. HOLMES again taking 2nd honours. Mr. D. CAVANAGH was also 1st with four Japanese, his plants of Vivand Morel, Val d'Andorre, and Margot, being very good; 2nd, Mr. J. HOLMES. Mr. D. JARDINE, Ravelston, Blackhall, staged fine specimens in the class for two plants of Japanese. The 1st prize for a plant of a white-flowering Chrysanthemum was awarded to a well-grown plant of Bouquet de Dame, from Mr. D. CAVANAGH.

Mr. S. ABBOTT, Prestonfield House, Edinburgh, carried off 1st honours for a yellow variety, with a magnificent plant of W. H. Lincoln.

In the class for a specimen plant of an Anemose-flowered variety, Mr. J. HOLMES was 1st with a pretty specimen of Dorothy Souillet; and the best Pompon was shown by Mr. G. WOOD, Oswald Houe, Edinburgh. Some remarkably well-grown plants were shown by amateurs, in some cases almost equalling those from professional gardeners. The classes were also well contested.

Mr. R. MELROSE, 8, Great Stuart Street, Edinburgh, was 1st in the class for two plants of large-flowered varieties; and Miss G. MUNRO, Bee Cottage, Peccaitland, 2nd. Mr. R. H. McBEAN, 6, West Montgomery Place, Edinburgh, was successful in carrying off the 1st prizes for two Pompons, one large-flowered variety, and also one plant of a white-flowered Japanese variety, his exhibits being good in regard to the blooms and the training.

CUT BLOOMS.

These classes on the present occasion, as always, were the principal attraction of the show. That for forty-eight Japanese, distinct, secured a large share of the attention of visitors, and as not a bad bloom was to be found upon the boards of the 1st prize exhibit, this was scarcely a matter of surprise. The 1st prize, of a plate value £20, presented by the Lord Provost, Magistrates, and Town Council, and called the City of Edinburgh Prize, was won by the wonderfully successful exhibitor, Mr. W. H. Lees, gr. to F. A. BEVAN, Esq., Treot Park, New Barnet, and his blooms included Madame Carnot (awarded the prize to the best Japanese bloom in the exhibition), Mrs. Wheeler, Reine d'Angleterre, G. W. Childs, Abbé Menjehall, Primrose League, E. Molyneux, Madame Octa is Mirabeau, G. C. Schwabe, Mons. C. Molina, Mons. Panckucks, Mrs. W. Godfrey, Duchess of Wellington, C. Shrimpton, Mons. Greyer, International, Phœbus, Beau's Toulonaise, Rose Wynne, Madame Girond, Madame A. de Guilbert, Etoile de Lyon, Mephisto, Madame Moulin, J. Shrimpton, Lady Saunders. Mrs. C. H. Payne, Mutual Friend, Henri Jacotot Fils, Sunflower, Pres. Borel, Floreace Davis, Niveum, Richard Dean, Wilfrid Marshall, Madame Adam Chatio, Charles Davis, Madame M. Ricord, Mrs. F. Jameson, Mrs. W. H. Lees, Beauty of Castlewood, Colonel Chase, and others. The 2nd prize fell to Mr. J. BEISANT, Castle Huntly, Longforgan, who in the two previous years has gained the premier position. Mr. J. CARRUTHERS, Hillwood, Corstophine, 3rd.

In the class for twenty-four Japanese, or the Scottish Challenge Cup class (open to Scottish gardeners and amateurs only), Mr. D. NICOLL, Rosie, Forgandenny, took 1st prize with excellent blooms, followed by Mr. J. BEISANT. Mr. J. CARRUTHERS staged the best lot of twelve blooms.

For twelve incured blooms, Mr. J. CLARK, Bannerfield, Selkirk, was 1st, and his stand included a bloom of C. Curtis, which received honours as the best incured shown. Others noted were Lucy Kenda's, Mrs. Colman, Princess of Wales, Lord Alcester, and Alfred Salter; 2nd, Mr. J. MARTIN, Winchcombe.

In the classes for six blooms of the following varieties, Mr. L. GEODES was 1st, namely, E. Molyneux, Stanstead White, and Mille, Thérèse Rey. Three magnificent blooms of Duchess of York were staged by Mr. J. KYLES, Corstophine.

Blooms arranged in vases were this year more numerous, and were generally admired. In the class for twelve vases of Japanese blooms, Mr. J. LEES, with splendid flowers, secured 1st prize; Mr. J. CLARK, Selkirk, being 2nd.

For six vases, Mr. J. KIDD, Carberry Towers, Musselburgh, was 1st. For one vase, to contain twelve Japanese blooms, Mr. J. CARRUTHERS was 1st.

In the class for an epergne of Chrysanthemums (open to ladies only), Mrs. R. LAIRD, Edinburgh, staged an effective arrangement.

Mr. A. BRYDON was the principal winner of prizes in the amateur classes for cut flowers, securing 1st place for twelve and for six Japanese blooms, as well as for six blooms of a white Japanese variety. Mr. T. M. WHITEHEAD took 1st prize for six incured blooms.

The three best blooms of one variety not in commerce were from Mr. A. KIRK, Alloa, who won the Society's Silver Medal with a variety named Mrs. A. KIRK, a variety with pink florets, striped with a light yellow band.

FRUIT.

Some first-class Grapes were noted, and these were the principal exhibits. In the class for four bunches, distinct varieties, Mr. J. LESLIE, Perth, was 1st with fine bunches of well-finished berries of Muscat of Alexandria, Alicante, Gros Colmar, and Gros Maroc; Mr. W. MURRAY, Polmont, was 2nd. Mr. J. LESLIE was also 1st in the class for two bunches with Black Alicante and Muscat of Alexandria. The Muscats from Mr. J. MCNEIL, Peebles, secured him the 1st prize for two bunches; Mr. D. KIDD being 2nd. For two bunches of Gros Colmar, Mr. H. A. WALKER, Colinton, was 1st, with fine large berries, well coloured, followed by Mr. A. YOUNG, Peebles.

Pine apples were not numerous; the two best were from Mr. MCINTYRE, The Glen, Inverleithen; Mr. T. BOYD, Falkirk, being 2nd.

Mr. MCINTYRE also won the 1st prize for a collection of twelve dishes of fruit, including Grapes, Melons, Figs, Apples, &c.; Mr. D. MURRAY, Culzean Castle, Maybole, was a good 2nd.

The best collection of eighteen varieties of Apples, and six varieties of Pears, produce grown in Scotland, was a very meritorious lot from Mr. J. CAIRNS, The Hirsch, Coldstream, some of his finest examples being King Pippin, Galloway Pippin, Sandringham, and Blenheim Orange; 2nd, Mr. J. RENNIE, Brro.

Mr. J. DAVY, Gartleston, secured 1st place in the open class for eighteen varieties of Apples, and six varieties of Pears, with exceptionally fine fruit throughout; Mr. A. WILSON, Ayr, being 2nd.

In the only class for Pears, Mr. F. THOMSON, Yetholm, was 1st for six varieties.

The class for market-growers was one for six varieties of Apples in baskets, as packed for market; and Mr. D. LOGAN, Coldstream, was 1st; followed by Mr. D. McCUTCHEON, Ayr.

VEGETABLES.

The vegetables were extremely good, and occupied a very considerable space. The 1st prize-winner for a collection was Mr. R. F. RAE, Sunlaws, Roxburgh, who had in his exhibit Pears, Tomatoes, Onions, Beet, Bussels Sprouts, Cauliflowers, Celery, Leeks, Cabbage, and Cucumbers, all worthy of praise. For the collection of six distinct kinds, Mr. J. WALTER, Dollar, was 1st, and Mr. A. DICKSON, Innerleithen, 2nd.

The best Tomatos were those from Mr. J. PATERSON, Kirkcaldy, whose twelve even fruits were very fine. Leeks of enormous size were extensively shown. The best eight were from Mr. D. LOGAN, Coldstream. This exhibitor also won 1st prize for Calery with grand heads. Carrots, Turnips, Beetroot, and other reasonable vegetables were well shown.

A good collection of vegetables, open to market growers only, was staged by Mr. W. SMEALL and Mr. D. LOGAN, who carried off 1st and 2nd prizes.

NURSERYMEN'S CLASSES.

Some good exhibits both of cut flowers and plants were made by nurserymen. The 1st prize for thirty-six Japanese Chrysanthemums was gained by Mr. R. WOOD, Carnoustie, who had some first-class flowers. Mr. W. WELLS, Redhill, Surrey, was 1st for twenty-four incurved blooms, and showed good varieties, and of large size and fine colour.

For the best collections of Conifers two good groups were brought by Messrs. R. B. LAIRD & SONS and Messrs. J. DICKSON & SONS, Edinburgh. These two firms taking prizes in the order mentioned. Some fine plants of Retinosporas, Cupressus, Juniperus, were noted amongst the many interesting forms.

MISCELLANEOUS CLASSES.

Four competitors arranged groups of plants in circles, the best being by Mr. P. HUNT; Mr. G. WOOD was a close 2nd. The classes for table and berried plants, Pelargoniums, Primulas, and other stove and greenhouse plants, were used for decorating the centres of the tables, and were all freely contested.

Wet weather was general during the three days on which the show was open, but a large number of visitors attended during the last two days.

STOCKPORT CHRYSANTHEMUM.

NOVEMBER 15, 16—This society is gaining in strength and importance each year. It is held in the Volunteer Armoury, a large building in every way suited for an exhibition of plants and flowers. The Chrysanthemums covered a large amount of table space, notwithstanding the five-two shows held during the week in northern England, the Japanese section particularly being grand. Fruit was select and good, particularly some of the dishes of Apples and Pears.

Among the prize-takers for plants in pots were Captain T. H. SYKES, Messrs. G. H. GADDAM, J. C. CHORLTON, and J. BROWN. They were generally a creditable lot of plants, with good blooms finely developed, and the foliage strong and vigorous.

In the Japanese cut-flower section the competition was spirited and close, Mr. Roderick, gr. to Captain SYKES, and Mr. Richardson, gr. to JAS. E. PLATT, Esq., carrying off chief honour, although the respective gardeners to the Corporation of Stockport, G. H. GADDAM, Esq., J. EVANS, Esq., J. LEES, Esq., G. L. DEWHURST Esq., and others, showed well in all the classes. The more prominent Japanese blooms were Primrose League, an immense pale primrose; Mr. G. W. Clarke, lilac and white; Duke of York, a pronounced pale purple and white, the florets head-like, and the colours blended in captivating style; Lord Brooke, orange and brown shaded Gloriosa, a very fine yellow; Chas. Davies, orange and sienna, are of the best; Vivian Morel, good wherever shown; Mrs. H. Payne, E. Malynaux, Princess May, Stanstead White, a grand flower; M. Panckoucke, President Borel, Madam Hoste, and S. C. Schwabe. Among the incurved we noted Lord Alcester, Princess of Wales, John Doughty, Queen of England (still a leading flower), Golden Empress, Lord Wolsley, Empress of India, C. B. Whitnal, Jeanne d'Arc, John Lambert, Violet Zumber, Madame Darier, Prince Alfred, and Baron Hirsch. Among others, Harry Wonder is noted. Mrs. J. B. Benedict was one of the more prominent of the quilled or Anemone section, with yellow florets in centre, and flushed pink guard-petals.

There were a few good Orchids from Mr. Roderick, particularly the Chantini form of *Cypripedium insigne*; and the table plants were choice. The bouquets comprised many good flowers, and were of various forms, from the circular compact one presented to the Mayoress at the opening, to the spray ones, with Smilax and Asparagus, which now lead the fashion.

There was one capital exhibit of a group of *Araucaria excelsa*, chiefly table-size plants in perfection of contour, from Mr. JOHN BIRKET, a local dealer. The plants were all from cuttings. Mr. J. WOOLEY had a nice assortment of showy flowering plants, and several gentlemen in the district sent contributions of Palms, Ferns, &c., to decorate the platforms.

The Fruit consisted of good Alicante Grapes from Captain SYKES and others; the Muscats were far above the average. The Pears and Apples from Mr. McKellar, gr. to JAS. WATTS, Esq., Abney Hall, were select, high coloured, and generally good.

LONGTON CHRYSANTHEMUM.

NOVEMBER 12.—The Sixth Annual Show of this Society was opened in the Town Hall, on the above date. The object of the promoters is to encourage the growth of the queen of winter flowers amongst the artisans of the district. Since its formation the growth of the society has been rapid, and the quality and numbers of the flowers staged on this occasion were very satisfactory.

In the open division the best twenty-four blooms incurred distinct were from Mr. J. McPHAIL, Supdt. Queen's Park, Longton, who staged excellent blooms of Empress of India, Queen of England, Charles H. Curtis, Baron Hirsch, Jeanne d'Arc, Empress Eugénie, &c. 2nd, Mr. J. STOPES, Derby. Mr. J. McPHAIL was also 1st for six incurved blooms distinct and for twenty-four Japanese distinct. In the latter class he had good blooms of Edwin Molynaux, Sunflower, Good Gracious, Viscountess Hambleton, &c. 2nd, Mr. STOPES.

In the amateur section, where the classes are confined to residents in the borough of Longton, seventeen competitors entered for six blooms distinct. The 1st Prize, a Silver Cup and Certificate of the National Chrysanthemum Society, was awarded to Mr. A. TAMS for a fine stand containing C. H. Curtis, Queen of England, Baron Hirsch, Empress of India, Lord Wolsley, Lord Alcester. 2nd, Mr. H. WARREN. All the competitors in this class receive a prize.

For a group of Chrysanthemums for which the Certificate of the National Chrysanthemum Society, together with the prizes was offered Mr. B. BRIAN won with a well-arranged lot. 2nd, J. SPENDELOW.

The three best plants of Japanese varieties distinct were from Mr. J. WARREN.

The other and minor classes were generally satisfactory.

Some fine bunches of Gros Colmar Grapes were sent by T. TAMS, Esq., the Hayes Stone (gr., Mr. Bates).

Messrs. HILL & SONS, Spotacre Nurseries, staged cut flowers and plants.

YEOVIL CHRYSANTHEMUM.

NOVEMBER 13.—The eighth annual exhibition of plants, cut blooms, fruits, and vegetables, in the municipal buildings on the above-mentioned date, was one of the best held by the Society, and much credit is due to the Committee and Hon. Sec. (Mr. E. H. Oakley) for the unsparring efforts put forth to achieve this result.

As usual, Mr. A. Crossman, gr. to J. BRUTTON, Esq., Yeovil, secured premier position for a grand group of Chrysanthemum plants in pots, this being the seventh year in succession in which Mr. Crossman has won the chief place in this class. Mr. BISS, gr. to J. BRADFORD, Esq., had the best group of miscellaneous plants, which were arranged with excellent taste and effect.

Cut blooms made a fine show in themselves. Three-hundred and twenty-four excellent flowers were staged in the chief class—thirty-six Japanese in not fewer than twenty-four varieties—for the Mayor's prize £5, were best from Mr. Thomas Wilkins, gr. to Lady THEODORA GUEST, Inwood House, Henstridge. His collection was of high merit, and included grand blooms of the most prominent varieties, and were large, solid, fresh, and uniform in size, and admirably set up. Mr. ALLSOPP, gr. to Lord PORTMAN, Bryanston, Blandford, and Mr. LLOYD, gr. to VINCENT STUCKEY, Esq., Langport, also showed well in this class. In other classes Mr. COPP, gr. to W. E. S. ERLE DRAX, Esq., Holnest House, Sherborne, and Mr. WILKINS were winners of 1st prizes, the former for twelve incurved blooms, distinct varieties, and the latter for a like number of Japanese. Fruit made a good display. Seven collections of six kinds were staged. The contest between Mr. LLOYD and Mr. H. W. WARD, Longford Castle, Salisbury, was a keen one. Ultimately the prizes were awarded in the order in which the exhibitors' names appear. Mr. WARD was 1st in several classes for Grapes, and Mr. LLOYD in another one.

It is satisfactory to be able to speak well of the produce grown and shown by the cottagers residing around Yeovil. So good, indeed, were their exhibits this year, that the mayor promised to contribute another five guineas to the list of prizes to be competed for by cottagers next November.

MARGATE AND ISLE OF THANET.

NOVEMBER 13, 14—This exhibition was one of the very best held in Kent during the present season. Not only were the Chrysanthemums (both plants, groups, and cut flowers) of high excellence, but the fruit also and vegetables were strongly represented. The arrangements were better than last year, the cut flowers being placed in a better light. Many other societies would do well to follow the plan adopted at Margate, of placing the semicircular groups back to back, thus forming circles down the centre of the hall.

The class for a group of Chrysanthemums brought out a strong competition. Mr. CORNFORD, The Gardens, Quex Park, Birchington, was deservedly 1st, with a splendid group, both in quality and arrangement. The dwarf-grown plants with which the group was finished added greatly to the effect. Mr. ROBERTS, gr. to SEBAG MONTEPIORE, East Cliff Lodge, Ramsgate, staged well for 2nd place, the large massive blooms of yellows, bronzes, and whites telling with fine effect.

For a miscellaneous group of flowering and foliage-plants, Mr. CORNFORD was again to the front with a light and tasteful arrangement.

Specimen plants were strongly represented in a number of classes, the chief of which were the following:—For six trained specimens, any variety, Mr. Miller, gr. to J. T. FRIEND, Esq., Northdown, Margate, was 1st with extra large and profusely-flowered plants of Madame Lacroix, Bouquet

Fait (very fine), M. Berthe Rendatler, Mr. Geo. Glenny, Mrs. Dixon, and La Triomphante (especially good). Mr. CORNFORD followed in this class.

With four trained plants of incurved varieties, Mr. CORNFORD was 1st, the Rundle family being well represented. The same exhibitor was 1st for three specimens of reflexed varieties; Mr. J. BURLEY, gr. to A. B. WARRE, Esq., West Cliff House, Ramsgate, following with smaller plants.

In the class for four Japanese, the competition between the 1st and 2nd prize exhibit was very keen, the positions of the two previous winners being reversed.

Mr. BURLEY again won for a single specimen Japanese with an admirable plant of Val d'Adour.

The best single incurved was from Mr. E. HAWKINS, gr. to Sir E. WYATT, Maionette, Broadstairs.

An excellent and very suggestive class was one provided for five plants in 8-inch pots, suitable for table decoration, but the mistake made in more than one instance was, that of formal staking and training. The 1st award went to a pretty, graceful set of plants, from Mr. H. MILLER, no training being attempted; Mr. J. BURLEY, who was 2nd, followed in somewhat similar style.

Cut flowers.—The competition was very keen, and the quality first-rate. For twenty-four incurved varieties, Mr. ENDEN, gr. to Major BELL, Thur, Birchington, was 1st; the finest blooms were those of Beauty, St. Patrick, Lord Alcester, Mrs. Heale, and Violet Tomlin; Mr. CORNFORD was 2nd.

Mr. ENDEN occupied the same position for twelve varieties with similarly good flowers; Mr. HOLLYMAN, gr. to G. FISHER, Esq., St. Peter's Court, St. Peters, following.

For six blooms, Mr. Standing, gr. to W. GAY, Esq., Grove House, Westgate, was 1st.

Mr. ENDEN had the best three blooms of any incurved variety with Mrs. Heale.

With twenty-four varieties of Japanese in a very strong class, Mr. F. MILLER was 1st with an even exhibit, both colour and size being strong points. Mr. HOLLYMAN followed closely in this class. For twelve varieties, Mr. HOLLYMAN turned the tables on his opponent, and won.

Mr. CORNFORD was 1st for six varieties, his best being Marie Hoste and Van der Heede, rich in colour. Mr. HOLLYMAN 2nd.

For six blooms in as many kinds of white varieties, Mr. ENDEN won with Marie Hoste, Thérèse Rey, Florence Davis, Beauty of Exmouth, and Stanstead White, as the best; Mr. CORNFORD, 2nd.

Mr. ENDEN was 1st for reflexed varieties, the Christines and Cloth of Gold being very fine; Mr. CORNFORD followed. Mr. ENDEN was the most successful also for Anemone-flowered varieties, Delaware, Sabine, and Dame Blanche being the best.

For twelve trebles in bunches, Mr. Wilkins, gr. to H. WEIGALL, Esq., Southwood, St. Lawrence, was 1st with a fine display, the flowers of medium size, and good colour. Another, and an extra strong class, was that open to all comers, in which Mr. FAIRWEATHER, The Gardens, Bifrons Park, Canterbury, was 1st with twelve Japanese and twelve incurved blooms. Mr. G. RAY, The Hill, Green Street, Teynham, was a worthy 2nd.

The best basket of Chrysanthemums came from Miss J. REEVE, a beautiful arrangement.

Mr. Leadbetter, gr. to A. G. HUBBUCK, Esq., Chislehurst, showed forty-eight blooms of the best varieties of Japanese, in extra fine condition, the best of the newer kinds being very prominent.

FINCHLEY CHRYSANTHEMUM.

NOVEMBER 14 15—The Chrysanthemum Society at Finchley held its tenth annual exhibition in the New Lecture Hall at that place, where better accommodation exists than the Society has heretofore enjoyed. The exhibition was not less excellent than the best of those held previously, the blooms of Japanese varieties being especially noteworthy among other exhibits of a general satisfactory character.

The Trophy Cup offered by the Society for the best collection of thirty-six blooms was won by Mr. J. H. WALKER, gr. to Goldbeater, Mill Hill N.W., with an exhibit containing blooms of finer quality than any exhibited at previous shows. This being the third successive year Mr. WALKER has held the Cup, it now becomes his own property. Mr. WALKER also took, on the occasion under notice, twelve other 1st prizes. Mr. D. M. HAYLER, gr. to Mr. W. HANNAFORD, was another of the more successful exhibitors, taking eleven 2nd prizes. In all there were sixty-six classes, including those for fruit, vegetables, and miscellaneous plants.

BRADFORD CHRYSANTHEMUM.

NOVEMBER 15, 16.—Bradford witnessed the ninth annual exhibition of its Chrysanthemum Society on the above dates, in the St. George's Hall, where it was opened by the President, Alverman W. WOOD, Mayor of the Borough. Generally the show was more than satisfactory, and the exhibits covered a larger space than at any of the previous exhibitions.

The leading class for twenty-four Japanese blooms, in which the Silver Challenge Cup was linked with the 1st prize, was well won by W. H. TATE, Esq., Wootton, Liverpool (gr., Mr. W. Haigh), and he was followed by C. J. ORMROD, Esq., Brighouse, Bradford (gr., Mr. A. Barber), both of whom managed to beat a collection from Mr. W. WELLS, Earlswood Nursery, Surrey. The last named exhibitor, however, occupied 1st position for twenty-four incurveds, and included specially

good blooms of Mrs. R. C. Kingston, Princess of Wales, and Jno. Salter; W. H. Tate, Esq., was 2nd in this class, and 1st for twelve blooms, Japanese; and the same class in the incurved section and other prizes.

In the local classes, the Challenge Cup was won by J. W. COCKERHAM, Esq., Bingley (gr., Mr. T. Barrell), who had a very creditable collection of twelve Japanese blooms.

THE WORCESTERSHIRE BRANCH OF THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

NOVEMBER 18.—The inauguration ceremony took place on the above date, in the Guildhall, Worcester. Earl Beauchamp, the president, occupied the chair, supported by Col. Long, M.P., A. Baldwin, M.P., Canon Coventry, Col. Stallard, Rev. Thatcher, R. S. Carrington, Esq., and other county gentlemen. There was a crowded meeting of gardeners, and great enthusiasm prevailed.

His Lordship, when explaining the objects of the meeting, pointed out the necessity for forming a branch in the district, stating that pensioners of the parent institution, now residing in the county, were actually receiving considerably more money annually in the shape of pensions than was yearly subscribed in the county. The duty of gardeners to embrace this means of "self-help," who by reason of their occupation in hot-houses and exposure to extremes of temperatures, were so prone to rheumatism and other ailments at early stages of life, leading to possible incapacity for active work, was clearly set forth.

The deputation consisted of Messrs. Harry Veitch, Ingram (Secretary), and Vallance, of the Bristol Auxiliary. Mr. Veitch clearly explained the great advantages of the Institution, and gave statistics, showing the progress which has been made, and the amount of money paid to deserving cases, and also alluded pathetically to the large number of deserving candidates seeking relief, for which the funds are inadequate. It was also shown with what care every case was dealt with in committee. Mr. Veitch incidentally remarked that one pensioner, now deceased, had paid into the Society some eighteen guineas, and had received therefrom in pensions upwards of £500.

Colonel Long, M.P., who represents the Evesham division, including the body of market gardeners, then proposed, "That this meeting having heard the claims and objects of the Institution, hereby resolves to form an auxiliary branch of the Gardeners' Royal Benevolent Institution for Worcestershire and district, and to enrol members forthwith, subject to the rules of the parent Society, and the usual by-laws for local management hitherto granted to existing auxiliaries."

This was seconded by Mr. Crump, Madresfield, and, being supported, was carried unanimously, amidst great applause. Votes of thanks to the deputation were given, and acknowledged, Mr. Vallance specially dealing with the usefulness of an auxiliary as a means of spreading knowledge to gardeners of the Society's existence and aims, as well as to furnish local information to head-quarters. Mr. Ingram also pointed out the necessity for additional auxiliaries in counties, and hoped the Worcestershire example would be copied.

The Rev. Canon Coventry moved a hearty vote of thanks to the chairman, and brought an enthusiastic and successful meeting to a close. A committee of management was at once formed, and business of a routine character followed.

THE HERBACEOUS BORDER.

HERBACEOUS PEONIES.

If it is intended to increase the stock of these handsome flowering plants, the present time is suitable. The early autumn months are the most favourable during the whole year. I have seen it recommended that these Peonies be planted in the early part of the year, when young growths a few inches long have been made. Such a time is about the worst that could be selected, and will assuredly prove disastrous to the plants. Unlike a large number of hardy plants, these Peonies do not produce roots in continuous succession, but in decisive hatches at fixed periods. Did they produce root-fibres continually, the check by shifting would be little more than momentary. But it is not so, and unless they are planted at a suitable time, they take two, and sometimes three years to recover. If a full growth be not made, the crown bud will be only partially developed, and the ensuing year's growth is proportionately feeble. When the planting is done in the early autumn, the main roots are more or less preserved intact; and this item in the cultivation of the plants I regard as very important, and upon it depends much of their future success.

Few plants produce a more showy display than Peonies when in full bloom in the early summer

months. Some of the best effects are produced when large beds can be devoted to them on the lawn, or again, when planted in the fore-front of large shrubs. Do not plant them near to large trees, or they will be sure to lack nourishment as well as moisture. In all cases a very rich soil must be given them, preferably one of loam, though in this respect they are by no means exacting. Dry hot sandy soils are not suitable for them, unless a depth of 6 inches of clay can be added and well mixed. The soil should be trenched fully 2 feet deep, and a very liberal dressing of manure added at 1 foot deep, as the roots quickly descend when they have the opportunity. Plant the roots quite firmly, and cover the crowns about 2 inches deep with soil, adding a heavy mulch of manure when the work of planting is finished. It is necessary to do the work well, as when established the plants are best left alone for at least a dozen years. Such old-established beds will, however, be much improved by a heavy mulch of manure early in the autumn of each year. The crowns should be encouraged far into the autumn, as they plump up considerably at this season. J.

WITLEY COURT.—We are reminded by the "Journal," that Mr. Austen, the gardener at Witley Court, will soon retire from his post and go into business; Mr. Young will leave Abberley as Mr. Austen's successor.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.				RAINFALL.		BRIGHT SUN.			
	Above (+) or below (-) the Mean for the week ending November 18.	Above 42° for the Week.	Below 42° for the Week.	Above 42° difference from Mean since January 1, 1895.	Below 42° difference from Mean since January 1, 1895.	More (+) or less (-) than Mean for the Week, Jan. 1, 1895.		No. of Rainy Days since Jan. 1, 1895.		
0	2 +	26	13	+ 238	+ 307	14	+ 209	43 0	10	29
1	1 +	17	17	+ 20	+ 466	7	+ 170	27 3	23	36
2	4 +	40	8	+ 242	+ 303	0	aver 165	25 4	20	35
3	5 +	49	4	+ 189	+ 290	1	- 143	21 8	37	46
4	5 +	48	7	+ 203	+ 379	7	+ 133	21 7	28	37
5	6 +	61	0	+ 179	+ 346	9	+ 135	21 3	34	41
6	3 +	33	6	+ 138	+ 402	13	+ 173	32 6	21	33
7	4 +	43	0	+ 229	+ 324	13	+ 158	28 6	18	36
8	5 +	57	0	+ 167	+ 374	12	+ 146	31 0	26	43
9	1 +	23	10	+ 63	+ 301	9	+ 188	30 8	24	32
10	1 +	36	4	- 14	+ 231	15	+ 161	32 0	30	35
*	4 +	80	0	+ 269	+ 252	6	+ 163	26 4	36	51

	Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.	Ins.			
0	2 +	26	13	+ 238	+ 307	14	+ 209	43 0	10
1	1 +	17	17	+ 20	+ 466	7	+ 170	27 3	23
2	4 +	40	8	+ 242	+ 303	0	aver 165	25 4	20
3	5 +	49	4	+ 189	+ 290	1	- 143	21 8	37
4	5 +	48	7	+ 203	+ 379	7	+ 133	21 7	28
5	6 +	61	0	+ 179	+ 346	9	+ 135	21 3	34
6	3 +	33	6	+ 138	+ 402	13	+ 173	32 6	21
7	4 +	43	0	+ 229	+ 324	13	+ 158	28 6	18
8	5 +	57	0	+ 167	+ 374	12	+ 146	31 0	26
9	1 +	23	10	+ 63	+ 301	9	+ 188	30 8	24
10	1 +	36	4	- 14	+ 231	15	+ 161	32 0	30
*	4 +	80	0	+ 269	+ 252	6	+ 163	26 4	36

The districts indicated by number in the first column are the following:—
 0, Scotland, N. Principal Wheat-producing Districts—
 1, Scotland, E.; 2, England, N.E.; 3, England, E.;
 4, Midland Counties; 5, England, including London, S.
 Principal Grazing, &c., Districts—6, Scotland, W.;
 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.;
 10 Ireland, S. * Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending November 16, is furnished from the Meteorological Office:—
 "The weather during this period was again extremely unsettled, frequent and considerable falls of rain, alternating with intervals of clear sky and sunshine.
 "The temperature was above the mean, the excess ranging from 1° in 'Scotland, E.' and over Ireland, to 5° in the 'Midland Counties' and 'England, S.W. and E.,' and to 6° in

England, S.' The highest of the maxima were recorded on the 16th over England, and earlier in the week over Ireland and Scotland. They were very high for the time of year, having ranged from 65° in 'England, E.,' 64° in 'England, S.,' and 62° or 63° in the other English districts, to 55° in 'Ireland, N.' and 'Scotland, N.' The lowest of the minima occurred about the middle of the period, and varied from 28° in 'Scotland, N.,' to 37° in 'England, N.W.' and to 41° in the 'Channel Islands.'

"The rainfall was a little less than the mean in 'England, E.,' and only just equalled it in 'England, N.E.;" in all other districts, however, there was an excess, that in nearly all localities being very large.

"The bright sunshine was more prevalent generally than that recorded during the preceding week, and exceeded the normal amount in all districts. The percentage of the possible duration ranged from 37 in 'England, E.,' 36 in the 'Channel Islands,' and 34° in 'England, S.,' to 16 in 'England, N.W.,' and 10 in 'Scotland, N.'"

MARKETS.

COVENT GARDEN, November 21.

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

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.	
Adiantum, per doz.	4 0-12 0	Ferns, various, doz.	5 0-12 0	
Aspidistra, per doz.	12 0-30 0	Ficus elastica, each	1 0-7 6	
— specimen, each	5 0-15 0	Foliage plants, doz.	12 0-34 0	
Chrysanthemums, doz. pots	6 0-12 0	Lilium Harrisii, per	dozen pots	18 0-36 0
— (specimens), p. plant	1 6-3 0	Marguerites, p. doz.	6 0-12 0	
Cyperus, per dozen	4 0-10 0	Mignonette, p. doz.	4 0-6 0	
Dracena, each	1 0-7 6	Palms, various, ea.	2 0-10 0	
— various, p. doz.	12 0-24 0	— specimens, ea.	10 6-34 0	
Ericas, various, doz.	9 0-24 0	Primula sinensis, per	dozen	4 0-6 0
Evergreen Shrubs, in variety, doz.	6 0-24 0	Solanum, per doz	5 0-12 0	
Ferns, small, doz.	1 6-3 0	Spiraeas, per doz.	9 0-12 0	

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Arums, p. 12 blooms	3 0-6 0	Orchids—	
Azalea, 12 sprays	0 9-1 0	Cattleya, 12 blms.	6 0-12 0
Bouvardia, per bn.	6 0-1 0	Odontoglossum	3 0-6 0
Carnations, 12 blms.	1 0-3 0	crispum 12 blm.	3 0-6 0
Chrysanthemums, per 12 blooms	1 0-4 0	Pelargonums, scar.	
— per 2 bunches	3 0-6 0	let, per 12 bunch	4 0-6 0
Eucharis, per dozen	3 0-5 0	— per 1/2 sprays...	0 6-0 9
Gardenias, per doz.	3 0-5 0	Pyrethrums, 12 bun.	2 0-4 0
Lapageria, per doz.	0 6-1 6	Roses, Tea, per doz.	1 0-3 0
blooms	0 6-1 6	— colonard, p. doz.	2 0-4 0
Lilac, French, p. bun.	3 0-5 0	— yellow (Maré.	
Lilium Harrisii, doz.	4 0-8 0	chal), per doz.	3 0-6 0
— lanceifolium, per		— red, per dozen	1 0-1 8
dozen blooms	1 6-3 0	Stephanotis, 12 spr.	2 0-4 0
Lily of the Valley,		Tuberose, 12 blms.	0 2-0 6
per doz. sprays	1 0-2 0	Violets, 12 bunches	1 6-2 0
Maidenhair Fern,		— Parme, French,	
per 12 bunches	4 0-6 0	per bunch	3 0-4 6
Marguerites, 12 bn.	1 0-3 0	— Czar, do.	2 6-3 0
Mignonette 12 bun.	2 0-4 0	— Mimosa or Aca-	
		cia, do.	1 0-2 0

ORCHID-BLOOM in variety

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.	
Apples, Ribston, per bushel	3 6-6 0	Grapes, Ali-		
— Blenheim, per bushel	3 0-4 0	cante, 1st	quality, p. lb.	1 3-1 6
— Kings, per bushel	3 0-4 0	— Alicante, 2nd	quality, p. lb.	10-1 0
— Cox's Orange, per bushel	3 6-6 0	— Muscat, 1st qua-		
— Cooking var., per bushel	1 6-3 0	lity, p. lb.	2 6-3 0	
— From Nova Scotia, per barrel	11 0-14 0	— Muscat, 2nd qua-		
Cobs, per 100 lb.	30 0-35 0	lity, p. lb.	1 8-2 0	
Grapes, Gros Colmar, 1st quality, lb.	1 6-1 9	Pears, Duchess, half-		
— Gros Colmar, 2nd quality, per lb.	10-1 3	sieve	4 0-5 0	
		— Beurré Diel, per		
		half-sieve	4 0-6 0	
		Pine apples, St. Mi-		
		chael, each	3 0-6 0	
		— ordinary	2 6-3 6	
		Walnuts, French,		
		Greable, per bag	5 0-6 0	

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Cauliflowers, p. crate (5 to 8 doz.)	6 0-8 0	Onions, Eng., bush.	2 0
Mushrooms, per lb.	1 0-1 3	Tomatoes, Home-	
Cucumbers, per doz.	2 6-4 6	grown p. doz. lb.	
Onions, Dutch, per cwt. bag	3 0	— Smooth	4 6-6 0
		— ordinary	2 6-3 6
		— Guernsey	2 0-3 0

POTATOS.

Trade slow; stocks increasing. Best samples, 70s. to 80s.; Lincolns, 50s. to 65s.; black lands, Bedford's, 35s. to 45s. J. B. Thomas.

SEEDS.

LONDON: November 20.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E.,

report to-day's market bare alike of buyers and of business. Clover and grass seeds show this week no change of importance. Rye and Tares continue slow. Canary seed is firmer abroad; Turkey refuses for the moment to make offers. The new Hemp seed comes remarkably cheap and good. Peas and Haricots are held at former figures. Some Malagasy Butter Beans are now selling at unprecedentedly low rates. Linseed favours sellers. There is no alteration in either Mustard or Rape seed.

FRUITS AND VEGETABLES.

BOROUGH: Nov. 19.—Quotations:—Cabbages, 2s. 6d. to 3s. per tally; Turnips, 2s. to 3s. 6d.; Carrots, 2s. to 3s. 6d. per dozen bunches; Apples, 3s. to 6s. per bushel; Walnuts, 4s. to 5s. 6d., and Chestnuts, 4s. 6d. to 6s. 6d. per bag.

SPITALFIELDS: Nov. 19.—Quotations:—Cauliflowers, best, 5s. to 8s. per tally; do., seconds, 2s. to 3s. do.; Greens, bunch, 1s. to 1s. 6d. per dozen; Collards, 1s. 3d. to 1s. 6d. per tally; Savoys, 2s. to 4s. do.; Sprouts, 1s. to 1s. 6d. per half-sieve; Spinach, 2s. to 2s. 6d. per bushel; Carrots, 2s. per dozen bunches; Turnips, 1s. 6d. to 2s. do.; Parsnips, 5d. to 8d. per score; Celery, 9d. to 1s. per bundle; Carrots, 2s. to 30s. per ton; Onions, 3s. 6d. to 4s. per cwt.; Beetroot, 1s. to 1s. 3d. per bushel; Apples, cooking, 3s. to 3s. 6d. per bushel; Dessert, 4s. 6d. to 5s. 6d. do.

STRATFORD, Nov. 19.—Cabbages, 1s. 6d. to 4s. 6d. per tally; Savoys, 2s. to 5s. do.; Greens, 1s. 3d. to 1s. 6d. per bag; do., 1s. to 1s. 6d. per dozen; Cauliflowers, 6d. to 1s. 3d. per dozen; do., 2s. 6d. to 6s. per tally; Scotch Kale, 9d. to 1s. per sieve; Turnips, 1s. to 1s. 6d. per dozen bunches; do., 30s. to 35s. per ton; Carrots, household, 2s. to 3s. do.; do., cattle-feeding, 1s. to 2s. do.; Parsnips, 4s. to 5s. do.; Mangels, 12s. to 15s. do.; Swedes, 15s. to 18s. do.; Onions, Ghent, 5s. to 60s. do.; do., Ports, 4s. 3d. to 4s. 6d. per case; Apples, English, cookers, 2s. 6d. to 3s. 6d. per bushel; do., dessert, 2s. 6d. to 3s. 6d. do.; Pears, English, 3s. to 3s. 6d. per sieve; Beetroot, 2s. 3d. to 2s. 6d. per bag; Celery, 6s. to 9s. per dozen; Horse-radish, 1s. 3d. per bundle; Parsley, 1s. to 1s. 6d. per dozen bundles. There has been a plentiful supply during the week, and a fair trade done at the prices shown above.

FARRINGTON, Nov. 21.—Quotations:—Cauliflowers, 6s. per tally; Greens, 9d. bunch; Sprouts, 1s. 6d. per half-sieve; Celery, 4s. per dozen rounds; Turnips, 2s. per dozen bunches; Carrots, 2s. do.; Leeks, 2s. do.; Horsa-radish, 1s. per bundle; Beets, 1s. 6d. per bushel; Herbs, 2s. per dozen bunches; Parsnips, 1s. per score; Savoys, 5s. per tally; Apples, Blenheim Pippins, 4s. 6d. per bushel; Pears, Bishop's Thumb, 2s. 6d. half sieve; Stewing do., 2s. half bushel; Canadian Apples, Ribston, 14s. per barrel; Newtown Pippin, 14s. to 16s. do.; Gravensteins, 11s. do.; Tonkins King, 15s. do.; Californian Pears, 10s. to 15s. per case; English Grapes, 1s. to 1s. 2d. per lb.; Spanish Almeida, 10s. and 14s. 6d. per barrel; Tomatos, (English), 4s. 6d. per 12 lb.; Walnuts, 6s. 6d. per bag; Chestnuts, 9s. and 12s. do.

POTATOS.

BOROUGH: November 19.—Quotations ranged from 40s. to 90s. per ton.

SPITALFIELDS: November 19.—Quotations:—Sutton's Abundance, 50s. to 70s.; Hebrons, best, 60s. to 80s.; Main Crop Kidney, 50s. to 70s. Bruce, 40s. to 60s.; Reading Giants, 35s. to 55s.; Imperators, 45s. to 55s. per ton.

STRATFORD, November 19.—Quotations:—Bruce, dark soil, 35s. to 40s.; do., light, 40s. to 60s.; Reading Giants, 40s. to 50s.; Sutton's Abundance, 45s. to 70s. per ton.

FARRINGTON, November 21.—Quotations: Main Crop Kidney, 75s. to 85s.; Jeanie Deans, 65s. to 75s.; Sutton's Abundance, 65s. to 75s.; Bruce, 45s. to 55s.; Magnums, 45s. to 65s. per ton.

LONDON AVERAGES: Nov. 20.—Snowdrops, 70s. to 90s.; Hebrons, 70s. to 90s.; Dunbars, 90s. to 100s.; Regenta, 60s. to 70s.; Sutton's Abundance, 60s. to 65s.; Puritans, 55s. to 60s.; Imperators, 55s. to 65s.; Magnums, 40s. to 50s.; Early Rose, 55s. to 60s. per ton.

HAY.

Averages.—The following are the averages of the prices at the metropolitan markets during the past week:—Clover, best, 80s. to 110s.; do., inferior, 50s. to 70s.; hay, best, 60s. to 80s.; do., inferior, 36s. to 60s.; mixture, 70s. to 87s. 6d.; and straw, 20s. to 44s. per load.

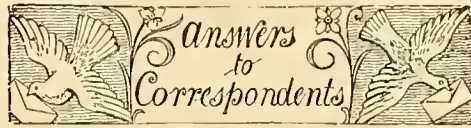
CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending November 17, and for the corresponding period in the previous year:—1895: Wheat, 26s. 1d.; Barley, 25s.; Oats, 14s. 4d. 1894: Wheat, 19s. 1d.; Barley, 22s. 7d.; Oats, 13s. 10d.

“**BUILDING WORLD.**”—This is the title of a new illustrated weekly journal, which is published by Messrs. CASSELL & Co. (Ld Belle Savage, E.C.): The paper deals with all branches of the building trade, including carpentry, plumbing, whitewashing, &c., the useful information thereon given being supplemented by various illustrations. For the price asked—a penny—the paper is certainly a good and valuable one.

TRADE NOTICE.

JOHN CRANSTON having removed from the King's Acre Nurseries, will feel obliged by all communications being now addressed—JOHN CRANSTON, Little Birch, near Hereford.



Address: W. Cockin, The Dell, Egham.

AZALEA INDICA GRAFTING: C. H. J. Grafting is usually practised on potted stocks of Azalea ptinceae and purpurea, two easy-rooting strong growers. Modes are side, whip, tongue, and cleft. Grafting must be done in the spring in a close case placed in a house having a minimum warmth of 65°. It is as well to use grafting-wax to warm the point of junction.

BOOKS: G. A. K. See p. 436 of our issue for Oct. 12, the present year.—*Enquirer*. The *Dictionary of Gardening*, by Mr. G. Nicholson and others, published at the Bazaar office, 170, Strand, would afford the information required. *Hardy Ornamental Trees*, &c. A. D. Webster; 1, Clement's Inn, Strand.—*E. Grimsdick & Sons*. Obtain *The Nursery Book: a Complete Guide to the Pollination of Plants*, by L. H. Bailey, New York Publishing Co., through any foreign bookseller.—*Joe*. *Propagation and Improvement of Plants* (Barbidge), *How Crops Grow* (S. W. Johnson), *The Fruit Manual* (R. Hogg), *Plant Life* (Dr. Masters).

BOTTLING TOMATOS: J. G. Bottle Tomatos as you would any other kind of fruit. Your best chance of success will be to gather them before they are very ripe and juicy. Tomatos do not, as a rule, keep well, unless as they are plentifully mixed with vinegar and spices. We gather from your note that you wish to bottle the fruit whole, and without any adjunct.

CATERPILLAR IN APPLE TREE STEM: *Enquirer*. The specimen sent is the caterpillar of the Wood Leopard Moth. When holes in fruit or other trees with what seems like saw-dust lying on the ground beneath are noticed, the grub is at work within, and to kill it force a piece of wire up into the hole, or inject strong tobacco-water.

CATTLEYA AND LÆLIA IN AN UNSATISFACTORY STATE: W. S. Either the house in which are the Cattleya and Lælia must be too hot and close, or in some other way unsuitable to the plants, or else they would develop pseudo-bulbs. Examine the arrangements for heating and ventilation. The term, “established in sheath or bud,” applied to a number of plants, would mean that they were not freshly imported, but cultivated plants, and that each would have either a flower-sheath, from which buds might be expected, or visible buds.

CHRYSANTHEMUMS FOR BLOOMING IN THE OPEN IN NOVEMBER: W. Price. The Pompons of all varieties are excellent, giving quantities of bloom, and looking well when planted in beds by themselves. Most of the Queen of England varieties in incurved make a good show, and not being tall growers, requiring unsightly long stakes to support them, they are admirable for planting on sheltered borders and against walls. Japanese varieties are Dr. Macary, Peter the Great, Elaine, Margot, Daimio, Lacroix, Geo. Gordon, Harlequin, and probably many others.

CORRECTIONS.—In the Royal Horticultural Society's Report, November 16, *re* Luddemanua trifolia, *read* L. triloba; and for *Cypripedium Pollettianum* Burford Beauty, *read* C. P. B. variety.

EIGHT HUNDRED FEET OF GLASSHOUSE UNHEATED: *Alpha*. It might be filled with *Rhododendron hybridum*, *Crocus*, early *Tulips*, *Hyacinths*, *Narcissus*, *Syllas*, *Spiræas*, and *Christmas Roses* (*Heleborus niger*). There would be no need to use pots for any of these.

ERICA: C. H. J. When the growths are about half mature, and they should be taken from the more exposed wood at the sides and top of the plants. They should not exceed 1 inch in length, and the leaves on the lower half must be carefully removed. Strike in pure silver-sand, overlying sandy peat, in pots of not more than 5 inches in

diameter. Water well, allow the cuttings to get dry, then cover with a bell-glass, and place in a low pit or house, having a temperature of 60°. Shade them from direct sunshine. Remove the glass daily, and wipe it dry, replacing it in about a quarter of an hour. Apply water when necessary, and carefully guard against damp; therefore let no decaying culling remain in the glass.

GRAPES: W. A. Madresfield Court, Frontignan (grizzly), and Foster's Seedling, being early varieties, succeed together under one kind of treatment.

INSECTS: W. P. N. The grubs of a species of weevil.

JUDGING VEGETABLES AT A SHOW: H. H. P. We think that the exhibitor of collection B, ought to have been disqualified for showing nine kinds where only eight were required, and the first prize given to A., not because his were the better productions, but simply for the reason that B. was “out of it” owing to disqualification. If there is a schedule its rules should be abided by, and those transgressing them suffer in consequence.

MANURING TOMATOS: T. P. R. Stable manure in a partially rotten condition, and quicklime, will be suitable, but the land should not be rendered very rich, or your plants will run too much to leaf, and they may suffer badly from diseases of one sort or another. The Tomato likes a dryish, loamy soil; and manure at the time there is the greatest call on the energies of the plant, and this is best afforded by top-dressings of artificials or stable drainings.

MARQUERITE WITH MITES UPON ROOTS: J. K. We notice numbers of mites upon the roots, but they are not likely to cause any injury to the plants.

MUSCAT OF ALEXANDRIA: D. K. The two names given are identical with the above, which has many more synonyms. The only distinct variety is the Canon Hall Muscat.

NAMES OF FRUITS: *Subscriber, Worksop*. Apple Ribston Pippin.—*Sigma*. The Pear is Baronne de Mello; Apple resembles King of the Pippin, but we are not certain; fruit damaged.—*H. B., Durham*. 1, Waltham Abbey Seedling; 2, Old English Coolin; 3, New Hawthornden; 4, Worcester Pippin; 5, not known; 6, Tibbet's Pearmain.—*J. Rose*. Apple American Mother.—*Rosa*. 1, Pear Uvedale's St. Germain; 4, Benrié Del; 2, Cox's Orange Pippin; 8, Kerry Pippin; 6, Fearn's Pippin; 5, a pretty but worthless fruit.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to consult the next number.*—*E. H. C.* *Astor ercoides*.—*J. B. S.* *Pennis umbrosus*.—*G. S. F.* 1, *Dendroium speciosum*; 2, *Brassavola nodosa*.

NEAPOLITAN VIOLETS IN FLOWER AT THE END OF DECEMBER: *Hilda Moy*. If they will not flower with cold frame treatment, you cannot hasten them by using heat without spoiling the plants. For early blooming, de Parme and Marie Louise are better; as double-flowered varieties—Neapolitan coming into bloom in quantity late in the winter. The proper sort of summer treatment of planted-out runners has much to do with the flowering of Violets, but we do not know what this was in your case.

PEACH-HOUSE FOR MARKET CULTURE: T. P. R. Span-roofed house, with rather 12-feet long, no side-lights, low side wall of weather-boarding, tarred, and sprinkled with sand and lime. The roof should be fixed, a 2 feet space on either side being left for ventilation, and which can be closed by over-lapping lights, to be opened and shut by screw or lever. There should be ample ventilation by means of hit-and-miss shutters or clappers. Hot-water-pipes should not be placed between the stems of the trees and the walls, but 2 feet away from the former. No laid pathway is required, lattice or spar gangways sufficing. If early forcing is intended, have double wooden walls with a 6-inch space between, or employ bricks or concrete, whichever is the cheapest. For training the trees employ stout iron wire (not galvanised) run through eyed spikes 15 inches long, driven into the rafters, no need to have screw ends, these lengths of wire being at not more than 8 inches apart. Train the trees fanwise, and plant them at 20 feet apart, with riders, have 5 or 6 feet stems midway between the fans, to be cut away as the latter encroach upon them, and finally removed altogether. Use plenty of loam, lime-rubble, and road-grit as well, if the soil be naturally heavy,

and see that the drainage is good. Plant the trees within 6 inches of the side walls, and let the roots run outside and inside. The borders need not be made up to their full width for two or three years.

PEACHES PRESERVED WHOLE: J. D. R. A clever cook tells us that these fruits are preserved by immersing them for half-a-dozen times in boiling, thick syrup, letting them remain in it each time for five minutes, and laying them on a sieve to drain each time that they are taken out of the syrup. They are then placed in cold, thin, sugary syrup, and corked down securely, the end of the bottle being then dipped in melted wax. The fruit must be without bruise or blemish, and not ripe enough for dessert purposes.

POPULAR APPLES: Sir C. S. The Apple referred to was Peasegood's Nonsuch, said to have been raised from a seed sown by a young lady at school, nursed up with skill and care under the same fostering, and finally planted in her wedded-home garden, where the new Apple exceeded the most sanguine expectations of the raiser and her friends, and it is already recognised as one of the most popular and profitable market Apples of the day. *D. T. F.*

PRICES OF BOOKS: N. 1. We are unacquainted with this book; 2, the price of this book we do not know. It is published at New York, by G. P. Putnam's Sons, and you should enquire at their London branch, 27, King William Street, Strand, W.C.; 3, £10 10s.; 4, about 15s. Publishers should advertise their wares like other people, and not expect us to give them gratis advertisements in addition to editorial notices.

QUASSIA-WATER FOR KILLING APHIS, &c.: T. A. B. Boil 4 oz. of Quassia chips in 1 gallon of water, and add 4 oz. of soft-soap, which should be dissolved in it as it cools. In about ten minutes after it has been applied to a tree, &c., syringe it off with clean water.

SCHEDULE: COLLECTION OF VEGETABLES, EIGHT DISTINCT VARIETIES: W. B. For varieties write kinds; for instance, Cauliflower is a kind or sort of vegetable; but Early London is a variety of Cauliflower. If you show two varieties of any one kind in a collection, you ought to be disqualified; and we note that you include in your list two varieties of Potatoes, two of Onions, two of Carrots, and two of Turnips. We should greatly doubt if the schedule-framers intended that exhibitors should construe it in that light.

SEEDLING APPLE: J. House. A showy fruit, soft in flesh, and not of much flavour. Nice for home use, but not fit for market purposes, apart from its high colour.

TRICHOPILOIA STAVIS: Suavis. The white Trichopilola *suavis alba* is still a rare plant. Some varieties open white, but soon show colour, and such are "not true." To be "alba" no rose colour should appear in the flower at any stage.

COMMUNICATIONS RECEIVED.—E. F. Green.—Chas. Last, with thanks.—G. D.—C. W. C.—C. K.—C. L.—W. Gee, next week.—J. Batters.—R. D.—J. D.—W. W. J. & Son.—H. B. P.—J. R.—M. T.—D. T. F.—W. A.—E. J.—Weigela.—F. W.—W. E.—T. W.—J. J. W.—E. C.—P. L. S.—J. Mel.—C. de P.—Antwerp.—E. A. J. Paris.—W. W.—H. P. M.—R. F. & Son.—W. Kelly.—H. M. F.—B. F.—J. W.—F. L. S.—J. S.—W. M.—J. G. W.—C. W. D.—H. G.—G. H.—D. B. Paris.—Brighton Examiner.—F. C.—Haus Schütz, Zurich.—J. E. J.—R. D. J.—G. N.—T. S., Ireland (thanks, but matter now out of date).

PHOTOGRAPHS. SPECIMENS, &c. RECEIVED WITH THANKS.—W. Newall.—H. O., Westbury.—T. E.—F. W. B.

DIED.—We regret to announce the death, at the age of seventy years, of Mr. ROBERT HENDERSON Young, nursery foreman to Messrs. T. Kennedy & Co., Dumfries, on November 12, the fortieth anniversary of the day on which he entered the service of the firm.

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,

Increased to the extent of more than 80 per cent., and that it continues to increase weekly.

Advertisers are reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN, AND ALL CLASSES OF GARDENERS AND GARDEN-LOVERS at home, that it has a specially large FOREIGN AND COLONIAL CIRCULATION, and that it is preserved for reference in all the principal Libraries.

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Per Pint, 2s.; Quart, 3s. 6d.; ½ Gallon, 5s.; 1 Gallon, 10s.

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Mr. E. HILL, *The Gardens, Tring Park, Tring*, writes:—"Nov. 15, 1895. I cannot speak too highly in favour of your XL ALL Liquid Insecticide (Wash), as a Winter Dressing for Mealy Bug on Vines and Fig Trees. We gave it a trial last winter with the most satisfactory results, and if applied according to directions, it is perfectly safe in the hands of a novice, and I am justified in saying that for the purpose mentioned it is the best remedy that has yet come under my notice."

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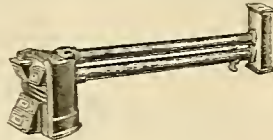
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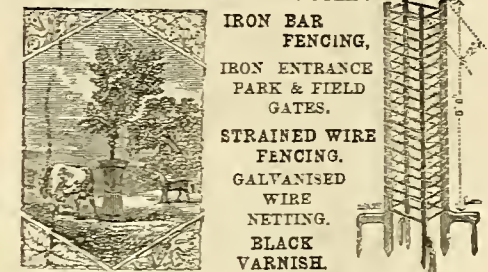
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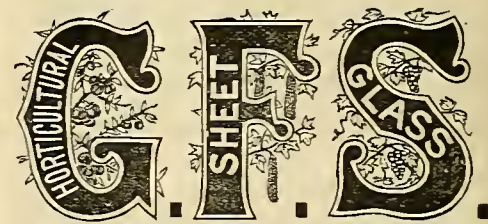
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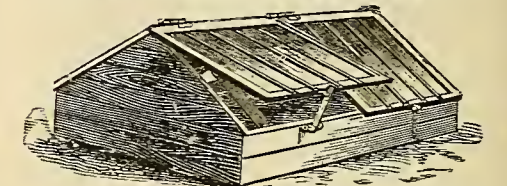
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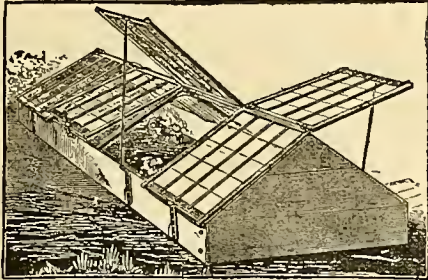
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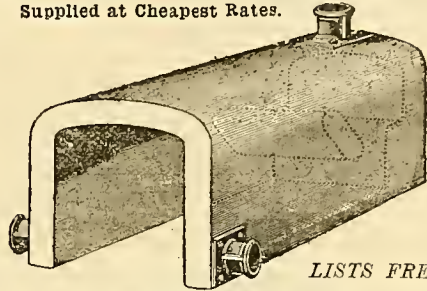


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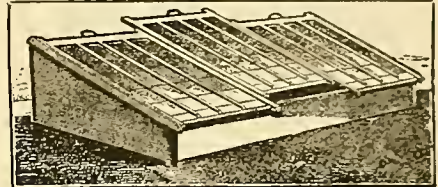
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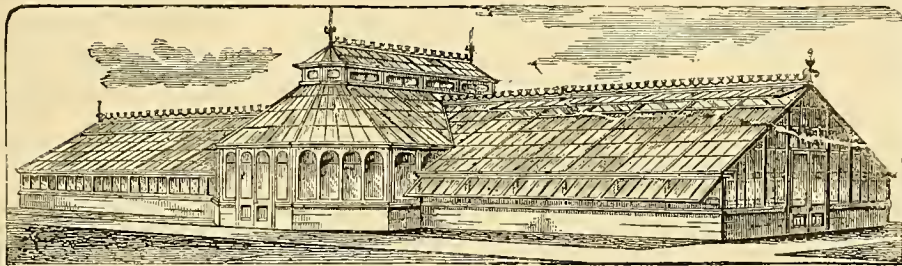
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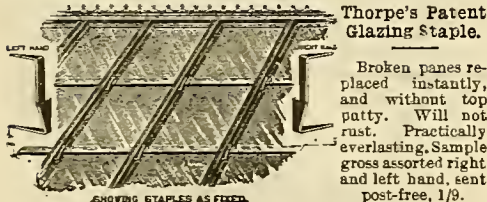


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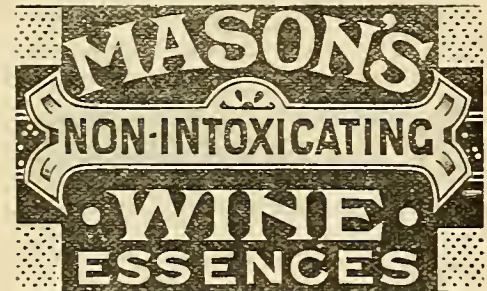


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- MR. THAIN, from Kinfauns Castle Gardens, succeeds Mr. LESLIE as Gardener to E. COLLINS-WOOD, Esq., of Keithock House, near Coupar, Angus, N.B.
- MR. A. BAYFORD, for the past five years Foreman at Madresfield Court Gardens, Malvern, succeeds Mr. S. T. WRIGHT as Gardener at Giewston Court Gardens, Ross.
- MR. ALEXANDER McLEAN, for the last seven years Gardener at Salterbridge, Cappequin, co. Waterford, as Gardener to Major SADDLER JACKSON, Abanesk, Midleton, co. Cork.
- MR. J. WATSEN, for eight years in the Gardens at Clayden Park, Bucks, as Gardener to the Misses LISTER, Upper Heath House, Hampstead, N.W.
- MR. JAMES HAMBLETON, for the past six years in the Garden at Binfield Park, Bracknell, as Gardener to Captain FREVILLE COOKSON, Dane End, Ware, Herts.

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- H. J. JONES, Ryecroft Nurseries, Lewisbam—Chrysanthemum Guide.
- DICKSONS & Co., 1, Waterloo Place, Edinburgh—Forest and Ornamental Trees, Shrubs, Conifers, &c.
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WANTED, a young MAN for Kitchen Garden age not under 20, strong and willing; wages 15s. per week and bothy.—Apply **C. SPOOKING**, The Gardens, Marden Park, Caterham Valley.

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WANTED, young LADY, as SECOND HAND for the Sea.—Quick and willing. Able to make Posies, Wreaths, &c.—Write stating age, salary, and references, to **W. B. & S.**, 87, Western Road, Brighton.

WANT PLACES.

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GARDENER (HEAD).—Age 34, married, no family. **Mrs. HUGHES** can highly recommend her Gardener. Thoroughly practical in all branches. Life experience.—**J. TUCKER**, Rosebank, Caterham Valley.

GARDENER (HEAD); age 34.—**A SHEPPARD**, Head Gardener, Forest Hill, Osgar, wishes to re-engage with any Lady or Gentleman requiring the services of a thorough practical man.

GARDENER (HEAD); age 30.—**Mr. HOWE**, Gardener to Henry Tate, Esq., Park Hill, Streatham, wishes to recommend his Foreman (**Thomas Martin**), who has been with him five years. Life experience in all branches of the profession.

GARDENER (HEAD WORKING), in a good establishment.—Age 40; married. Thoroughly experienced, including Orchids and Chrysanthemums; all kinds of Forcing, good Fruit Grower Inside and Out, Flower and Kitchen Gardening; large experience in Landscape and Remodelling Pleasure Grounds. Could undertake all kinds of Estate Work. Seven years' good character.—**HORFF**, Mr. Anderson, The Conservatory, Belsize Park Gardens, Hampstead.

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GARDENER (SINGLE-HANDED).—Age 24, married, Eight years' experience in large Gardens; five years in present situation.—**GEORGE SMITH**, The Gardens, Hursley Park, Winchester, Hants.

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GARDENER, where one or two others are kept.—Age 25; nine years' experience.—**FOWLER**, 16, Stamford Road, Fulham, S.W.

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FOREMAN (Herbaceous, Alpine, and Carnation) or TRAVELLER (calling on Trade preferred).—Age 31; good experience. First-class references.—**E. H. HARRY**, 36, Adelaide Road, Brockley, S.E.

JOURNEYMAN (FIRST), in good establishment.—Age 22; seven years' practical experience in all branches; Fruit a specialty.—**B. W.**, Mrs. Bagleton, Farnborough, K S O., Kent.

JOURNEYMAN (SECOND), Inside, in good Establishment.—Age 22; over five and a half years in present situation. Good reference.—**G. BELL**, Chester's Gardens, Hamsbaugh, North Tyne, Northumberland.

JOURNEYMAN.—Age 24; seven years' experience. Inside and Out. Used to taking charge, &c. Excellent character. Teetotaler. Leaving through no fault.—**SIDNEY AISH**, Findon, Worthing, Sussex.

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TO NURSERYMEN.—Young man, age 28, requires situation as **UNDER PROPAGATOR, or a Hand under Glass.** Ten years' experience in the best firms, with good references.—**H. F.**, 41, Wellington St., Strand, W.C.

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TOO MUCH STRESS cannot be laid on the fact that in the whirl of unnatural excitement, and in the struggle for existence in this generation, no attention whatever is vouchsafed to the most ordinary rules of health. When the muscles become relaxed, the nerves over-sensitive, and the brain wears at the slightest task, these symptoms are part of Nature's warnings that the delicate organism of the human frame is out of gear. In most cases a gentle stimulant and mild restorative is all that is required to impart fresh vitality to the jaded nerve, and it is a well-known fact that a few doses of **HOLLOWAY'S PILLS** work wonders and restore the lost tone of the nervous system.

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For RAISING WATER for the Supply of Towns, Villages, Irrigation, Railway Stations, Mansions, Fountains, Farms, &c.

No cost for Motive Power, which is obtained from a Stream of Water passing through the Ram. No Oiling or Packing required. Made in sizes to raise from 300 to 400,000 gallons per day. Will force to a height of 800 feet.

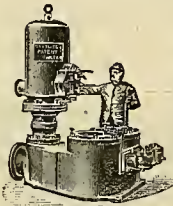
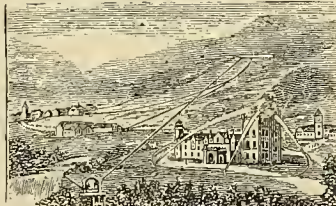


FIG. A.—This ram lifts part of the same water that works it. (Engraved from Photo. of Ram which raises 250,000 gallons per day of 24 hours to medium heights, with good working fall.)



This View represents a Ram worked by impure river water, whilst pumping pure water from a well or spring and forcing it to a small reservoir on the hill, at an elevation of 523 ft., and a distance of one mile, from which reservoir the water is gravitated for fire-extinguishing and general requirements of mansion, stable, farm, and village.

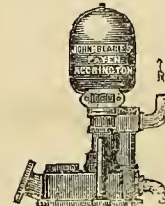


FIG. B.—This Ram, whilst worked by a stream of impure water, will pump clean water from a well or spring.

TESTIMONIALS.

From T. FERNYHOUGH, Esq., Agent to the RIGHT HON. LORD HINDLIFF, Braaley, Ashbourne, Derby. March 17, 1894.

DEAR SIR,— Referring to the two Patent "B" Rams you started six months ago for the Right Hon. Lord Hindlip, on the Alsop-an-le-Dale Estate, I am glad to congratulate you on the success of your attempt to raise the necessary supply of water under conditions so difficult, the height to raise the water being more than 63 times that of the working fall. The Rams are worked by water from the River Dove, with the small working fall of 8 ft. 3 ins., and issuing from the rocky bank close by is a copious stream of pure spring water, 8000 gallons per day of which the Rams force to a reservoir three-quarters of a mile distant, and at the extraordinary height of 523½ ft. above the Rams. The water is then gravitated from the reservoir to the several farms and houses on the estate, giving an ample supply to each, and still leaving a good overflow at the reservoir.

I am glad to add that the Rams lift more water than you promised, and seem to work with great ease and smoothness, notwithstanding the great elevation they force to—Yours faithfully, T. FERNYHOUGH.

From the RIGHT HON. THE EARL OF HARROWBY, 44, Grosvenor Square, London. February 21, 1893.

SIR,— I have pleasure in stating that the two Hydraulic Rams which you supplied and fixed for me last autumn, at Sandon, have proved so far most successful, and that the work gives every promise of durability, while the economy, compared with the former much smaller and intermittent supply by steam-pump, will be considerable.

With a fall of about 14 ft. from a previously-existing mill-pool, the Rams supply reservoirs 168 ft. above the brook whence the water is forced, through pipes 1½ miles in length. They sent up, as long as I required it, about 41,000 gallons per day. I now generally work the two Rams alternately (for a fortnight or so each), but can at any time work the two together, if the full supply of 41,000 gallons should be needed.

The business of this somewhat complicated water-supply was conducted by you with singular promptness and punctuality; and no local difficulties arose in the execution of the work, owing to the excellent and efficient men whom you sent from your works at Accrington.—I am, Sir, your very obedient Servant, HARROWBY.

From T. DYNE STEEL, Esq., M.Inst.C.E., Past President South Wales Inst. of Engineers, Bank Chambers, Newport, Mon. April 24, 1891.

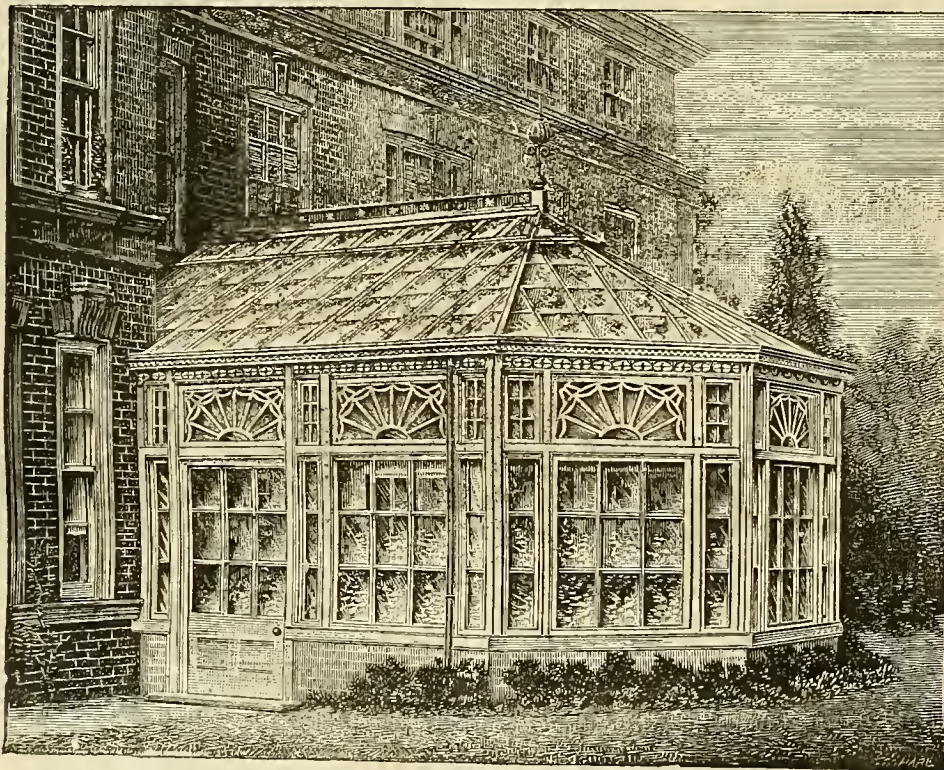
USK WATERWORKS.

DEAR SIR,— In September of last year I applied to you for a Hydraulic Ram for the purposes of the Usk Waterworks, to be capable of raising 27,000 gallons per day, a height of 127 ft., with a working fall of driving water of 27 ft., and on your guaranteeing that performance, I gave you an order for the Ram. The machine you supplied has now been put to work, and I have much satisfaction in saying that it far and away exceeds in its performance my most sanguine expectations, and possibly yours also. I have just completed a series of exhaustive tests, with the following results:—Working fall of driving water, 30 ft.; vertical height raised, 127 ft.; length of rising main, 850 ft., from Ram to outflow; length of supply pipe 200 ft.; gallons per hour raised, 1,812; driving water used per hour, 8,186 gallons, showing the remarkable and gratifying result of 83 per cent. of efficiency. The tests were carefully made and repeated, the water measured and levels properly taken. Several trials were made, and I shall be glad to give any engineer interested in the subject facilities for repeating the tests at the spot. I may here state that for the rising main I used a large diameter of pipe, in order to reduce friction, with excellent effect.—Yours faithfully, T. DYNE STEEL.

From MARTIN CURTLER, Esq., Agent to the Right Hon. LADY NORTHWICK, Sansome Place, Worcester. Feb. 18, 1895.

DEAR SIR,— I have great pleasure in informing you that the Hydraulic Ram which you put in for the Right Hon. Lady Northwick, at Northwick Park, last year, has worked, and is working, most satisfactorily. The water, as you know, had to be raised to the height of nearly 400 ft., with 1,900 yards of rising main pipe, to a large tank on the top of a hill, in order to supply several farms on the estate with water by gravitation. The supply to the tank is most ample, and there is an adequate overflow left below the Ram. Altogether the work is a very great success.—Yours faithfully, MARTIN CURTLER.

JOHN BLAKE, Oxford Street Works, ACCRINGTON, LANCASHIRE.



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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

CANNELL'S CHRYSANTHEMUMS.

"Mr. J. BAKER, Wandin, Melbourne, Australia, October 12, 1895.

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SWANLEY, KENT.

Herbaceous Calceolarias.—James' Superb Strain.
JOHN FRASER, The Nurseries, South Woodford, Essex, has a beautiful lot of the above to offer. The plants are strong and healthy; they are in 60's, ready for potting into 48's or 32's. Price 20s. per 100, packing included. Usual trade allowance.

MILLER'S CHRISTMAS ROSES.—Magnificent large clumps, full of buds, will produce abundance of flowers for Christmas, 1s. 3d. and 1s. 9d. each; 13s. and 18s. doz. Strong flowering plants, in bud, 4s. 6d., 5s. 6d., and 7s. 6d. doz. Orders 10s. upwards cash paid.
F. MILLER AND CO., 267, Fulham Road, London, S.W.

LILIES OF THE VALLEY.—I beg to offer first-class Forcing Crowns for immediate delivery. Also Planting Crowns, 1 and 2-yr. old. Prices on application.
T. JANNOCH, Dersingham, Norfolk.

For Present Sowing.

SUTTONS' PRIZE CYCLAMEN, mixed, per packet, 5s. and 2s. 6d., post free. November is the best time to sow Cyclamen Seed.

The *Gardening World*, February 24, 1894, says:—"While some cultivators grow their Cyclamens for spring flowering, Messrs. Sutton & Sons make a point of having a display in the autumn which will last through the winter. The seeds were sown in November, 1892, and came into bloom in about eleven months. They have been flowering freely ever since, and will continue in presentable and handsome condition till six months have elapsed."

SUTTONS SEEDS GENUINE ONLY DIRECT FROM SUTTON AND SONS, THE QUEEN'S SEEDSMEN, READING.

PLANT NOW FOR FORCING. — LILY OF THE VALLEY, Spireas japonica, palmata, and compacta multiflora, Dielytra spectabilis, &c. All thoroughly ripened, and in excellent condition for forcing.—For particulars, see CATALOGUE, No. 455, free on application.
DICKSONS, Bulb Growers and Importers, CHESTER.

Demy quarto, printed on fine paper in grey, gilt top. Price, £1 11s. 6d.
THE ART and PRACTICE OF LANDSCAPE GARDENING. By H. E. MILNER, A.M.I.C.E., F.L.S. With Etched Illustrations and Hand-coloured Plans. To be obtained from the Author, 7, Victoria Street, S.W.; or, from the Publishers, SIMPKIN MARSHALL & CO., Ltd.

NEW SPINELESS GOOSEBERRIES.— Coloured Plate, Price List, History, Copy of Testimonials, &c., from W. RUSHFORTH, Nursery Mount, Leeds; or from the sole proprietors, LETELLIER & SON, Caen, France.

CHRYSANTHEMUMS FROM SCOTLAND.—We have a very large collection, embracing all the best novelties, and our prices are moderate. Catalogues free on application.
DOBBSIE AND CO., Florists to the Queen, Rothesay.

CARNATIONS.—Self colours a special feature. Malmaisons, beautiful soft pink var., good stuff, ready for flowering. Pots, 12s. to 18s. per doz.; bluish var., 9s. to 12s. per dozen. Send for Catalogue.
CHAS. A. YOUNG, Floral Nursery, West Derby.

50,000 EUONYMUS, Green and Golden, all splendid bushy plants.—GREEN: 12 in. to 16 in., at 30s. per 100; 15 in. to 18 in., at 40s. per 100; 18 in. to 21 in., at 55s. per 100; 21 in. to 24 in., at 75s. per 100; 25 in. to 49 in. at special prices.
GOLDEN: 5 in. to 12 in., at 3s. to 8s. per dozen. Cash with order.
J. J. CLARK, Goldstone, Brighton.

ROYAL SOVEREIGN STRAWBERRY.— Strong well-rooted runners. Also Sir Joseph Paxton, and other leading varieties.
RASPBERRY CANES—Carter's Prolific, Semper Fidelis, Norwich Wonder, &c. Special quotations for large quantities. Apply, JOHN CHIVERS, Histon, Cambridge.

SEAKALE.—Extra strong, for Forcing; also smaller size for Planting. Samples and prices on application.
H. B. MAY, Dyson's Lane Nurseries, Upper Edmonton.

POT VINES.—Strong, well-grown, Fruiting and Planting Vines for sale, cheap. Gros Colmar, Black Hambro, Muscat, and Alicante. Apply,—MANAGER, Pollard's Nursery, Cheshunt.

FERNS AND DECORATIVE PLANTS!— (TRADE).—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 12s. 100; ditto large, in 48's, 10 best selling sorts, 6s. doz.; strong seedlings, 8s. 100, 50s. 1000; Adiantum cuneatum, in 48's, for cutting, 6s. and 8s. doz.; ditto, for making large plants quickly, 16s. and 20s. 100; Aralias, 10s. 100; Cyperus, Aralias, Grevilleas, Solanums, in 48's, 6s. doz.; Marguerites, Solanums, Erica gracilis, in bloom, in 48's, 9s.; Ficus, Palms, Dracenas, Crotons, Bouvardias, Erica hymalis, and Cyclamens, in bloom, 12s. doz. Lists free. Packed free. Cash with order.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.

WANTED, large SEAFORTHIAS, 6 to 10 feet, in exchange for other Palms, or cash.—Particulars to WIMSETT AND SON, Florists to the Queen, Chelsea.

BARR'S WINTER & SPRING FLOWERS. See Illustrations, back page, *Gard. Chron.*, Sept. 7, 1895. GENERAL BULB CATALOGUE, free on application. ENGLISH DAFFODIL CATALOGUE, free on application. ENGLISH AMATEUR TULIP CATALOGUE on application. CATALOGUE OF HARDY HERBACEOUS PERENNIALS. BARR AND SON, 12, King Street, Covent Garden, London.

ROYAL SOVEREIGN.—Laxton's grand New Early Strawberry; guaranteed true. Fine, strong, runners, 10s. per 100, 2s. per dozen; rail paid; cash with order. ROCHFORD CUCUMBER SEED (New), 5s. per 100. Special quotation for quantity of both.
HERBERT J. HANNETT, Chalk Farm, Norwich.

NOW is the TIME to PLANT PÆONIES, PYRETHRUMS, Gaillardias, and Delphiniums. Catalogue of KELWAY AND SON, Langport, Somerset.

CHRYSANTHEMUMS. Best Exhibition Sorts. Strong cuttings, now ready, from 2s. per dozen, 12s. per 100. Catalogue, one stamp, of—
W. ETHERINGTON, Swanscombe, Kent.

TECOMA SMITHII.—The finest new flowering plant; as easily managed as a Chrysanthemum. It produces in Autumn large heads of brilliant red and yellow blossoms. New seed of all Seedsmen.

SPECIAL OFFER OF CHRYSANTHEMUM CUTTINGS, to Nurserymen and Florists. Source d'Or, rooted, 12s. per 1000; Madame Desgranges, 15s. per 1000; Lady Lawrence, 2s. per 100; Mons. Bernard, 18s. 1000, rooted. CHIFFERFIELD, Florist, Hampton Hill.

WHINHAM'S GOOSEBERRY.—Bushes, extra quality, 1-year-old, 1s. 3d.; 2-year, 1s. 9d.; 3-year, 2s. 3d.; 4-year, 3s. per dozen. Special prices for large quantities.—H. W. KISSOPP, Nurseryman, Hexham.

CUCUMBER, Covent Garden Favourite, Rochford's Strain,—25 seeds, 1s. 7d. The usual allowance to the Trade.
J. A. MARSHALL, Holly Bank Nurseries, Potter's Bar, N.

PALMS, CORYPHAS and LATANIAS from Stores, 10s. per 100. Cash or exchange for Carnations, Felargonium Cuttings, or Bedding Geraniums.
F. ROSS & CO., Merstham, Surrey.

LILIES for the GARDEN.—Lilium lancifolium, white, 3s. 6d. doz.; do., do., red or pink, 3s. doz.—J. D. HAMON, Bulb Importer, Jamaica Row, Birmingham.

ROSES for SALE.—W. A. Richardson and Gloire de Dijon, 35s. per 100, or 6s. per dozen; and H.P. Roses, 5s. per dozen or 25s. per 100, all good sorts. My selection, solid good stuff, 15s. to 18s. per dozen. Manetti stocks, 25s. per 1000. Cash with order.
W. MAGNESS, Rose Grower, King's Acre, Hereford.

HENRY RIDES, SALESMAN, Central Avenue, Covent Garden, W.O. Highest Market Prices. Prompt cash.

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

SMILAX, MYRSIPHILLUM ASPARAGOIDES, nice young Stuff in thumb-pots ready to pot on, 16s. per 100, free on rail.—WILLIAM WHITELEY, The Nurseries, Hillingdon Heath, Uxbridge.

By Special Appointment
TO H.R.H. THE PRINCE OF WALES.

MACKENZIE AND MONCUR, Limited, HOthouse BUILDERS & HEATING ENGINEERS, Edinburgh, London, and Glasgow. Plans and Estimates for all kinds of Horticultural Buildings, Pavilions, Summer Houses, and Heating Apparatus free. Splendid Illustrated Catalogue.
LONDON OFFICE:—50, CAMDEN ROAD, N.W.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W. Telegraph Address, "Hortulanus, London." Telephone, No. 8728.

SALES BY AUCTION.

SALES NEXT WEEK.

MESSRS. PROTHEROE AND MORRIS will **SELL** by **AUCTION** at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., as follows, at 12 o'clock each day:—

MONDAY, December 2:—Dutch Bulbs, 700 lots, at 12 o'clock.

170 Azalea indica, 50 A. Mollis, 50 Retinospora plumosa aurea, 100 Euconymus in variety, 150 Cyrtomium falcatum, Palms, Dracenas, Ficus, and other plants from Belgium; 400 Standard and Half-Standard and Dwarf Roses; 70 lots of choice Stove and other useful Pot Plants; Spiress in variety; 1000 Lillium, including auratum, laciniatum album and rubrum, Brownii, Martagon, &c.; 700 Lillium Washingtonium, Humboldtii; rare Calochorti, Hemerocallis, 200 named Carnations, Hardy Perennials, &c., at 12 o'clock.

TUESDAY, December 3:—Dutch Bulbs, 750 lots, at 12 o'clock.

WEDNESDAY, December 4:—Dutch Bulbs, 600 lots; also Hardy Bulbs and Plants, at 12 o'clock.

THURSDAY, December 5:—Dutch Bulbs—600 lots; also 200 Azalea Mollis, 100 A. indica, 50 Camellias, 40 Rhododendrons, and 250 Spiraea japonica, from Belgium; 200 lots of Lillium in variety, Carnations and Hardy Perennials, at 12 o'clock.

FRIDAY, December 6:—Dutch Bulbs, 700 lots, at 12 o'clock.

ORCHID SALE—see Separate Advertisement.

On view mornings of Sales, and Catalogues had.

Thursday, Dec. 12.

GREAT SALE OF JAPANESE LILIES,

being an important consignment of 620 Cases, comprising:—

18,428 LILLIUM AURATUM,
4,132 " SPECIOSUM ALBUM,
1,920 " RUBRUM,
6,200 " LONGIFLORUM,
5,450 " KRAMERI, extraordinary bulbs,
300 " TIGRINUM SPLENDENS,
572 " BROWNII,
915 " MELPOMENE,
100 " AURATUM VIRGINALE,
200 " RUBRO-VITTATUM,
300 " ALBO-MARGINATUM,
140 " LEITCHII,
500 " THUNBERGIANUM ATRO-SANGUINEUM,
180 " TESTACEUM; together with
98,000 Seeds KENTIA BELMOREANA, in exceptionally grand condition; and
110,000 " CORYPHA AUSTRALIS.

MESSRS. PROTHEROE AND MORRIS will **SELL** the above by **AUCTION**, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on **THURSDAY, December 12**, at 12 o'clock precisely.

On view morning of Sale, and Catalogues had.

Friday Next.

MESSRS. PROTHEROE AND MORRIS will **SELL** by **AUCTION**, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on **FRIDAY NEXT, December 6**, at half-past 12 o'clock.

A **MAGNIFICENT** consignment of **CATTLEYAS** FROM A NEW DISTRICT.

Arrived in the most perfect condition.

The Collector writes:—"The plants I am now sending you are in three distinct varieties, and not any more will be sent, being very scarce; in fact, the district is cleared. These should not be confounded with the ordinary Cattleya of Caracas. The varieties are extraordinarily fine, with large flowers, varying from dark velvet to most brilliant crimson; the labellum, of magenta, is richly striped with orange."

These plants were collected on Cool High Mountains at an altitude of 1750 feet, and with them came

4 plants **CATTLEYA REINECKIANA**, true;
and 3 large plants **CATTLEYA WAGNERII**, true;

also a quantity of picked plants of **ONCIDIUM PAPHIUM MAJUS**.

Such plants as the above have never yet been introduced into Europe.

Also from a private grower, 50 fine-grown plants of **ODONTOGLOSSUM ALEXANDRE** unflowered, four to five bulbs on each plant, 100 masses of **CYPRIPEDIUM SPECTABILE**.

About 1000 **ONCIDIUM JONESIANUM**, a few **NEW BROMELIAS**, **NEW CACTUSES**; five plants of the famous **CATTLEYA LUDEMANNIANA**, established; twenty-five plants, unflowered, all in sheaths of **CATTLEYA SCHRODERE**; and several plants of an Orchid called in its native country **CASCO ROMANO**.

On view morning of Sale, and Catalogues had.

Chesterfield.

SALE of the **LEASEHOLD NURSERY** and **GLASS ERECTIONS**, in one lot as a going concern, and the **STOCK IN TRADE** by **AUCTION** in lots.

MESSRS. PROTHEROE AND MORRIS are instructed by the **Chesterfield Nurseries Company, Limited**, to **SELL**, by **AUCTION**, on the Premises, The Ashgate Nurseries, Chesterfield, early in December, unless previously disposed of by private contract, the **LEASEHOLD PROPERTY** in Ashgate Road, about 10 Acres in extent, with 15 **GREENHOUSES**, heated by Hot-water Piping. Immediately following, will be offered in suitable lots, the extensive **OUTDOOR NURSERY STOCK**, also the contents of the Greenhouses, comprising Ferns, and a general assortment of Pot Plants.

Particulars may be had of Messrs. PROTHEROE AND MORRIS 67 and 68, Cheapside, E.C.

WEDNESDAY NEXT.

FRUIT TREES, ROSES, PLANTS.

MR. J. C. STEVENS will **SELL** by **AUCTION**, at his Great Rooms, 38, King Street, Covent Garden, W.C., on **WEDNESDAY NEXT, December 4**, at half-past 12 o'clock precisely—

100 Well-grown Pyramid and Dwarf-trained Fruit TREES.

500 Standard, Half-Standard, and Dwarf Roses, from Germany.

An Importation of Shrubs and Evergreens, Flowering TREES, &c., from Holland.

10,000 Lily of the Valley Crowns, 5000 Spiræas, CHOICE GLADIOLI.

A Surplus Stock of Ornamental Shrubs and Trees, from an English Nursery.

A great Variety of Lilliums, 1300 Hemerocallis, AURANTIACA MAJOR, from Japan; FREESIAS, ANEMONES, &c.

On view morning of Sale, and Catalogues had.

Monday, Tuesday, Wednesday, and Saturday Next.

DUTCH BULBS.—DUTCH BULBS.

MR. J. C. STEVENS will **SELL** by **AUCTION**, at his Great Rooms, 38, King Street, Covent Garden, W.C., on **MONDAY, TUESDAY, WEDNESDAY, and SATURDAY NEXT, December 2, 3, 4, and 7**, at half-past 12 o'clock each day, a splendid assortment of choice named **HYACINTHES, TULIPS, CROCUS, NARCISSUS**, and other **BULBS** from Holland, lotted for all Buyers.

On view morning of Sale, and Catalogues had.

Reigate Nurseries.—Close to Reigate Station.

By **IVERY AND SON**. Without Reserve.

MESSRS. WHITE AND SONS, under instructions from the Trustee, under a Deed of Assignment, will **SELL** by **AUCTION**, on **MONDAY and TUESDAY, December 2 and 3, 1895**, at 11 o'clock precisely on each day, the whole of the **NURSERY STOCK**, including selections of Border Shrubs, Laurels, Privet, Green and Variegated Hollies, Budded Thorns, English and Irish Yews, Handsworth Box,

A CHOICE SELECTION OF ROSES,

Standard, Pyramid, and Trained Apples, Pears, Plums, and Cherries, Peaches and Nectarines, Gooseberries, Black, White, and Red Currants, Filberts and Cobs, Strawberry Plants, Vines in pots, span-roof greenhouse, 2 span-roof stovehouses, 4 ranges of hot and cold pits, double and single-light box frames, hand lights and garden tools, 2 potting-sheds, 90 feet run galvanized 4-in. water-pipe; Stove and Greenhouse Plants, Violets, Carnations, Chrysanthemums, Fuchsias, Dillias, Arum Lilies, Clives, Myosotis, Clematis, Wisteria, Virginia Creeper, Ampelopsis, Jasmine, and Ivies, &c.

Catalogues may now be obtained at the hotels in the neighbourhood; of Messrs. **IVERY AND SON**, Nurserymen, Reigate and Dorking; and of the Auctioneers, 15, High Street, Dorking, and on Fridays at Leatherhead.

WANTED, to **RENT** or **PURCHASE**, a **NURSERY**, with Glass; London or Provinces.—Particulars to E. 41, Wellington Street, Strand, W.C.

WANTED, to **RENT**, **SMALL NURSERY**, about 1000 feet run of Modern Glass. No stock preferred. Must be near large Provincial Town.—C. P., 41, Wellington Street, Strand, W.C.

WANTED, to **Purchase**, or **Rent**, **Small UNFURNISHED HOUSE**, not more than 40 minutes by rail from City, near a station, and containing three reception rooms, six bedrooms, and well-matured gardens, range of Glasshouses, in all 2 to 3 acres of Land.
Full particulars to **H. S. KNIGHT GREGSON**, Esq., Solicitor, 4 and 5, Adam Street, Adelphi, W.C.

FOR SALE, a small valuable long leasehold **NURSERY**, 6 miles from Covent Garden. Seven large Greenhouses, well stocked; two Vineries, Cucumber-house, Plant-houses, five-roomed Cottage. Low Ground Rent. Lease eighty-six years to expire. Eighty-five feet Glass. Facing main road. All particulars of **FLORIST**, 11, Dafforne Road, Tooting, Surrey.

TO LET, EALING DEAN NURSERIES.—16 Glasshouses, about 16,000 feet; suitable for Market Grower. Immediate possession. Low rental.
M. DORMERS WELLS, Southall, Middlesex.

FOR SALE, MARKET NURSERY and FLORIST BUSINESS. Close to a Provincial Town of 40,000 inhabitants, and within easy reach, on Main Line, of Manchester, Liverpool, and other large centres of population. 9 acres choice Land, Dwelling-house, fourteen modern Glasshouses (nearly 1400 feet run), Vineries, Tomato, Cucumber, Plant, and Forcing-houses. All efficiently heated and stocked; in full working order, and in one of the best positions in the kingdom.—Address, **PROVINCIAL Gardeners' Chronicle Office**, 41, Wellington Street, Strand, W.C.

To Fruit Growers and Market Gardeners.

TO LET, at Enfield Highway, Middlesex, a **LARGE ORCHARD or FRUIT GARDEN**, of 40 acres, or thereabouts, planted with Apple, Pear, and Plum Trees, and Gooseberry and Currant Bushes; and also adjoining same 10 acres or thereabouts of **MARKET GARDEN GROUND**, with House and necessary Outbuildings, within easy reach of the London Markets. Immediate possession can be given.

Apply for rent and other particulars, and for permission to view, to Messrs. **WITHERS AND WITHERS**, of Maltravers House, Arundel Street, Strand, London, Solicitors; and **W. C. ELMS**, Esq., 18, Lower Phillimore Place, Kensington, Surrey.

EXHIBITIONS.

NATIONAL CHRYSANTHEMUM SOCIETY'S EARLY WINTER SHOW.
CHRYSANTHEMUMS, CHINESE PRIMROSES, CYCLAMEN, &c.
ROYAL AQUARIUM, WESTMINSTER, DEC. 3, 4, and 5.
Schedule of Prizes on application to—
Ealing, W. RICHARD DEAN, Secretary.

SECOND INTERNATIONAL HORTICULTURAL EXHIBITION, DRESDEN.
From May 2 to 10, 1896.

Under the high protection of His Majesty the King of Saxony.
For particulars, Schedules, &c., write to the Secretariat der Zweiten Internationalen Gartenbau-Ausstellung zu Dresden.

O. LAMMERHIRT, 7, Glacistrasse, Dresden, N.
Die Commission: G. KRAUSE, I. Vors.; T. J. SEIDEL, II. Vora.

WATERCRESS BEDS.—TO LET, about one acre, thirty miles from London, on Great Eastern Railway; two minutes walk from station.—Apply by letter, 149, Loughborough Road, Brixton, S.W.

CACTI.—About 200 Cacti, good varieties, in good health, for Sale.—Apply, **FRANK SKELTON**, The Gardens, Mount Pleasant, Bishop Auckland, Durham.

FOR SALE, a splendid specimen of **FICUS ELASTICUS**.—Height, 12 feet 3; width, 8 feet 6; parted with an account of being too high for the house.—Particulars to be had of J. D., Townsend, St. Albans.

SPARAGUS, for Forcing.—Five years old, splendid roots, 12s. 6d. per 100; extra fine, 6 years old, 15s. per 100. On rail, cash with order. My Sparagus always makes top price at Covent Garden.
J. J. CLARK, Market Gardener, Goldstone, Brighton.

THORN QUICK.—Extra transplanted, and very strong, 5 yr., 25s. per 1000; 6-yr. 30s. Extra, extra strong gapping Quick, 40s. per 1000; 4-yr. old, very good, 16s. per 1000.—Apply to **ISAAC MATTHEWS AND SON**, The Nurseries, Milton, Stoke-on-Trent, S.O.

RASPBERRY CANES for SALE.—Norwich Wonder and Semper Fidelis, Strong Fruiting Canes. Price on application.—**JOHN FIELDER**, Whiteley Fruit Farm, Hanworth, Middlesex.

FOR ORCHIDS of every description at Reasonable Prices, and efficient men to cultivate them, apply to—
W. L. LEWIS AND CO., Southgate, London, N.
PRICE LIST free.

Important to Mushroom Growers.

CUTBERT'S SPECIALITE MUSHROOM SPAWN, Always alike; most productive. Hundreds of testimonials. Per bushel, 6s.
R. AND G. CUTBERT, Seed, Bulb, and Plant Merchants, Southgate, N. Established 1797.

OWEN'S ROYAL CHRYSANTHEMUMS.

—The best, cheapest, and most complete collection in the kingdom. All the latest and best varieties. Awarded 25 Medals and 275 First class Certificates for New Varieties. Every variety of merit supplied. Catalogue, Penny Stamp.

R. OWEN, F.R.H.S., Floral Nursery, Maidenhead.

NEW RASPBERRY. (STEELE'S VICTORIA.)

A New Variety of great merit, introduced by us last year. This was raised by Mr. Steel, of Ealing, and is the finest market variety grown for Covent Garden: free-grower, heavy cropper, large handsome fruit, fruiting very early, and lasting well through the season until very late. The fruit is essentially a Dessert Fruit, being large, handsome, and very superior flavour. Strong Canes, 6s. per 100; 50s. per 1000. Now ready for Delivery. Special Quotations for large quantities on application.
WATKINS & SIMPSON, Seed Merchants, 13, Exeter Street, Strand, W.C.

To Nurserymen, Builders, Local Boards, Vestries,

AND OTHERS WHO INTEND **PLANTING TREES and SHRUBS THIS SEASON.**

ROBERT NEAL, The Nurseries, Trinity Road, Wandsworth, S.W., begs to offer an extensive stock of **FOREST and ORNAMENTAL TREES, SHRUBS, ROSES, GRAPE VINES, FRUIT TREES, CLIMBING PLANTS, &c.**, which being grown in the neighbourhood of London are especially suitable for Town Planting. Also a large stock of extra fine **SEAKALE** and **RHUBARB**, for forcing.
CATALOGUES free on application.

MANCHESTER WHOLESALE FLOWER MARKET.

CUT FLOWERS FOR FLORISTS.

GEO. FORBES, the largest Salesman of Cut Flowers and Ferns in the North of England, is prepared to **SEND CONSIGNMENTS** on receipt of letter, telegram, or telephone, with quickest possible despatch. Write for weekly **PRICE LIST**. All Florist's Requisites kept in Stock.
National Telephone, 1059. Established 1878.

SPECIAL OFFER.

SOURCE D'OR, 12s. per 1000; rooted Lady Lawrence, 2s. per 100; **W. H. LIOCOLN**, 2s. per 100; **MADAME DESGRANGES**, 15s. per 1000.
CHIPPERFIELD, Florist, Hampton Hill.

LARGE SPECIMEN HOLLIES.

From 6 to 8 feet, well furnished with shoots to the ground. JOHN FRASER, The Nurseries, South Woodford, Essex, begs to invite attention to a splendid lot of cheap Specimen Hollies, which are suitable for planting in large towns or elsewhere. The sorts consist of the common Green, and many of the best broad-leaved kinds, such as Scotica, White-berried, Canadian, Hedgehog, Bay-leaved, Nigrescens, and others. These Hollies have been regularly transplanted, and will lift with good balls. As it is necessary to clear the ground, a Special Low Price will be quoted for large quantities. Sizes and Prices may be had on application.

RHODODENDRONS.

The finest named hardy varieties, bushy, and full of buds, from £7 10s. per 100, upwards.

CONIFERS, HARDY EVERGREENS, DECIDUOUS TREES, &c., in large quantities. CATALOGUES on application.

JOHN WATERER & SONS

(LIMITED), AMERICAN NURSERY, BAGSHOT, SURREY.

FERNS A SPECIALITY.

Our Collection is unrivalled. Over 1400 species and varieties of Stove, Greenhouse, Filmy, Hardy Exotic, and British Ferns. For prices of these and for specially cheap collections in beautiful variety, see our Catalogue, free on application.

W. & J. BIRKENHEAD, F.R.H.S., FERN NURSERIES, SALE, near MANCHESTER.

SHARPE'S VICTOR POTATO.

EARLIEST of all EARLIES



NOW IS THE TIME TO PLANT FOR FORCING.

TO OBTAIN THE TRUE YELLOW-FLESHED VARIETY,

APPLY TO

CHARLES SHARPE & CO., LTD., SLEAFORD.

V. LEMOINE & SON'S

CATALOGUE OF NOVELTIES,

Including BEGONIA ODORATISSIMA ALBA PLENA, ASTILBE LEMOINEI, new sets of GLADIOLUS LEMOINEI, and GLADIOLUS NANCEIANUS, MONTRERETIAS, PHLOXES, DOUBLE LILACS, and the best new Forcing Shrub—

DEUTZIA LEMOINEI

(each 5 fr.; per dozen, 48 fr.), will be sent free to all applicants. GLADIOLUS LEMOINEI and GLADIOLUS NANCEIANUS (1st Prizes at the Paris Universal Exposition, 1889; at the Chicago World's Fair, 1893; Great Gold Medal at the Amsterdam Universal Exposition, 1895), are not subject to disease under the climate of England. Address— V. LEMOINE & SON, Nancy, France.

FERNS—FERNS—FERNS.

30,000 P. CRISTATA in thumbs, good, clean, and free, at 12s. per 100, or 25 per 1000. Price list of other varieties, and large Ferns in 48's and 32's on application. Inspection invited. Free on rail in London.—J. HILL, Nurseryman, Lower Edmonton, Middlesex.

RHODODENDRONS.

Well furnished and well budded, with from seven to twenty buds, consisting entirely of the reliable hardy kinds; the MAJORITY BEING OF THEIR OWN ROOTS, they are without doubt the best Rhododendrons in commerce.

HARDY AZALEAS.

All the most beautiful varieties, varying in height from 1½ to 3 feet; the plants are covered with buds.

ANTHONY WATERER, KNAP HILL NURSERY, WOKING, SURREY.

Wells' new Catalogue of Chrysanthemums now ready, post free. Wells, Charlwood, Redhill, Surrey.

IF YOU WANT

FRUIT TREES

That will bear regularly, purchase Apples worked upon our Paradise Stock.

We have 70,000 to select from, and shall be pleased to show them to visitors.

TRAINED TREES A SPECIALTY. CATALOGUE FREE UPON APPLICATION.

J. R. PEARSON & SONS, CHILWELL NURSERIES, NOTTS.

Established 1782.

FERNS!—FERNS!!

A large quantity of well-grown stuff, in 2½-in. pots, for decorative purposes and for potting-on—Pteris cristata, P. nobilis, P. tremula, P. albolineata, P. serrulata cristata, and other sorts, at 9s. per 100. Also, in 48's, Pteris in variety, at 4s. 6d. per dozen.

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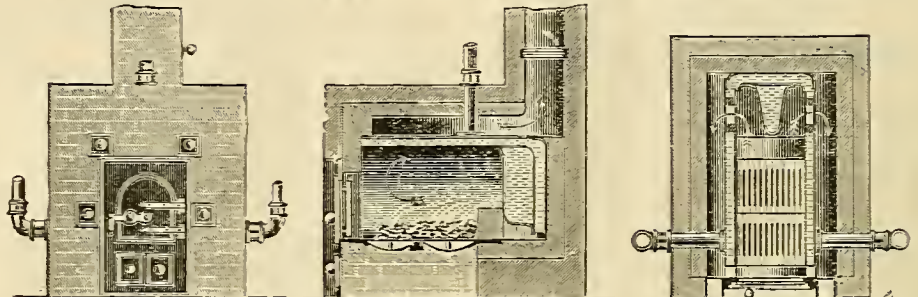
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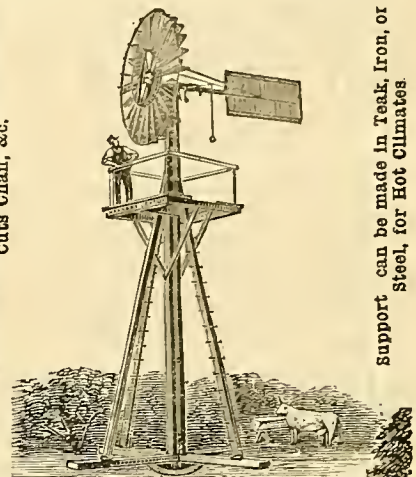
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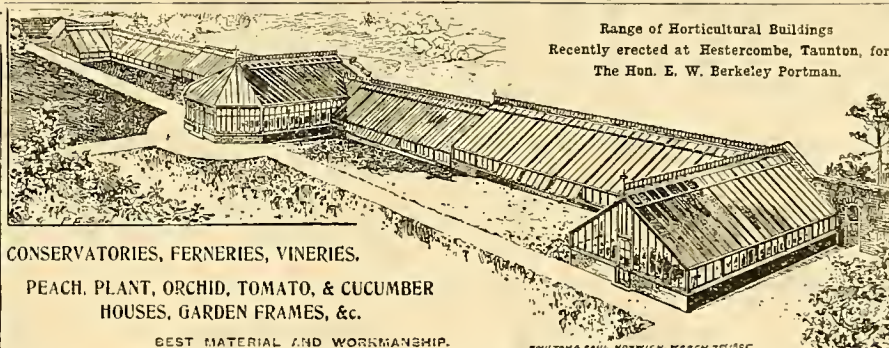
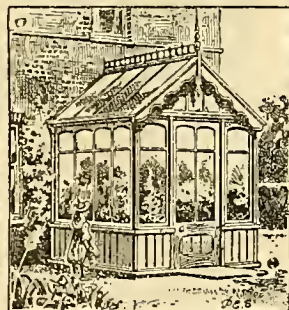


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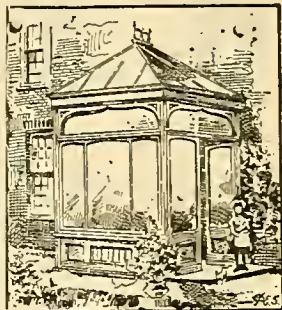
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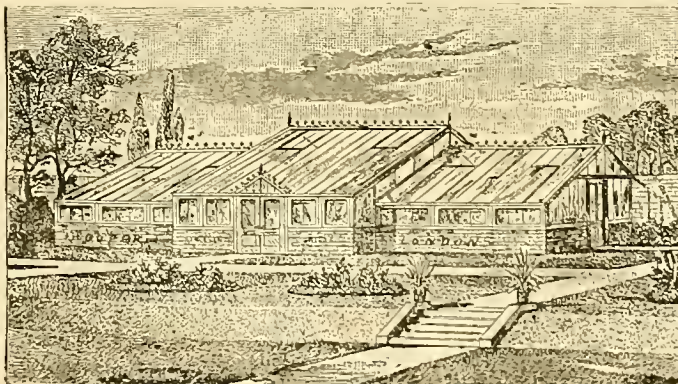
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BOTANICAL ORCHIDS, various, 10 in a lot.
CYPRIPEDES and DENDROBES FROM
ANNAM.

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White and Red Flowers, indescribably brilliant,
and of the most perfect form.

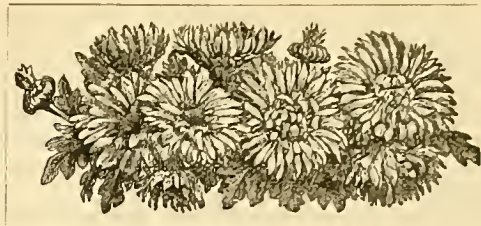
Mr. WM. HENRY PROTHEROE, the great Plant
Auctioneer, has repeatedly stated from his
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the best of all; of this I am quite satisfied."

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ON FRIDAY, DECEMBER 13, 1895.



THE

Gardeners' Chronicle.

SATURDAY, NOVEMBER 30, 1895.

FERNS IN POTS.

AN enquiry was made by a correspondent, "C. B. C.," so long ago as last June, as to whether any British species of Ferns are grown in pots, and a suggestion that a further description would be of interest. I would, in the first place, refer him to the view of my fernery, which appeared in these pages (Aug. 27, 1892), together with some details which he may find of value. As regards pot-culture or otherwise, most of the plants are in pots, and only a few actually in the soil. The reason for this is that in practice Ferns planted in the soil under the favourable conditions induced by a covering of glass, speedily interfere with one another as they develop, and form a jungle in which the individual beauty of each plant is altogether marred or hidden. If in pots, on the other hand, not only is the freedom of growth somewhat checked, but it is quite easy to shift and readjust from time to time as the need for greater space arises. Another advantage is that in the winter, when the deciduous Ferns are down, the still presentable evergreen ones can be rearranged, so as to maintain a good effect while, were they in the soil itself, shifting at that time would be detrimental. To obviate the unpicturesque appearance of ordinary pots, I use a number of rustic ones of various forms, and mix these and all others, as far as possible, with burrs. In fact, the plan of my fernery is all rockwork, and instead of planting the Ferns alone in the nooks and crannies created for them, I insert the pots as well. The fernery is somewhat oblong, 18 by 14, one end being formed by the wall of the dwelling-house containing the dining-room window, and the opposite end by a very roughly-built burr wall. As an amusing instance of the British workman's peculiarities, I may mention that, having provided so many loads of burrs for the bricklayers for this wall, I had occasion to be absent for a few days, and on my return, found a plain ordinary brick wall erected, it being, as I was told, "impossible to build a wall with stuff like that supplied." I made them pull it down, and called in an intelligent blacksmith, who undertook the job, and did it splendidly. Upon this wall there are fixed several large cork pockets, consisting merely of large curved pieces of cork wired strongly together with copper wire to the requisite size and shape, and then tied by same means to stout nails and hooks driven into the wall. These receptacles are filled with soil, and not only hold plants as pots would do, but also accommodate a number which were inserted as seedlings into holes made through the cork here, there, and yonder. Sundry flat-sided rustic pots are also hung wherever they can be accommodated, so that the wall is fairly covered with foliage. The roof at this end, being boarded over for about

18 inches or so, has the effect of drawing the plants a little, and making them decumbent instead of upright, with remarkably good effect. As few British Ferns are naturally decumbent, the highest wall-pocket of all was originally devoted to a *Woodwardia radicans*, the fronds of which drooped nearly to the ground, and were quite 7 feet long, until a specially severe winter killed it. At the foot of this wall is a low rockery, except in the centre, where a sunken petroleum-barrel forms a rock-fringed pool, into which the rain-water from the roof is drained by two underground pipes. This rockwork extends round three sides of the house, and is about 18 inches high, next a 2-foot tiled path (porous red-and-white tiles), which runs round a central rockery of oblong shape, and built up of fairly bold burrs. The chinks and crevices in the whole of this rockwork are filled with self-sown seedlings of various species, *Asplenium Trichomanes* especially. *Scolopendrium*s appear in any quantity, and have constantly to be weeded out, common—or nearly common—ones being too often the intruders. Of specimen plants only two are really planted in this central mound; the King of the Male Ferns, with a fine trunk, and a crown of fronds, measuring 4 feet 11 inches from the soil to the tips; and the Victoria Lady Fern, a bit of the original, which is no less than 3 feet 6 inches long, being a single crown, with a distinct trunk. The side-wall to the left is really the garden wall, surmounted by a wooden one carrying the roof; the opposite wall is red brick, and of the same height, 7 feet, so that there is no side-light whatever. Along the garden wall is erected a long slate trough, composed of roof-slates, supported at their lower edges on stout nails driven into the wall, and from the upper edges suspended by stout copper-wire attached to hooks driven into the woodwork. This trough, which is well drained, accommodates at the level of the eye, a considerable number of choice small varieties of *Asplenium*, *Scolopendrium*s, *Cryptopteris*, and other dwarf Ferns; while from its position it practically does not interfere at all with larger Ferns growing in pots on the rockery beneath. This is really a good idea where space is limited, and indeed where it is not it has a great advantage in affording a habitat for wall and dwarf Ferns at a most convenient level for their examination.

Wherever convenient, flat-backed rustic pots are hung over this trough on hooks and nails in the woodwork, which is painted chocolate, to harmonise with the green. The brick wall on the other side is largely marked by cork and slate pockets and pots, while a slate shelf just below the roof houses a number of *Polypody* varieties in pans.

Next the dwelling-house, considerations of damp prevented the use of rockwork, and in one corner a Wardian case forms a congenial home for several varieties of *Trichomanes radicans* and *Hymenophyllum*s, while *Todea pellucida*, *T. superba*, and *T. s. grandipinnula* supports the foreign element in conjunction with *T. reniforme*. A series of shelves up to the window level occupies the rest of the space at this end, and here are a few of the *crème de la crème* of British Fern society, at the head of which I must be permitted to place an enormous plant of *Athyrium f.-f. plumosum Drueryi*, the queen of a section of which I am glad to learn your correspondent possesses an admired representative. Well may his lady folks compare these Lady Ferns with Male Ferns to the disparagement of the latter, but I fear they must thank the prophetic instinct of

old botanists rather than Dame Nature for the imputation of the sex, though really the existing varieties show that for diversity of fashion and delicacy of taste no imputation could be more appropriate. In one of the writer's latest finds, indeed, *A. f.-f. revolvens*, we have actually the "lady" in ringlets.

Although mere size cannot be deemed a special element of beauty, yet since it is usually associated in Ferns with greater development of the characteristic features, the following actual dimensions of some fronds in my fernery may be of interest:—*Lastrea f. m. cristata*, 3 feet 11 inches, plus a 12-inch trunk; *Athyrium f.-f. Victoriae*, 3 feet 6 inches; *Polystichum aculeatum pulcherrimum*, 3 feet 6 inches; *Athyrium f.-f. pericristatum* (Cousens), 3 feet 3 inches; *A. f.-f. plumosum Axminster*, 3 feet 7 inches; *A. f.-f. plumosum Drueryi*, 3 feet 6 inches long by 1 foot 8 inches wide, the pinnae measuring 10 inches long by fully 5 inches wide. *Chas. T. Druery, F.L.S., F.R.H.S.*

NEW OR NOTEWORTHY PLANTS.

NEPHRODIUM (EUNEPHRODIUM)

DEJECTUM, *Jenn., n. sp.**

A FINE robust species, of the size and habit of tetragonum and Leprieuri of the *Lastrea* group, but of very different general characters, marked particularly by the distant sharply-deflected pinnae of the lower half of the fronds, stramineous vascular parts, and striation of both surfaces caused by the close raised veins, the lowest pair of which on one or both sides of the midrib unite together at the ends, forming an elongated loop, as in *Pleocnemia*. From the patent united lobes at the top of the fronds the pinnae gradually deflex and widen apart downwards to the base where the distance reaches 4 to 5 inches. *G. S. Jenman, Demerara, October 18, 1895.*

ORCHID NOTES AND GLEANINGS.

CATLEYA BOWRINGIANA.

WE have now in flower and bud four plants of the above, the largest growing in an 8 inch pot has three spikes, with thirteen, ten, and eight flowers on them; the other three are growing in 6-inch pots, the one has two spikes with sixteen and eight flowers; the other two spikes with nine and four flowers, and the other one spike with fifteen flowers. I should be glad if you or any of your correspondents will kindly say what is the greatest number of flowers on a spike they know of on this species of *Catleya*. *W. Dawes, Little Vess Gardens, Shrewsbury.*

THE SPECIES OF DIACRIUM.

Diacrium (*Epidendrum*) *bicornutum*, *Hook.*, and *Diacrium* (*Epidendrum*) *indivium*, *Bradf. MSS.*, are still common in Trinidad, although the yearly export by collectors has diminished the supply to a considerable extent. *D. bicornutum* is found almost exclusively on the seashore, where it grows on rocks and the branches of trees well exposed to the breeze.

**Nephradium* (*Eunephradium*) *dejectum*, *Jenn., n. sp.*—Stipites strong, erect, subquadrate, stramineous, slightly puberulous, channelled, 1½ to 2½ feet long; fronds erect, pinnate, subcoriaceous, dark green, paler beneath, striated, 2 to 3 feet long, 10 to 15 inches wide, the acuminate apex pinnatifid, the base very slightly reduced; rachis strong, and with the midrib stramineous and channelled; pinnae truncate, sessile, subproximate, and spreading in the upper half, distant, deflexed, and shortly stipitate and subcuneate at the base in the lower, 6 to 8 inches long, 1½ inch wide, tapering to a finally acuminate entire point 1½ inch long, cut a third to half-way to the midrib into broadly rounded oblique or subfalcate open lobes, ¼ inch wide, with a narrow sinus between, and subcrenulate or even margins; veins conspicuous on both surfaces, close, simple, curved, ten to fifteen to a side all fertile, the lowest three to five opposite pairs, uniting and running together to the sinus with a streak between, and with the costa, grey, puberulous beneath; aeri small, medial or near the rib, reaching from the costa to the apex of the lobes; involucre small, grey, puberulous.—Guiana; in the region of Malali, Demerara River, frequent in moist situations.

It forms at times magnificent clumps, which are seen to advantage when in flower, in well-protected positions. A clump of this class was well figured in the *Gardeners' Chronicle*, p. 337, vol. xvi, 1834. This figure was engraved from a photograph by F. Morin, Esq., of Port-of-Spain, from a picture of a plant in the garden of a suburban villa belonging to Mrs. Kavansgh. We have had similar clumps in flower near the office of the gardens from February to May, where they are simply hung up attached to the blocks of wood as they were cut from seaside trees, having no compost, basket, or other support of any kind. The attention they receive is to secure them against the attacks of insects, cockroaches, &c., and to give an occasional watering in dry weather. They are fully exposed vertically, but are sheltered on all sides by buildings and trees.

The second species, *D. indivium*, is one which is confined almost exclusively to the inland districts. It differs from the preceding in being of much smaller size, and by having an undivided lip which is quite white, and not spotted as in *D. bicornutum*, and the pseudo-bulbs and leaves are also much smaller. An expanded flower of *D. bicornutum*, which was taken at hazard from a clump, measures 2¼ inches in breadth, while another of *D. indivium* measures only 1½ inches in the same diameter. *D. indivium* is more amenable to cultivation than its larger brother, and makes an exceedingly pretty plant when well grown. Both plants are very impatient of moisture, and when established will stand drought almost with impunity. Doubts have been expressed as to the specific value of the name of *D. indivium*, but to the field botanist who is conversant with the plants in their homes, the characters are clearly marked, and no intermediate forms have as yet been seen. It is true that the latter plant is (as Griebach says) nearly allied, but the difference in form of the lip, its habit, and the colour of the pseudo-bulbs, as well as its constant habitat in the interior woods, would appear to bear out a legitimate claim to specific distinction.

In connection with the growth of Orchids, it has been noticed that the presence of ants is apparently necessary to their maintaining a healthy condition, but whether this is in reality due to some action of the ant itself, or to some indirect cause, has not yet been proved, and investigations are needed to show what is the real influence the ant has upon the health of the plant. It has been suggested that the presence of stinging ants acts as a protection to the plants, but I am inclined to think from recent investigations that the benefits the ants confer on the plant are those of providing it with the mycelium of a fungus to cover its roots, which organism enables it to take up food which would be otherwise unobtainable. It may be shown that the ants act as protectors to the plants, as well as providing them with a means of obtaining nutriment, but it is almost certain that the fungus which grows in the material they accumulate around the roots plays a much more important part by providing the plant with food material. *Bulletin of Trinidad Botanical Garden, October, 1895.*

MR. GODSEFF'S EPIDENDRUM (EPIDENDRUM GODSEFFIANUM).

This is one of the giants amongst the *Epidendra*, the plant itself being 2 to 3 feet in height, or even more as it grows on rocks and tree trunks in its native wilds. The pseudo-bulbs are 4 to 6 inches in length, terminated by 2 to 3 strap-shaped, oblique pointed, and very leathery leaves. The flower-spike is branched at its extremity, and as thick as the culms of a slender Bamboo (say, *Thamnocalamus Falconeri*) below. The flowers themselves are 1½ to 2 inches in diameter; the prevailing colour being olive or cinnamon on sepals and petals alike, the three-lobed lip being white with purple lines on its disk. The sepals and petals are incurved, hollowed out or spoon-shaped, and marked with faint lines or nerves. The sepals outside are pale fawn coloured, having a few scattered brown dots. As *Epidendra* generally, so this is a very robust and interesting

species, the flowers being full and of fine form, and their fragrance in the morning is very delicious, reminding one of a mixture of tropical fruits. The plant is very remarkable when growing, on account of its size, and it thrives in a warm moist house when growing with plenty of water at its roots. The plant is now flowering in the Botanical Gardens of Trinity College, Dublin. The species is named in compliment to Mr. Godseff, who is well known as the manager of the Sanderian collection of Orchids, &c., at St. Albans. *F. W. B.* [E. Cappartianum is, we believe, a synonym of this plant. Ed.]

CYPRIPEDIUM X SELLIOERUM, MALFORMED.

As bearing on our remarks at p. 495, October 26, and previously, T. W. Swinburne, Esq., Corndean

TRICHOPILIA BREVIS.

At the meeting of the Orchid Committee of the Royal Horticultural Society, Nov. 12, this pretty species, which was exhibited by Messrs. F. Sander & Co., was duly noticed in our columns, and we now give an illustration of the plant (fig. 105). The species appears to be of the section of *Trichopilia* known in gardens as *Heleia*, and of which the previously known species *Trichopilia (Heleia) sanguinolenta* is well illustrated in the *Botanical Magazine*, t. 7281.

Trichopilia brevis is a plant of neat habit of growth. Its flowers have the sepals and petals of an Indian-yellow colour, barred with chestnut-brown. The ample labellum pure white, with a few purple marks at the base. It thrives best when grown in a moist intermediate-house, such as suits *Miltonia Roezlii*, *Miltonia vexillaria*, and the plants usually associated with them.

average crop, New England being especially deficient; while in the central-west the crop is the largest ever grown. The season has been one of contradictions, new conditions constantly arising of sufficient importance to vitiate preconceived ideas.

May frosts were followed by such weather as operated to minimise their importance. Drought, growing serious in June and July, was relieved in August. On September 1 the crop appeared virtually made, and in extent there was every indication that it was record-breaking. The final output of marketable Apples is large, but it is not the burdensome crop that seemed certain a short time ago.

Dry weather, hot winds and locally severe storms during September made great changes in the prospect for winter fruit. The "windfall" has been sur-



FIG. 105.—TRICHOPILIA BREVIS FLOWERS OF AN INDIAN-YELLOW COLOUR, BARRED WITH CHESTNUT; LIP WHITE, WITH PURPLE MARKINGS AT THE BASE.

Hall, Winchcombe, Cheltenham, writes:—"I am sending you a flower of *Cypripedium selligernum*, taken from a plant which invariably throws up a similarly deformed bloom as a preliminary, and after that is over, it sends up a spike of good flowers. I have now one with a two-flowered spike following a deformed flower."

The flower is a very singular one. The sepals and petals are of the usual form, but the labellum is inside out. The part which in the normal flower is at the back and resting on the lower sepals, being in front, and the opening in the pouch, with the sides turned out instead of in, is at the back. It is a very singular freak, and it bears out our conclusions, formerly expressed, as to the constancy of abnormal flowers in some plants.

THE APPLE CROP OF 1895.

We learn from the *American Agriculturist* that the estimated commercial crop of Apples of the United States for the present season is one of the largest in recent years, and will yield probably 66,000,000 bushels, showing an increase over the average production of about 8,600,000 bushels. When prices are high, as they were last year, a lot of fruit not usually included in the commercial crop, finds its way into the market. While ordinarily this would never appear, it serves the purpose of ultimately swelling the totals.

The distribution of the crop of the present year is said to be peculiar, the greatest Apple-growing districts east of the Alleghanias showing less than an

prisingly large, and the ill effect of the hot weather is becoming further apparent in marked difficulty in securing fruit of perfect keeping quality. Especially is this true in southern Illinois, and in portions of Missouri, while in heavy-laden orchards of Missouri and eastern Kansas and Nebraska the extent of loss from high winds can only be appreciated by personal inspection of orchards.

It is difficult to accurately estimate the total crop of Apples in barrels, because there has never been any accurate census determination of the size of any given crop. The census of 1890 undertook to give such a measure, but the work was very faulty from unintentional omissions. Taking that result, however, as a basis, and as representing what might be called the marketable crop as distinguished from the

total crop (including farm consumption, cider stock, and fruit fed to animals, or allowed to rot on the ground), it would seem that the crop this year is about 16 per cent. larger than that of 1889, and larger than that of last year by about the same measure.

The crop in the principal States of America in 1889 as reported by the census, in 1894 as determined by market movement, and in 1895 as estimated by the *American Agriculturist*, the only authority placing such detailed estimate on record, is presented in the following statement:—

State.	1895.	1894.	1889.
	Bushels.	Bushels.	Bushels.
Maine	790,000	1,930,000	1,228,000
New Hampshire ...	985,000	1,974,000	1,313,000
Vermont	550,000	946,000	505,000
Massachusetts ...	558,000	1,320,000	676,000
Connecticut	785,000	990,000	789,000
New York	6,375,000	5,918,000	3,398,000
Pennsylvania	5,550,000	4,264,000	3,021,000
Ohio	6,450,000	2,871,000	5,515,000
Michigan	3,750,000	5,815,000	5,261,000
Indiana	3,307,000	1,056,000	3,514,000
Illinois... ..	3,792,000	1,991,000	3,340,000
Missouri	3,884,000	1,974,000	3,479,000
All others	28,400,000	26,500,000	24,694,000
Total	66,256,000	57,629,000	57,242,000

An examination of this table shows that the New Hampshire crop this year is little more than half that of 1894, and smaller than in 1889. In New York and Pennsylvania it is a third larger than last year, and double that of 1889. The Ohio crop is two and a quarter times larger than last year, while the Michigan crop is less than two-thirds as large as in 1894. The most remarkable gains over last year's production are noted in Indiana, Illinois, and Missouri—three times as large in the first, and nearly double in the latter two. The total crop in these three States, however, only slightly exceeds their production in 1889.

THE CANADIAN SITUATION.

Canada, as a whole, has not been favoured with an abundant Apple crop for several years, although exceptional localities have borne well. This is true regarding the 1895 crop, with a material shortage in much of Ontario. Owing to the severe frosts about the time fruit-trees were in bloom, many Lake Erie and Huron counties suffered, and Apple-shippers from Toronto westward, with possible exceptions of a narrow strip close to the water's edge and around Niagara, will have less to do this autumn and winter, the crop being required for home consumption. This important section, which usually has a liberal surplus for shipment, has already marketed a considerable part of their available crop. Down the St. Lawrence river Apples are not grown so largely for export purposes, and will this year provide little. It is certain that the big crop in the United States will preclude the movement of any considerable quantity of Canadian fruit across the border, even from favoured sections, and the surplus from Lake Ontario counties and further east will seek an outlet abroad. In the Annapolis valley, the Apple-growing section of Nova Scotia, a fairly good crop has been harvested, including both autumn and winter varieties, the latter being fine in quality, and adapted to the export trade. Early shipments from that province, however, shared no better fate than did those from the States, as England was well supplied with home-grown and continental fruit. Considerable quantities of Nova Scotian Apples are drifting into Boston, partly on commission, and providing the market is right, may eventually be re-exported to England.

THE OUTPUT FOR AMERICAN SURPLUS OF APPLES.

Seeking for a place to dispose of the large reserves of sound winter fruit, the fact is developed that the Apple crop, taking the world at large, is a full one. Last year the deficiency in many of the American

States absorbed much of the surplus of those where the yield was liberal.

But this year the crop is more evenly distributed, and it is an exception rather than the rule to find a State with a positive deficiency.

Turning to the output on export account, this may amount to more as the season wears away. England is about the only foreign customer that America has. Up to late autumn England is supplied with fruit from the liberal home yields, and from the continent of Europe, including Holland and Belgium, which have very large crops; France, which turned off fair quantities; Germany and Italy with at least sufficient crops of Apples of their own to make it improbable they will need to import many, and may possibly send a few to the United Kingdom, as they do usually. This fruit, however, is autumn stock, and once out of the way should enable American exporters to ship more freely to England. Latest advices report an increased interest in leading English and Scotch markets, with an outlook for better figures. Showing the drafts made upon the various surplus countries for British consumption is the following table of—

English Imports of Apples in bushels in 1894.

United States	1,441,657
Germany	50,492
Holland	504,740
Belgium	1,160,923
France	509,537
Portugal	64,567
Italy	7,775
Channel Islandr... ..	7,199
Australasia	135,962
Canada	1,081,859
Other Countries... ..	3,958
Total	4,968,669

There is just now a severe sifting of quality, and the range of prices is very wide. Standard varieties of winter fruit, such as Baldwin, Greening, Spy, Ben Davis, &c., are going rapidly into cold storage, some of the best posted and largest growers advising not to accept present quotations. This, too, in spite of the fact that vast quantities of soft stock have either been sold for cider purposes at from 5 to 10 cents per bushel, or else permitted to rot on the ground. The enormous quantities of windfalls, cider Apples, poor and gnarly fruit generally, out of the way, the market is expected to clear up. Large as the crop is, it is certainly much less than seemed assured before the trees began to drop so badly. *J. J. Willis, Harpenden.*

PARIS.

MICROSPATHA GUINEENSIS.

CULTIVATORS know this dwarf Aroid best under the name of *Nephtytis liberica* (N. E. Brown, in *Gardeners' Chronicle*, June 18, 1881, p. 790). We mention it now for the sake of calling attention to the profusion in which the orange-coloured berries are produced. These are borne in such numbers that the plant is at this season very ornamental. The berries are clustered, each about the size and form of a small Olive, and of a bright yellow or orange colour. At the Jardin des Plantes we recently observed the use made of this plant for ornamental purposes.

AMPHITECNA NIGRIPES.*

This highly curious Bignoniad or Crescentiad has lately been in flower in the Paris Jardin des Plantes. It has an erect stem, oblanceolate glabrous entire leaves, and bears tufts of yellowish-green flowers from the old wood. Each flower is about an inch long, with a short calyx, dividing into two boat-shaped segments, an irregular tubular corolla, contracted in the middle, dilated on one side below the four-five parted limb.

* Baillon in *Revue Horticole* (1882), p. 464, fig. 99, as *Crescentia*; see also Miers in *Trans. Linn. Soc.*, xxvi. (1883), 163, nomen genericum tantum.

CAMPTOSEMA ERYTHRONOIDES.*

A handsome stove shrub, with pinnate foliage, ovate lanceolate segments, with clusters of rosy-lilac flowers near the apex of the branches. The individual flowers are something less than an inch long, compressed, the standard wings and keel nearly of the same length. The plant which is in bloom in Jardin des Plantes differs somewhat from the plant described and figured by Bentham.

IDRIA COLUMNARIA.†

This plant in the *Kew Index* is referred with a mark of doubt to *Fouquieria spinosa* (Torrey in Emory, *Notes of a Military Reconnaissance*, 147, t. 8, Mexico, 1848). The plant in the Jardin des Plantes is highly curious, consisting of a stout, thick, conical stem, 2 to 3 feet high, and as much through at the base, giving off slender spreading branches near the top, and provided with small-stalked ovate acute leaves. It is a native of Lower California. The figure of *Idria* cited has a tall, nearly unbranched, columnar stem, with stalked spikes of yellow flowers near the summit. The plant in the Paris garden was not in flower, so that its identity with Kellogg's plant is uncertain. In any way it is highly remarkable. *M. T. M.*

HARDY PLANTS AT COLLOONEY.

CARYOPTERIS MASTACANTHUS.—This pretty flowering shrub (see *Gardeners' Chronicle*, February 2, 1884, fig. 149), has flowered at this place for the first time this year. It has proved quite hardy, having withstood the frosts of last winter under the slight protection afforded by some Spruce branches; and I hope now that it is well established it will bloom at an earlier part of the autumn. The flowers come in small clusters from the axils of the lateral shoots and are of a deep lavender colour.

CLERODENDRON TRICHOTOMUM.

This plant flowered here this autumn, just previous to the sharp frosts setting in, in October. It is an interesting plant where it thrives, and the flowers come early; and when our plants are well established, they may do better in this respect. The young wood is of a soft nature, but it takes no harm, except, perhaps, an odd shoot or two will die back during a severe winter. It is planted in a border and close to a wall; and a plant of *Abelia rupestris* standing near it flowered profusely this autumn.

TUPA FEULLEI.

This made a grand show in the herbaceous border, with its beautiful spikes of red *Salvia*-like flowers, during the summer and autumn. The plant succeeds in good sandy loam, and is benefited by a few applications of manure-water at the root when well established. Increase is by division of the roots, and from seed.

HYPESICUM REPTANS.

For covering a slope or the rockery, where a moderate depth of sandy loam can be afforded, this is one of the prettiest subjects I know of; and it is hardy, very floriferous, and easily raised from seed. I have grown the plant in an ordinary border on raised mounds of sandy soil, and even in this way it is attractive. A few stones placed under the trailing shoots keep them clean and free from grit.

H. MOSERIANUM ×.

This is a choice subject, very suitable for a rockery or border, lasting in flower a long period of time. It is an erect-growing hardy variety.

LAMNUM AUREUM

Is a useful plant for covering a flat surface, and, as its name implies, it is a yellow-leaved plant. It is thought highly of here, and is a capital ground-work plant where Dutch bulbs, &c., are planted. The plant likes full exposure.

TIARELLA CORDIFOLIA

Is an old favourite, and one of the best plants for covering a large area in a short space of time, and

* Bentham in *Martius' Flora Brasiliensis*, xv., t. 155.

† Kellogg in *Proc. Calif. Acad.*, ii. (1883), 34, ex *Indice Kewensi*, t. 1204.

it will thrive in almost any position or aspect, but the better it is treated the more its true character is developed. It is a free-flowering subject, with thick stolons, and cordate, acutely-lobed leaves, hairy above, and pubescent beneath. It is propagated by bits of the stolons being taken in early spring, and planted just beneath the soil.

CORNUS CANADENSIS.

We were unable to succeed with this plant when planted in a loam and sand, but find that it will grow freely in a mixture of sphagnum and peat. The pretty star-shaped flowers appeared on October 27, and continued for some time in good condition. The beauty of the shrub is enhanced by its leaves, which assume a bright red colour on the approach of autumn.

POLYGONUM BRUNONIS.

This is a handsome plant, good all the year round a very free bloomer, and very suitable for planting on the ledges of the rockery, and even in a border.

DRYAS OCTOPETALA.

When planted near to a flat and somewhat eloping slab of rock, having a rough surface, this will in time clothe it with a network of growths, which flower freely, and when passing out of flower the stalks are surmounted for some time with feathery seed vessels.

HYDRANOEIA SCANDENS.

We find this a desirable trailing plant, suitable for covering a rugged stone or boulder, effective when in bloom, and also during the autumn, when the leaves assume a pale yellow tint. It thrives as well on the shady side of the rockery as on the south side. *H. May, Markree Castle Gardens, Callooney, Sligo.*

THE NEW ZEALAND INSTITUTE.—In the *Transactions of the New Zealand Institute* (1894), Mr. T. Kirk publishes some systematic descriptions on New Forms of *Celmisia*, Revision of the New Zealand *Gentiana*, New Zealand species of *Gunnera*, some plants from the Upper Waimakariri, New Grasses from Macquarie Island, and New Zealand species of *Colobanthus*.

NOTES FROM CAMBRIDGE BOTANIC GARDEN.

(Continued from p. 518.)

DIPLADENIA BOLIVIENSIS on a rafter in the plant stove, and the Yam in fruit in the same house, presented a striking contrast, and are plants too seldom used for effect on the roofs of glass-houses. Some fine specimens of *Ixoras*, very notable among them being a fine piece of *I. Bandhuca*, of a very deep scarlet, light up the plant-stove with fine glowing tints on the eve of the November fogs.

PELLIONIA DAYEANANA.

The semi-succulent stems, peculiar foliage, and the contrast in colour, size, form, between the male and female flowers, give this plant a most remarkable appearance. It makes, in fact, a useful and novel addition to our stove creepers.

DICHORISANDRA THYRSIFLORA.

is one of the best of this useful order of showy and easily-grown stove plants, flowering freely under good cultivation throughout the summer and autumn. The deep golden anthers bring out to the best effect the rich dark blue of the flowers.

CEROPEGIA SANDERSONI AND C. STAPELIIFORMIS.

It is worth while for all lovers of nature to rest awhile in such Botanic Gardens as those of Dublin, Cambridge, Oxford, &c., to have a half-hour's fellowship with some of the many curious and instructive plants that are all too prone to be trodden under foot in our hot haste after shows, decoration, and profits, in these modern days of fever and excitement. Horticulture is fast losing its high character of the leaner cult, but careful study of *Ceropegias* might do something to help us to regain it.

Ceropegias are seldom or never found in private gardens, they are of little or no use for button-holes, wreaths, dinner-table decorations, or market flowers,

Possibly few practical men know that the literal rendering of the name is a fountain of wax. And the design, form, and uses of these fountains are miracles of constructive design and adaptations of means to ends. The whole structure of the flower seems designed to protect the stigma or ovary from wet and the inroad of flies and other insects. *Ceropegias* are not ranked among fly-catchers, though the structure of the blossoms are so peculiar, that should any living thing get into the corolla it would stand but a poor chance of getting out again, whether the fountain on the top or the tube at the bottom were filled with honey or not. In some species, such as *C. Sandersoni*, beautifully in bloom at the time of my visit, the five petals formed a raised tent, supported on five open arches, that wind round the top of the bulged-out portion of the tube; so that any living thing that gets into the well-lighted, carefully-guarded, life citadel of the *Ceropegia* has a raised palace on the roof with five windows, each a quarter of an inch deep, to look out of—a tower of observation, or mayhap allurement, probably unequalled among plants. The five petals diverge from a centre to a point in the centre, and the extremities overlap these arches like umbrellas sufficiently far to render each flower water-proof. The colour of *C. Sandersoni* is a pale green, mottled and veined with a darker green, with a beautiful peculiar translucid appearance. *C. stapeliiformis* is a purple-flowered smaller variety. Both these are greenhouse plants, and could be grown easily, where their flowers could be best seen, climbing up or drooping down from a roof, pillar, or rafter.

C. elegans is, perhaps, best known; but this being a native of India, needs the warmth of a stove to do it justice. This species has also purple flowers, and long hairs clothe certain portions of its very curious flowers. All these species and most others are climbing plants, requiring to be trained on rafters or trellises. They are easily propagated by cuttings, or root, or stem, or bulb division, for the species that have bulbous roots.

To bloom them freely the tops must be kept fairly thin, freely exposing them to light and air. They thrive best in a mixture of peat, leaf-mould, and sand. One or more plants should be grown in every glass-house, as few plants afford more interest and pleasure to families and students than such wax fountains or tent flowers as *Ceropegia Sandersoni*.

Gerbera Jamesoni.—On the occasion of a recent visit I was much pleased with some specimens of this still rare and striking plant. It seems it was first introduced from the Transvaal by Rehman, in 1878. It was subsequently found and sent home by Mr. Jameson, whose name it now bears in the gold-field districts of Barbertown. Hitherto, its progress under cultivation has been rather slow. I do not remember, in fact, seeing this striking and beautiful plant in robust health and full beauty anywhere else but in the Cambridge Botanic Garden. (See *Gardeners' Chronicle*, June 22, 1889, fig. 122, p. 773.)

Mr. Lynch, with his usual courtesy, supplied me with a few notes that must prove exceedingly useful to others who would like to grow this very ornamental plant to perfection. It is grown at Cambridge in the open air, but it is not quite hardy nevertheless. Neither does the *Gerbera* take kindly to pot culture. Hugging the south ends of the nice new range of glass in the Cambridge Botanic Garden, may be found several hardy bulbs and other plants that have the full benefit of all our solar heat, and considerable help from the hot walls of the plant-stoves and Fern-houses behind. Amongst more of such plants is a fine group of *Opuntias*, most of which survived the zero frosts of last February. I do not say that such tempting food for frost wholly escaped, but a fine group still survives, protected with a temporary frame of glass in winter, and mayhap, but I am not sure of the latter, a mat over the glass.

It was a happy thought of Mr. Lynch's to plant the Transvaal *Gerbera* behind the *Opuntia*, and close

to the warm wall behind it; and here it may be said to grow like a weed, blooming persistently from April 1 to the middle or end of October. Mr. Lynch thinks the *Gerbera* and *Opuntias* mutually protect and assist each other. Both have a glass covering to keep them dry rather than warm in winter. He also adds, as already stated, it does so well here because it is planted against a wall, behind which are four hot-water pipes.

The general appearance of the plant is something like an enormous Dandelion, with large flame-scarlet Daisy-like flowers, standing up strongly on flower-stems averaging from 1 foot to 18 inches or more in length. The prevailing colour is a uniform flame-scarlet, but the colour varies considerably from seedlings, some having a decided shade of salmon. The blooms also vary very much in size, the blooms being finest in sunny fine summer weather, some of them showing scarlet single Daisies, measuring as much as $4\frac{1}{2}$ inches across. The persistency of the blooms after cutting is even more marvellous than their perpetual blooming from April to October inclusive.

In this genial home for this striking plant, seeds are plentifully ripened by Mr. Lynch, who kindly adds, that by sowing these in a warm house so soon as ripe the plants are ready for distribution or planting out in the spring; those who have seen this plant in good form can hardly doubt that it is bound to have a brilliant future in many gardens in its present form, and may prove useful to hybridists of Daisies, *Chrysanthemums*, Dandelions, &c. *D. T. F.*

FLORISTS' FLOWERS.

CHRYSANTHEMUM GOLDEN WEDDING.

MANY complaints were made last season concerning the weakness of constitution in this variety, and the failure of the plant to flower satisfactorily. I had not grown it, and determined to try it this season. I have found no difficulty whatever as regards its constitution. The plants were late when I received them, which accounts for the buds showing late, and the flowers are only now (Nov. 14) half expanded, but the plants are certainly healthy and strong. I am very pleased with the flowers, which are of a rich golden-yellow colour, in that respect closely resembling *Jardin des Plantes*. The petals are broad and of good substance, and I shall expect to see this variety come eventually more to the front. *W. H. Divers, Belvoir Castle Gardens, Grantham.*

THE AURICULA.

The plants show a remarkable tendency to damp-off in the late autumn, the outer leaves rapidly decaying; and if these be not removed, frequently the main stem is apt to decay as well. The alpine varieties are equally liable to be thus injured, and these effects are not confined to plants grown under glass, but are seen in the plants in the rock-garden. When removing decaying leaves, no trace of decay should be left on the plants. Many of the show varieties are very scarce, and duplicates cannot be obtained, and it is therefore advisable to avoid losses. The plants should be arranged in a certain kind of order, beginning, say, with the green-edged flowers, and following on with grey-edge, white-edge, and self, this being the order in which florists have always arranged them, and a careful fancier places his choicer specimens in the best position he has for them, and where they are under his eye, and easily come-at-able. The plants should at this season be as near as possible to the glass, but should not touch it. In fine weather the lights should be removed during the day, and replaced in the evening as soon as dew is noticed on the leaves of the plants. In foggy weather let the lights be kept close. After foggy weather the glass, if the garden is suburban, will be coated with a black oily substance, which must be washed off, but the plants will not have suffered. The plant frames, which have been in a shady position during the summer, should be placed in an open position.

Watering must be done with care, affording no water if a plant be not very dry, and always keep the leaves from being wetted when applying water.

CARNATIONS AND PICOTEES.

Those who have to deal with a large collection may not always be able to do this, that, and the other at the proper time—indeed, during the last two or three years I have been obliged to step outside the rules and regulations often laid down for myself and others; but, as a worthy man and good old florist used to say, "What odds? you're aye learning something." And herein he was quite right. For instance, I have always been anxious to get the border Carnations planted out before the end of September, and yet I have had splendid success from plants put out after the middle of November. I began this year to plant out the choice border Carnations about the middle of November, and as I write they look very promising. A little decayed manure will be spread over the surface as soon as frost sets in. I plant three of one sort together, and the clumps are 2 feet asunder, measuring from the centre of the three. Seedlings, again, ought to be planted out where they are to flower in June or July, but this cannot always be done. I plant them 15 inches asunder, but the ground was not available this year; therefore the plants were put out 7½ inches asunder, and now, when the ground has been cleared, every alternate row is being removed, and the alternate plants in the rows, leaving the remainder at the regulation distance, and filling up the rest of the borders. They were removed carefully with a mass of roots, and do not seem to have suffered in the least.

We have not yet finished up the potting of the layers, although we began early in October, and one of the very best northern growers has just written me to say that he does not find his plants suffer in the least when he can get them potted before Christmas. This, of course, would depend a good deal on the season, for sharp frosts are not uncommon in December, and they may also last long; still, it is well to know that layers may be potted up, and plants may be set out in November, and still succeed admirably.

The plants early potted-up in frames require to be carefully gone over, all dead and decaying leaves removed, green-fly brushed off, and the surface of the soil stirred; weeds also will have appeared, and should be removed, placing the plants on a freshly-stirred surface of ashes or cocoa-fibre.

In some districts spot is troublesome, but if any plants show signs of being injured by it, they should be removed from the frames into the greenhouse, where it is not so likely to spread. The rust, as it is termed, is not affected by atmospheric conditions, and must not be played with, but the affected leaves cut off as soon as remarked, and the plants watched in case it might reappear. Cleanliness is important in the frames, and greenfly must on no account be permitted to increase. It makes a sad mess of the beautiful foliage.

PINKS.

The hardy garden Pink in all its beautiful varieties, is a plant which should be found in every garden. Many of the very choicest Carnations lack scent, but the Pink never. I have read most that the late Rev. George Jeans wrote upon the Pink under the signature of "Iota," and he preferred the flower to the Carnation; and I once heard a leading florist declare at the luncheon after the Birmingham Carnation Show, that the Pink was certainly to be preferred to the Carnation. What we want is raisers of new varieties. The Carnation has plenty of worshippers and producers of new varieties, and we ought to get out of the strict grooves in Pinks as we have done in Carnations. There is too much sameness in the laced Pinks, and it requires an expert and well-educated eye to distinguish one from another.

We may in time get selfs of various colours, and if such can be obtained, the Pink will again become as popular as it once was as a garden flower. My large plants for forcing are now well established in 5 and 6-inch pots in garden frames. For forcing, the laced

varieties are not as well adapted as selfs, as the flowers do not then come furnished with lacing, or even if grown in pots. The open air, no shading, and no glass protection of any kind, afford the most perfect laced Pinks. The earliest of the plants may be put into gentle heat forthwith, keeping them close to the roof-glass, and taking care that they do not lack water at the root. Plants in the borders should be made secure after frosts by pressing the soil firmly about them; and if any of the leaves are eaten by slugs, &c., hunt for the depredators, and kill them. *Jas. Douglas.*

THE HOLLYHOCK.

There are evidences that the stately Hollyhock is once more upon the plane of improvement. At flower-shows held in various parts during the past summer and early autumn, at which florists' flowers play an important part, I have seen the Hollyhock in better condition than usual, showing not only that it is better grown, but that there are better varieties. The disease which caused the loss of so many fine varieties is not now so virulent as in former years, giving confidence to raisers of new varieties, so there is hope of the Hollyhock becoming a garden favourite once more. At Saffron Walden, so long associated with the labours of Charles B. W. Chater, Messrs. Webb & Brand, the successors of the latter, are promoting a Hollyhock revival with conspicuous success, and they have some of the old favourites of years ago, which escaped entire annihilation still under cultivation, such as *Alba superba*, one of the best white varieties; *Alfred Chater*, clear rose; *Amaranth*, a new variety, of high quality, soft amaranth-pink, full, and of the best form; *Bijou*, scarlet, tinted with buff; *Carus Chater*, crimson-scarlet, bright, and extra fine; *Fire King*, bright reddish-carmine, extra fine; *Mulberry Gem*, a very distinct variety, in colour a rich glowing Mulberry; *Golden Drop*, a fine self, yellow; *Primrose Gem*, soft primrose; *Nymph*, white, tinted with delicate pink; and *Walden King*, one of the best of the old varieties, deep crimson. It will thus be seen that the choicer named Hollyhocks of the present day exhibit a wide range of tint and combinations of colour.

The propagation of the Hollyhock is a work of much interest, and to all appearance is most successfully performed by those who make the culture of the plant a specialty. Grafting is the most commonly followed method, and it is performed by Messrs. Webb & Brand both in autumn and spring, the autumn being the time most preferred, if good shoots are obtainable for the purpose, which is not always the case, especially when the plants are allowed to seed, the production of seed appearing to delay the putting forth of growths from the roots which form the scions for grafting purposes. Grafting is done on to the roots of strong-growing seedlings. Budding may be successfully done during the summer months, much in the way that Roses are budded on to the seedling Briar; but it is hardly satisfactory, as it is found in experience that the budded shoots commence to flower so very low that they scarcely form a spike of any length.

The autumn-grafted plants are put into pots and placed in cold frames; they are kept close for a time until growth appears, then air is given, and in this way plants are obtained for sending out in the spring.

Seeds of fine strains of Hollyhocks have been somewhat scarce for years past, but always in demand. Some sown in January in heat, and the plants, if well cared for, grown on into size and planted out in good ground, will flower in the autumn. The strongest and most satisfactory plants are obtained when treated as biennials, the seeds sown in July in the open ground, and transplanted in the autumn to flower the following summer; such plants always produce larger blooms and finer spikes, and are better fitted to sustain the attacks of the disease than those raised from the winter sowing.

It may be added that seed taken from any one variety will frequently come quite true to character,

and if not fully representative of the variety, almost invariably of the same tint of colour.

That Hollyhocks can be successfully grown, and fine spikes produced during the summer months, is conclusively shown in the seed trial grounds of Messrs. Sutton & Sons, of Reading. The plants are put in deeply dug, well-manured ground, and carefully watered and mulched during hot drying weather; the plants grow strong, tall, and stately, developing fine spikes, some of which being of very fine quality, rival those shown in days of yore. The Hollyhock is not a difficult plant to grow, but it is one that must have good culture in order to succeed. *R. D.*

NURSERY NOTES.

FISHER, SON, & SIBRAY, HANDSWORTH, SHEFFIELD.

It was with feelings of relief that I left behind me smoky Sheffield, and journeyed out to the village of Handsworth. Though so rural, Handsworth is within the city limits, and is readily accessible by several means, and it would be a village of an ordinary character were it not for the extensive nurseries of Messrs. Fisher, Son, & Sibray, Limited, which formed the object of my visit. On entering the nurseries at the main gate, the first house passed into was one with a large span-roof, which has been recently rebuilt, and is now intended for a show-house.

Orchids are particularly good, several houses being devoted to their culture. *Cattleyas* and *Lælias* bristling with sheaths, *Dendrobiums*, *Cælogynnes*, *Cypripediums*, and *Odontoglossums*, were well represented in all the best species and varieties. There was a grand batch of *Dendrobiums* in 4-inch pots, some having as many as nine strong growths; and those on wood blocks were equally fine.

Suspended from the roof of one of the houses were *Nepenthes Hookeriana*, *N. Mastersiana*; and indeed, most of the best species and varieties. Effectively arranged on the stages beneath these were *Alcaasia Watsoni*, *A. Sanderiana*, *A. Lowii*, and others; also a very fine plant of *Cyanophyllum magnificum*, the moist air required by the *Nepenthes* exactly suiting its needs. *Crotons* occupy a particularly well-lighted house, and are given a very high and moist temperature, and the growth and colouring of the foliage are simply superb. *Flamingo*, *Baron James de Rothschild*, *Madame Chas. Heine*, and *Massangeana*, were especially conspicuous. The cleanliness and vigour of these plants were remarkable.

Amongst other stove-plants the *Dracænas*, *Eucharis*, continental varieties of foliage *Begonias*, and *Amazonia punicea* were all noticeable for their good condition, as were such climbers as *Allamandas*, *Aristolochias*, *Dipladenias*, and the *Stephanotis floribunda* (Handsworth variety).

Both stove and greenhouse Ferns receive much attention; the following being a few of those worthy of notice in the stove section for their splendid form:—*Davallia tenuifolia*, *Pteris tricolor*, *Adiantum cuneatum variegatum*, *A. macrophyllum*, and *A. Lathamii*. In the greenhouse section, *Todea Fraseri*, *T. pellucida*, and grand masses of the Killarney Fern (*Trichomanes radicans*), together with a nice batch of the Venus Fly-trap (*Dionæa Muscipula*), all deserve special mention. A notable house is the large Palm-house, which contains all the choicest species of Palms, ranging in height from 2 to 10 feet. Underneath these, so as to economise space, was a large quantity of *Pancreatium fragrans*. *Coccos*, *Kentias*, and other Palms are raised from seed by the thousand, and when potted off from the pans and plunged in cocoa-nut fibre, with a genial heat, they soon make plants of a suitable size for table decoration. A large double span-roofed house contains Palms, *Araucaria Napoleon Baumann*, *A. excelsa*, *Dacrydium Franklinii*, &c. These are kept quite apart from the sale plants for decorative purposes, the firm entering largely into this branch.

Bouvardias, *Azalea indica*, *Tea Roses*, *Greenhouse* and *Japanese Rhododendrons*, *Cannas*, *Epacris*,

Camellias, &c., were all the best of their kind. Marguerite Carnations were perfect, and it has never fallen to my lot to see a finer show of blooms in all shades of colour. Of course, these are only flowered inside for seeding purposes. Seed sown early in the season will ensure plants in full bloom in July and August, many of which are almost equal to florist's varieties. Several houses are occupied by Lapagerias in different stages of growth, notably *L. gigantea*, *L. alba*, *L. maculata*, and the celebrated red variety, *L. profusa*. These are all produced from layers from plants planted out in convenient borders for this especial purpose.

Four houses are set apart for the cultivation of flowers and foliage for cutting, and a very praiseworthy rule is rigidly enforced, viz., that no flowers, &c., are to be cut in any other houses. Their

of the Grecian variety, and some large-leaved varieties not yet in commerce. Evergreens, such as Aucubas, *Prunus cerasus* var. *rotundifolia*, vars. *latifolia* and *caucasica*, are numbered by thousands. Owing to the Aucubas being liable to injury from frost, it is the practice to transplant them in August, the object being to ripen the young growth.

Fruits.—Fruit trees cover some 60 acres; Peaches, Nectarines, Plums, Cherries, and Apricots, dwarf and fan-trained, were all very good; and of espalier and pyramid-trained Pears, the stock is a very fine one. Standard Apples, Pears, Plums, and Dameons, were all clean-grown capital trees. Particular attention, I was told, is paid to the selection of stocks for budding and grafting, and where necessary, double-grafting is carried out to ensure fruitfulness, examples of which may be observed in the splendid specimens of Bis-

FLORICULTURE IN HANLEY.

THE possibilities of beautifying and decorating the surroundings of the dwellings of the working classes, and, indeed, those of more pretentious domiciles, are shown by several working-men resident in Hanley. A striking instance of what can be done in this respect is shown in the little plot of garden at the rear of the residence of Mr. G. Bowering, the chairman of the County Borough of Hanley Chrysanthemum Society, 27, Windsor Street, Hanley. For many weeks it has been the admiration of passers by. The wealth of bloom, the fresh, green appearance of the foliage, and the variegated colours of the plants, made one of the prettiest pictures imaginable. The Mayor, who recently paid a visit to Mr. Bowering's residence, and

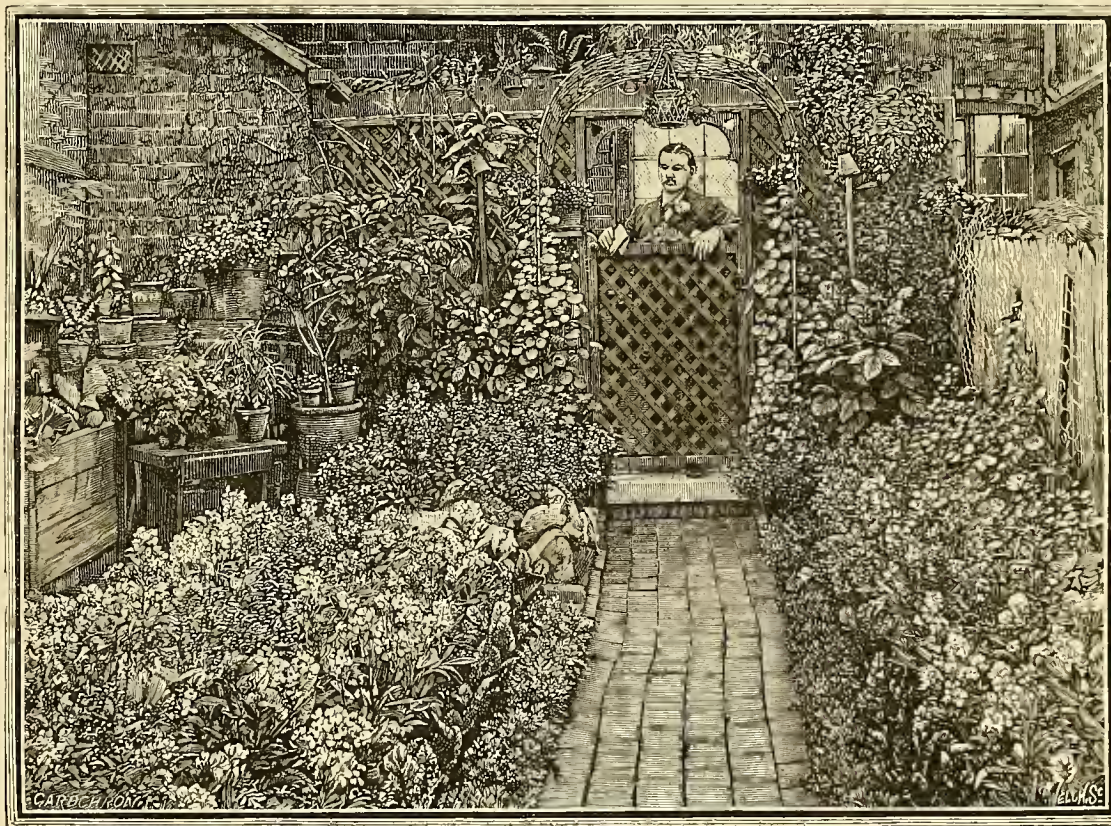


FIG. 106.—A TOWN GARDEN, HANLEY, STAFFORDSHIRE.

contents, at this season, consist principally of *Smilax asparagoides*, *Odontoglossum*, *Adiantum cuneatum*, *Asparagus plumosus*, *A. deflexus*, *Tabernaemontana*, *Coccygnes*, and early-flowering *Chrysanthemums*. About half-a-dozen houses and numerous pits are devoted to the propagation and growth of *Ivies*, *Ampelopsis Veitchii*, *Clematis*, &c.

In the herbaceous and alpine gardens numerous beds were noticed which have been planted with the best varieties of *Narcissus*. Coming to some thousands of tree and bush *Ivies* in variety, which are such invaluable town plants, I was told that there is a great demand for these plants. Hybrid *Rhododendrons*, *Ghent* and *mollis* *Azaleas*, were also here in their thousands, and particularly well set with flower-buds. Tea and dwarf hybrid *Roses* in pots, and standard *Roses*, took up several acres, and could scarcely be surpassed for general excellences. *Handsworth* has long been famous for its *Hollies*, and at the present time there is a large stock of fine plants

marck, *Gascoigne's Seedling*, *Peasgood's Nonsuch*, *Lord Derby*, and other varieties of *Apples*. Whether it is the nature of the soil, or the constant use of the hoe, the trees when lifted show great masses of fibry roots. *Gooseberries* are grown in hundreds of thousands. Immense breaks of black *Currants*, particularly *Buddenborg's Black Prince*, the growth of which is something remarkable, were observed. The wants of customers in the way of *Strawberries* are not forgotten, a large breadth being planted with the best varieties for trial purposes, and also for obtaining early layers. A large tract is also set apart for trials of vegetables and farm seeds; and another very important feature is the seed department, the firm during the 150 years of its existence having always been noted for its reliable seeds.

The area of these nursery grounds is about 200 acres, and every portion of the land is under some kind of nursery crop, park and forest trees forming no small portion of the same.

expressed his pleasure at the charming appearance of the garden. Mr. Bowering is to be congratulated on his taste and perseverance, and if his example only tends to show what may be done to brighten our dwellings, he will have done a great deal to encourage others to follow his lead. *Staffordshire Weekly Post*, September 7, 1895.

[This garden, of which a photographic view was kindly furnished by Mr. Jas. Kent, superintendent of the public park, Hanley, is reproduced in fig. 106. Our readers will not fail to notice and admire this garden, situated in the heart of this not very salubrious pottery town of 60,000 inhabitants.]

RANUNCULUS CORTUSÆ-FOLIUS.

SINCE I received a First-class Certificate and Cultural Commendation for the above plant from the Royal Horticultural Society, I am constantly being

asked by correspondents as to my method of cultivation, and a few remarks in the *Gardeners' Chronicle* will probably suffice to answer them. (See *Gardeners' Chronicle*, 1892, April 9, p. 465.) When growing in pots, I use the following compost for the plant, viz., three-quarters loam, one quarter leaf-mould and rotted dung, with sufficient sharp sand to keep the mass porous. The tubers should be potted about the end of the month of September, one tuber being placed in a 16-sized pot. The potting should be firm. Stand them in a cold frame, with abundance of air, afford water just sufficient to keep the soil moist till growth commences, when, provided the drainage is good, they will require abundance. As the pots fill with roots, manure-water should be afforded once or twice a week. At that time the plants should be taken to an airy house not pervious to frost, and a sharp look-out kept for green-fly, the leaves and flower-buds being very soon disfigured by these insects. The plants usually come into bloom by the beginning of the month of March. After flowering is passed, and the leaves are ripe and turning yellow, water should be gradually withheld, the pots being laid finally on their sides out-of-doors till potting time again comes round. The most important time is after the flowering is over, attention being required to be given to the thorough ripening of the tubers, without which success is doubtful. The odour of the flowers resembles that of some of the *Vandas*. *C. F. Wood, Heathfield Gardens, Reigate.*

THE FLORA OF KASHMIR.

The report on the valley of Kashmir, by Mr. Walter R. Laurence, the Settlement Commissioner for the Kashmir and Jammu State, which has just been issued from the Oxford University Press, contains matter which will be of much interest to the botanist, the horticulturist, and the agriculturist.

Mr. J. F. Duthie, the Director of the Botanical Survey of Northern India, has furnished the report with a list of the plants which may be found in the neighbourhood of Gulmarg, and this list is of especial value, seeing that no list of plants of the Kashmir valley has as yet been published. In dealing with the Flora of the Kashmir valley and its mountains, the commissioner has confined his attention to those plants and trees which possess some well-known economical value for the people. As the Kashmiris turn nearly every plant and tree to some use, and attribute medicinal properties to every growing thing, it will be seen that Mr. Laurence's task was by no means an easy one.

The various indigenous plants and trees have been grouped under their several economic uses and properties, and there are fourteen divisions in all:—

- | | |
|----------------------|----------------------|
| 1. Condiments. | 8. Medicines. |
| 2. Drugs. | 9. Poisons. |
| 3. Dyes and Tans. | 10. Scents. |
| 4. Fibres. | 11. Soap and Alkali. |
| 5. Fodders. | 12. Timber. |
| 6. Foods and Fruits. | 13. Yeast. |
| 7. Hair-washes. | 14. Adulterants. |

Kashmir is very rich in fibres, and the natives make great use of them. Mr. Laurence thinks that it is possible, as communications with India improve, a trade in fibres may be developed, as every year sees a great waste of valuable fibre-yielding plants. The boatmen of Kashmir require ropes of good quality, and it is stated that for towing-ropes the cotton fibre is the best material.

The Barza or Paper Birch is of great importance to the Kashmiris, the bark being used to perform the duties of rough paper, and the roofs of all the better class of houses and of shrines being formed of Birch bark, on which a thick layer of earth is laid.

Kashmir is rich in Grasses, and the boundaries of the Rice-fields furnish a fine crop of hay every year. This hay is twisted into long ropes which are suspended from trees, thus protecting the hay from the weather. On the lakes and swamps of Kashmir, the following food-plants are to be found growing wild:—

- | | |
|--------------------|---------------------------------|
| Water Chestnut ... | ... <i>Trapa bispinosa.</i> |
| " " " " ... | ... <i>Euryale ferox.</i> |
| Water Lily ... | ... <i>Nymphaea stellata.</i> |
| " " " " ... | ... <i>Nymphaea alba.</i> |
| Sacred Lotus ... | ... <i>Nelumbium speciosum.</i> |
| Sweet Flag ... | ... <i>Acorus Calamag.</i> |
| Reed Mace ... | ... <i>Typha species.</i> |

Of the fruits of Kashmir, the following are indigenous, and are found in all parts of the valley. Mr. Laurence says their fruit is not so good as that of the cultivated tree, but that it is by no means to be despised. The Mulberry, Bitter Cherry, Plum, Apple, Pear, Vine, Walnut, Pomegranate; the Raspberry, Blackberry, Bramble, Strawberry, Gooseberry, Red Currant, Black Currant, Bird Cherry, Barberry, *Elaeagnus*, Beam tree, Hazel, and Gueldres Rose. The Raspberry and the Currants are, according to Mr. Laurence, equal to the cultivated varieties of Europe.

The Kashmiris take great pains with their hair, and besides using butter and oil, they employ numerous plants for this purpose. To strengthen the hair, they use the powdered roots of a plant known as Zonir, mixed with butter; and to induce a curliness of the hair, they employ a wash made from *Corydalis Falconeri*. Mr. Laurence gives a list of the more common medicinal herbs, but the task is a difficult one, for the hakims of Kashmir, the native physicians, attribute some property to every plant. Many plants are used for scents, the most important of the aromatic plants of Kashmir being the *Saussurea* [?].

Kashmir is rich in forests, which produce a great variety of timbers, the most valuable being that of the Deodar. A Department of Forestry has lately been formed under the supervision of a European forest officer, and it is hoped that the indiscriminate and wanton destruction of forests, which has been allowed to proceed for so long, will cease. It is a curious fact that no Oaks occur in the valley and its mountain sides, and that no specimen of the Himalayan *Rhododendron* is known in the valley of Kashmir.

Mr. Laurence's book is a valuable contribution to the economic flora of India, and we trust he may some day find time to pursue his researches on the botany of the Kashmir valley a little farther. *H. C. F.*

THE WEEK'S WORK.

THE KITCHEN GARDEN.

By JOHN LAMBERT, Gardener, Powis Castle, Welshpool.

MANURING, TRENCHING, AND DIGGING.—An effort should be made at this season to trench as much of the kitchen garden as possible, in preparation for next year's crops. The manure should be carted or wheeled by hand as near as possible to the land to be dug. In large kitchen gardens it is usual to have the walks of sufficient width to admit of a horse and cart, and if the wheels are broad and a little attention be paid to cleaning the tyres of soil when coming off the land or from the dunghill, it is much the more economical practice. The edging is got over by means of a strong kind of low bridge made 2 feet wider than the cart. The work of carting direct on to the land should never be undertaken except when it is dry or frozen. In gardens which it is customary to trench to a depth of 2 to 2½, or 3 feet, put the top spit into the bottom of each trench, the soil at that depth is equal to the top in fertility, and may safely be brought to the top. I think 2½ feet is deep enough to dig for most purposes, and in but few gardens is the bottom soil equal to that at the surface, unless it has been placed there when trenching the land. In case the soil at the bottom is not so good, bastard trenching is the best way of doing the work. In bastard trenching, the soil at the bottom of the trench should be broken up, manured, and dressed with lime or soot, or both. The lime and soot should be intimately mixed with the soil, and the manure go just beneath the upper spit on the top of the shovelling, which should not be less than 2 inches thick. If the land is retentive and stiff in texture, it may be ridged. For my part, I do not find much advantage in this method over flat digging, provided the surface be left as it falls from the spade. Land badly infested with wireworm, or in which Cabbages club, should now be dressed with gas-lime, one of the best remedies for the purpose; and the present is the best season to apply it. Gas-lime, as it comes from the purifier at the gas-house is lumpy and adhesive, needing to be broken up and passed through a fine screen or sieve, so as to distribute it in finely comminuted particles over each spit of trenched or dug soil. It may be used at the top or bottom at the rate of one handful

to one superficial yard. If gas-lime be used at this rate or less each year so long as the land appears to need it, much good will be effected. A dressing may be used of quite this strength over the surface of the entire garden, and it may be used among almost any kind of crop if used with due care and in a fine state.

THE ORCHID HOUSES.

By W. H. WHITE, Orchid Grower, Burford, Dorking.

PLEIONES, OR INDIAN CROCUSES.—Our plants of *Pleiones* have been very gay for the past few weeks; and, considering the ease with which they can be cultivated, the large number of the flowers they produce at a dull season, and the beautiful effect afforded when they are used for decorative purposes, space should be found for a number of the plants even in a small collection. By the time this note appears in print, *P. concolor*, *P. lagenaria*, *P. Reichenbachiana*, *P. praecox*, *P. Wallichiana*, *P. maculata*, and its almost white variety, *alba*, will be going out of bloom, and the careful observer will note that the green shoots from which the flowers sprang are in reality new growths, which under proper treatment form strong flowering pseudo-bulbs. This treatment consists in affording fresh rooting material to the roots, which start from the base of these new growths. As regards repotting *Pleiones*, it is not necessary to disturb them annually, unless the soil has become soured, as they may be grown in the same pots for a couple of seasons and still produce plenty of blooms. It is immaterial whether ordinary shallow pans or pots be used, excepting that pans are best where space is limited. Whichever be used, plenty of clean crocks should be afforded, as copious waterings are required by the plants during active growth. Over the crocks a thin layer of sphagnum-moss should be placed, for the two-fold purpose of keeping the compost uniformly damp and the drainage unclogged by soil. Turn the plants out of their pots or pans, removing most of the stale soil, and cutting off all roots which are dead; and instead of dividing the pseudo-bulbs and bedding them out, as is often practised, I simply repot them in clumps almost touching each other, and merely pull off those which may have grown beyond the main mass of the clumps, which may be used for increase of stock. The compost should consist of equal parts of fibry loam, peat, and sphagnum moss, well mixed with a moderate quantity of coarse silver sand. Some growers make use of a mixture of peat and leaf-soil, sand, and finely-broken crocks, with equally good results; and I have occasionally observed plants doing well in ordinary peat and sphagnum moss. Wherever it is possible, the spaces between the pseudo-bulbs should be filled in with the roughest portions of the compost, giving preference to sphagnum moss as being retentive of moisture. When repotting is finished, the plants should be placed near the roof glass in any house having an intermediate temperature, and be afforded scarcely any water until the young growths start to grow vigorously; and as the roots and foliage develop, so must the quantity of water afforded be increased, weak liquid-manure water being supplied once a week after complete re-establishment. In addition to the varieties mentioned, there are *P. humilis*, *P. Hookeriana*, and its pretty variety *brachygloussa* which come from greater elevations, which do best when hung up close to a ventilator in the *Odontoglossum*-house that is commonly left open. These species generally flower about January or February, therefore till they have done so they should on no account be disturbed, but kept in the cool-house and afforded water sufficient in quantity to prevent the pseudo-bulbs from shrivelling.

THE HARDY FRUIT GARDEN.

By W. POPE, Gardener, Highclere Castle, Newbury.

FRUIT-BUSH PRUNING, ETC.—The pruning of Gooseberries and Currants may now be carried out, spurring-in the side shoots on the former and red and white Currants to about three-quarters of an inch in length, and thinning out the shoots and spurs where much crowded. To preserve the simple basin shape to the bushes, branches should not be allowed to cross each other, and one or two crossing branches or shoots should be cut away. Some gardeners are constrained to leave the pruning of Gooseberry bushes till the spring, so as to ensure enough fruit-buds being left for a crop, and shoot-buds to form the bush after the birds have despoiled them, and where this has to be done, the bushes should be bundled up faggot-wise as soon as the leaves have fallen, which will prevent the birds gaining an access

to any but those at the outside of the bundle. If the pruning is performed early in the autumn, and the bushes are dressed forthwith with soot and lime (which is best put on rather thickly with a white-washing brush), no bird will touch them; even a good dusting with dry lime whilst the wood is wet acts as a deterrent, but is not so effective as the lime and soot wash, and it may require to be done a several times. Black Currants need a thinning of the older branches, and a reduction of the young shoots, encouraging the stouter young shoots that spring up from the root. All suckers not required for this purpose should be dug up, and if necessary employed for increase instead of cuttings. In preparing cuttings of bush-fruits, choose ripe shoots of $1\frac{1}{2}$ to $1\frac{1}{2}$ foot in length; cut the bottom end transversely just below a joint, and the top on the slant. If clean stems are wanted, the buds must be taken out from the lower part of the cutting, leaving three or four at the top to furnish the main branches. In the case of the black Currant, this method is not recommended, the finest fruit invariably coming on the young wood, and this can only be obtained by means of the growths springing from the root. All cuttings should be inserted as soon as made, if in mild weather, in rows at 6 inches apart and the same in depth, the rows being 1 foot apart, for the better convenience of cleaning the ground.

BULLFINCHES, TRAPPING, ETC.—A sharp look-out must be kept now for bullfinches, shooting or trapping them on their first appearance. In a few hours a couple of these pests will do an immense amount of damage on an Apricot or a Plum tree; and where a good call-bird can be had, they may easily be taken in a trap-cage, or they may be captured with bird-lime.

FRUITS UNDER GLASS.

By RICHARD PARKER, Gardener, Goodwood, Chichester.

HINTS ON WORK IN GENERAL.—There should be no delay in carrying out the necessary cleaning, pruning, and training of trees, Vines, &c., in the various forcing-houses, many other jobs claiming attention at the new year, when less time, therefore, will be available for doing the various operations thoroughly. All of the Peach and Nectarine trees should be pruned, and the young shoots tied loosely in bundles to some of the main branches. Then proceed to wash every part of the roof and trellis. When the shoots are thus drawn up together, the gardener is enabled to use with expedition and safety some approved insecticides on the trees, besides thoroughly cleansing the rougher parts of the bark on stems and branches. For scale I use nothing but clear water at 130° applied with a syringe on three or four successive days, and this, if the water be copiously used, never fails to destroy scale. The fruiting wood may be washed with a large sponge dipped in a rather strong solution of soft-soap and water before laying in, mealy-bug being less easily destroyed, and it is necessary to use petroleum at the rate of a wine-glassful to 4 gallons of water, first having stirred in 4 oz. of soft-soap. To apply this dressing, use an ordinary scrubbing-brush, and repeat the application on three or four successive days. I do not advocate the coating of the Vines with clay, &c., and would caution gardeners against the use of tar, as I have known Vines so injured by this substance that it has taken years for them to recover. Thoroughly washing the Vines as recommended while in a dormant state, and keeping a sharp look-out during the first few weeks after starting to force for stray bugs is a perfectly safe and sure mode of destroying this, the worst of all Vine-pests we are acquainted with in this country. Fortunate are those who like myself have no mealy-bug on the Vines, as I well know the amount of labour entailed, and the worry caused when this pest is about. The cleaning of the Vine stems, shoots, &c., is often entrusted to inexperienced men, who sometimes strip off the bark too freely from the stems, which cannot be other than detrimental. Before the work of cleaning the houses and Vines, &c., is begun, place a thick layer of stable-litter on the borders to absorb moisture, and mitigate the evils of trampling on them whilst moist. By afterwards burning the litter in the open air, numerous insects are got rid of that may have fallen from the Vines or trees. Finally, the Vines may be gone over with a paint-brush, the point of which is merely moistened with petroleum, and apply this to every part of the Vine except the bud's rougher outer portion, which should be removed, and this can be done by a sharp-pointed piece of hard wood or even an ordinary plant-label, and as it is chiefly

round the spurs that the bug collects, these parts should be very carefully examined. Having cleaned the Vines in this manner, wash every part of them with hot-water into which petroleum in the above given proportion is mixed, and kept thoroughly and intimately incorporated at 130° of heat.

THE FLOWER GARDEN.

By BAILEY WADDS, Gardener, Birdsall Gardens, York.

THE SPRING GARDEN.—During mild weather the planting of Tulips, Hyacinths, Narcissus, Anemones, and other roots, the planting of which has been deferred, should be finished as soon as possible, the bulbs, &c., succeeding fairly well if planted at any time during December if the weather permits, which it does not always do, severe frosts setting in sometimes, delaying every kind of work. It sometimes happens that early planted bulbs push through the soil if the season is mild earlier in winter and spring than is good for them, and when that is the case short manure or leafy soil should be laid on to protect them from frost. If the material used is such that it can remain on the beds without looking unsightly, and the bulbs grow through it, so much the better. A keen look-out should be kept for mice, which destroy Crocus corms in the winter months, especially at times when much snow lays long.

PANSIES, WALLFLOWERS, PRIMROSES, POLY-ANTHUS, MYOSOTIS, DAISIES, AND AJUGAS.—The planting of these spring-flowering subjects may be continued, weather permitting, not forgetting to fill up gaps in earlier-planted beds, and choosing dry weather for this kind of operation. Pansies are often injured by wind, and they should always be made secure by pressing the soil to them when the latter is dry. Rabbits and hares must be kept from these plants, for if they once get a taste of them, and the beds are not protected, they will make a clearance of them. Late cuttings of Viola or Pansy, or seedlings that are being wintered in frames, should have the lights removed from off them on fine days, and abundance of air afforded at nights; and the lights put over them as a protection against heavy rain or frost.

CARNATIONS AND PICOTEEES in frames should have attention, very little water afforded till days get longer, and in fine weather the fullest ventilation night and day is needed. If the pots are not as yet plunged in fine coal-ashes or cocoa-nut fibre refuse, this should be done.

CALCEOLARIA, PENTSTEMON, ANTIRRHINUM.—If in frames, these plants require about the same kind of treatment as the above-named throughout the winter. The cuttings should now be well rooted, and should any of them show flower, as they will do when the shoots taken were hard in texture, and bad to get, the flowers must be nipped off with a pair of scissors. These young plants do not require much water, still they must not be allowed to become dry. It is a good thing to put two handfuls of wood ashes or burnt refuse in each watering-can when watering the beds. Afford abundance of ventilation to all rooted cuttings, and cover up well against frost.

CUTTINGS OF HOLLIES AND OTHER EVER-GREENS, and hardy deciduous shrubs, should now be taken, selecting short well-ripened shoots, with a portion of the older wood attached. They should be placed in nursery lines at 1 foot apart in sand, loam, and leaf-soil, in a sheltered situation, the more tender varieties such as Garrya elliptica, Skimmia japonica, male and female varieties; and Aucuba japonica, male and female varieties, should have the shelter of pits or frames.

ROSES.—In mild and favourable weather take cuttings of H.P. and other kinds of hardy Roses, the cuttings being taken before the bushes, &c., are pruned. Rose cuttings should be made from short well-ripened shoots. As a place for the cutting-bed, a sheltered border facing the west serves as well as any, and the cuttings should be placed in little trenches, a foot or further apart, the trenches being filled with sandy loam. It is better to make a good number of cuttings, keeping each variety labelled and in damp soil till all are ready for insertion, and then the job can be quickly finished. Remove all eyes or buds from the portion that will be underground, which applies also to all cuttings of deciduous shrubs, or suckers will be a source of vexation and trouble. The soil about Rose-cuttings must be made very firm and levelled with the back of the spade. A Rose-cutting should not be placed deeper than half its length, and this should be 8 to

12 inches. In hard weather protect the bed with Fern or litter.

CHRYSANTHEMUMS.—The autumn-growing varieties that are planted in beds or borders should be cut off near the ground, and in cold situations the old stools protected with short manure placed round the root-stock. Cuttings of each sort should be kept in pots under the shelter of frames, or in a cool house, during the winter.

PLANTS UNDER GLASS.

By W. H. SMITH, Gardener, West Dean Park, Chichester.

PLANTS IN COLD FRAMES.—In these receptacles, the herbaceous Calceolarias are cultivated in most gardens until their removal to warmer quarters is necessitated by hard weather. The plants will require careful watering, and to be turned round every week, kept close to the glass, and have plenty of air afforded the frames in mild weather. The common white slug must be carefully sought for, as they soon gnaw and disfigure the leaves. When the pots fill with roots, some weak soot-water may be afforded occasionally, say once a fortnight. Bedding plants in frames require at this season scarcely any water at the root, nor will they do so for the next two months; but should water be needed, see that it is afforded early in the day. In mild weather, ventilate freely at the top and bottom; and keep everything about the plants sweet and clean, and free from decay.

CINERARIAS.—These, if for a late display, should be afforded some weak manure-water, if the pots are filled with roots, and a fumigation if green-fly has made its appearance. Fancy Pelargoniums will need to be kept close to the glass, and allowed air night and day; and even in cold weather they should not be quite unnaired. Do not let them remain in one position for longer than one week, but turn them round wholly. Stop all shoots when four or five leaves are made, doing so at one time, or the plants will break irregularly. Pelargoniums being plants very subject to aphid, should be fumigated once a month.

ZONAL PELARGONIUMS.—These, if for summer flowering, may be potted into large 60's or 48's, placed close to the glass in a pit or greenhouse, and when the roots have permeated into the fresh soil, the points of the leading shoots may be pinched off.

EAST LOTHIAN STOCKS are benefited by being top-dressed with a small quantity of Clay's Fertiliser, and by having the pit-lights drawn entirely off in mild weather. Some of them may be placed on a shelf in a house having a warmth of about 50° by day to 45° by night. These will bloom early, and a Peach-house just started is a very suitable place for pushing them on into flower.

BORDER CARNATIONS.—These, if standing in cold frames, will require scarcely any water for the next two months, but plenty of air day and night in mild weather.

WALLFLOWERS, if cultivated in pots, may be brought on into bloom by gradual forcing. Covent Garden Blood-red is a good variety for early flowering, it being a plant of dwarf habit, and the flowers of a pleasing bright colour. Wallflowers put into gentle heat at this season flower in February.

TREE PÆONIES IN POTS.—These are beautiful plants for cultivating for conservatory and greenhouse decoration, and if any of them are in need of repotting, the present is the proper time to do it. The pots need should be about two sizes larger than those the plants are occupying, and the potting-soil may consist of turfy loam, leaf-soil, cow-manure in a dry state, and enough coarse sand as will keep the soil in a porous condition for a year or two. Plants in an unhealthy state should have the old soil shaken clean away from the roots, and be repotted into clean pots of the same or smaller size, and not allowed to flower till the second year after repotting. Plunge them over the rim in fresh tree-leaves in cold frames, or place in a late Peach-house or vinery. If the potting-soil is moderately moist at the time of using it, no water need be afforded the plants before growth begins. Pæonies, when forced into bloom with heat, should be brought on very gradually, or the flower-buds will fail to open; and the strongest and best-rooted plants should be selected for this purpose. Good varieties for growing in pots are Reine Elizabeth, Madame de Vetry, Blanche Noisette, Madame Callot, the Queen, lactea, Punicea, Beauty, Homer, and Jupiter.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

APPOINTMENTS FOR DECEMBER.

MEETINGS.

THURSDAY,	DEC. 5	{ National Ross Society at Hotel Windsor.
SATURDAY,	DEC. 14	{ Royal Botanic Society.
TUESDAY,	DEC. 17	{ Royal Horticultural Society; Horticultural Club.

SHOW.

TUESDAY,	DEC. 3	{ National Chrysanthemum Society, at the Aquarium (three days).
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SALES FOR THE ENSUING WEEK.

MONDAY,	DEC. 2	{ Dutch Bulbs at Protheroe & Morris' Rooms, Continental Plants, Roses, Lilies, &c., at Protheroe & Morris' Rooms.
TUESDAY,	DEC. 3	{ Dutch Bulbs at Protheroe & Morris' Rooms.
WEDNESDAY,	DEC. 4	{ Dutch Bulbs at Protheroe & Morris' Rooms.
THURSDAY,	DEC. 5	{ Dutch Bulbs, Continental Plants, Carnations, &c., at Protheroe & Morris' Rooms.
FRIDAY,	DEC. 6	{ Orchids and Dutch Bulbs at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—41° 2.

To eat an Artichoke gracefully is so difficult an accomplishment that punctilious people might well prefer to partake of the luxury in private. Knives and forks are useless under the circumstances, and not only are the fingers soiled, but the heap of *débris* left on the plate is disagreeably suggestive, in its size, of a "kitchen-midden" or a rubbish heap. To be sure there is the delicate morsel from which all the scales or bracts spring, viz., the Artichoke bottom, botanically the "receptacle." An Artichoke is botanically a large Thistle-head, with its scales or bracts, its flowers, its Thistle-down or pappus, and its receptacle. The receptacle in most Artichokes is relatively small, and apt to be mixed with the "choke," by which expressive name the pappus of the innermost florets is designated. Now, if the Artichoke bottom could be developed at the expense of the succulent matter of the scales, a great gain would result; and this great gain has, in a certain degree, been obtained, though it is so little known in this country, that we deem it desirable to call attention to the matter. At the Paris *tables-d'hôte* at this season, "*fonds d'artichaut*" are used with a freedom which shows that there is no scarcity of them in the markets, and that the price must be considerably lower than it is here. Moreover, not only are they much more abundant than Artichokes are in England, but they are of thicker and more fleshy substance, and there is in consequence more of the toothsome morsel. Pursuing our enquiries, we luckily fell in with our excellent friend M. DE VILMORIN, and from him we not only learnt all the particulars we

desired, but we were enabled to see the plant growing in his most interesting trial-grounds at Verrières, alongside of several other varieties. From this source was obtained the specimen from which our illustration (fig. 107), was prepared. The foliage is very distinct and handsome, but we must await another opportunity of figuring this. The scales or bracts of the receptacle are comparatively less succulent than in the ordinary varieties, whilst the receptacle or bottom is unusually thick and fleshy. The variety is not altogether unknown in this country, and is mentioned in many of our garden catalogues as the large green Paris Artichoke; but it is certainly less known than its merits deserve, and much less grown than the ordinary Globe Artichoke. Around Paris it is grown as the *Artichaut vert de Laon* (pronounced Lönn).

It is very hardy for an Artichoke, with greyish leaves almost destitute of spines. The "heads" are, as we have said, remarkable for the depth of the receptacle. The ovate-lanceolate scales are wholly green or slightly tinted with purple at the base, at first closely packed, but subsequently rather spreading at the ends, and usually entire at the margin. M. DE VILMORIN remarks that though not so early as some other varieties, it is the best for general purposes. No other variety has a receptacle so deep and fleshy. It comes true from seed, but is best grown from offsets.

Like the ordinary Globe Artichokes, it requires a deep, rich, moist, but well-drained soil, and it should be planted in lines about 1 yard apart each way. The sets are planted in spring, and will even produce flowers the first season, but it is better to await the second season's growth. In hot dry weather, water must be afforded, and in winter protection by mats or a thick layer of dry litter is essential. After four years it is best to form a new bed, or in large establishments to arrange for a series of beds to come in succession. The prices asked in our markets ought to secure ample remuneration to the grower.

The cultivated Artichoke is not a distinct species, but a derivative from *Cynara cardunculus*, the Cardoon. Indeed, the Artichoke, as we know it in gardens, is not found anywhere in a wild state. The *Cynara cardunculus* has been developed in two directions. In the Cardoon the ribs of the leaf have been developed, whilst in the Artichoke the flower-heads have been the objects of selection. In the Botanic Garden at Turin, by growing the wild plant from Sardinia side by side with the cultivated Artichoke, Professor MORIS was enabled to prove their identity, and this view was supported by Professors WILKOMM and LANGE, who have had special opportunities for obtaining information. ALPHONSE DE CANDOLLE, in his *Origine des Plantes Cultivées*, shows that the ancients only knew and cultivated the Cardoon, the Artichoke, as we know it, not being introduced into Florence till 1466. It is doubtful whether the ancient Egyptians cultivated the plant, and there is, it appears, no word in Hebrew or in Sanscrit for the Artichoke, an indication of its comparatively recent introduction into cultivation. In this country the Artichoke was cultivated in 1548.

One of the most curious points in the history of the wild Cardoon is its naturalisation during the present century in the Pampas of Buenos Ayres, where it has spread with such abundance as to obstruct travel and traffic. It is worth enquiry whether the foliage of this wild or half-wild Cardoon might not be utilised for the sake of its fibre, and a nuisance thus converted into a blessing.

THE Expert Committee appointed by the City of London Corporation, to report on the Forest, met recently, for the purpose of inspecting the work which has been done, and report to the Chairman of the Committee as follows:—

"We have, again, very carefully inspected those portions of Epping Forest upon which we had previously reported, and we have examined the work which has been carried out since the issue of that report, with the view of seeing whether it was in accordance with the spirit of our recommendations.

We beg to make the following remarks:—

EPHING THICKS.—This was the first point visited. We were struck with the beauty of the outline which has been obtained by judicious cuttings on the fringe of the wood. We consider that the work done throughout this wood has been good.

THAMES VALLEY (THEYDON BOIS).—This is an unsightly and monotonous portion of the forest, owing to the number of gaunt pollard Hornbeams. We consider that this would admit of further clearing, and that portions might be advantageously thinned out in large patches and sown with Oak, Beech, and other trees. As these grow up, further areas might be taken in hand in the same manner.

THEYDON COPPICE.—We have made one or two suggestions here to the Superintendent of the Forest with the view of opening out glades. There are a number of young trees coming up through the coppice which are in danger of being choked. These should be carefully preserved by cutting out such portions of the coppice as are a source of danger to them. This course will enable this portion of the forest to assume once more that natural aspect which the treatment of former years, when pollarding and coppicing were allowed, has obliterated.

BACK OF RIGGS' RETREAT (THEYDON BOIS).—The thinning here has been moderate. We have pointed out to the Superintendent places where further action is necessary, with a view to improving the condition of some of the finer trees.

THEYDON HIGH WOOD.—In the northern portion of this wood, which consists of Beech trees, there is—as a matter of consequence—no underwood.

We consider that the policy to pursue in this portion, is to mark those trees which are most worthy of preservation, and gradually to free them from any worse trees which may be injuring them. By laying down a definite line of action in this way, there will be continuity of policy independent of changes of officials.

The southern portion of the wood may, we consider, be left alone for some years to come.

BROADSTROOD (LOUGHTON).—We have made some suggestions with a view to improving the outline.

WOODRIDDEN HILL.—We have no objection to offer to what has been done here.

VERDEBERS' RIDE (HIGH BEECH TO WOODRIDDEN).—We are of opinion that the glades which have been opened out here might have been bolder and less close together.

We have made some suggestions to the Superintendent with a view to improving these.

CLAY ROAD, LOUGHTON.—We consider that the breaking up of the straight line has been judiciously effected, and that the result is a great improvement on the previous state of things. The thinning has nowhere been excessive.

BURY, OR HAWK WOOD.—There are a number of pollard Hornbeams in this wood which should be removed. They are damaging the Oak trees; they prevent the holes of the Oaks from being seen, and their removal would improve the character of the wood. We attach great importance to retaining the character of this portion of the forest as an Oak wood, and we would recommend that nothing further be done here beyond the gradual clearing-out of the pollard Hornbeams.

BUSH WOOD, WANSTEAD.—The thinning done here during past years appears to be judicious.

WANSTEAD PARK.—The old Elms, with undergrowth of young Sycamore coming up between them, are the principal feature of this wood. The

object of thinning was to remove some stag-headed Elms, and those which interfered with the development of the Sycamores. No other Elms, unless dead or dying, need be removed, as the Sycamore now has sufficient light and air to hold its own against the Elm.

WALTHAMSTOW WOOD.—In this wood a number of Hornbeam pollards have been cut out in single trees here and there. In our judgment, a better effect would be obtained in future by removing such pollards as it may be desirable to get rid of, in groups, leaving other portions unthinned in the meantime. By adopting this course, a gradual return to a more natural condition of the woodland would be obtained, the artificial pollards giving way to natural and unmutated trees.

2. It is desirable that when the plan is matured and approved, the execution of the work should be placed in the hands of the Superintendent of the Forest, who should be responsible to the committee for the entire management of the forest.

3. At the present moment, the forest is in places littered with heaps of cut timber. This is very unsightly, and we strongly recommend that arrangements should be made for the cut timber to be removed by May 1 in each year.

A. B. FREEMAN-MITCHELL, ED.
 JAMES ANDERSON.
 WM. ROBINSON.
 W. SCHLICH.
 A. D. WEBSTER."

geometry and astronomy, and calculations of altitudes and superficies. Mr. Baker thought the number of plants named at the date referred to was a matter of some interest to botanists, and suggested publication of the list of names with their identification where possible. Dr. D. Morris, C.M.G., read a paper on the "Development of a Single Seed in the Fruit of the Cocoa-nut Palm (*Cocos nucifera*)." Alluding to the occurrence of Palms with twin and trifid stems arising from one base, it was shown that these were due—(1) to several seeds in one fruit; (2) to more than one embryo in a seed; or (3) to a branching of the primary shoot. In cases cited by Rumphius, Forbes, and others, several seeds were found in one fruit. The course of development of the single cell was illustrated by means of lantern slides.



FIG. 107.—THE PARIS GREEN OR LAON ARTICHOKE; SHOWING ON THE LEFT A PORTION OF THE HEAD, AND ON THE RIGHT A SECTION SHOWING THE THICKNESS OF THE RECEPTACLES. (SEE P. 618.)

OAK HILL, WOODFORD.—The thinning here has been carefully carried out.

KATE'S CELLAR, LDOUGHTON.—This wood is typical of the large area of monotonous Hornbeam pollards which are unfortunately so conspicuous a feature of Epping Forest. The clearings are too small, and too near each other. We recommend that, in future, they should be of a bolder type, and further apart.

Although it may not be exactly within the terms of our reference, we beg to offer the following remarks for the consideration of your committee:—

1. We would suggest that a plan of operations should be drawn up, showing which areas it is proposed to deal with during the next ten years, and the character of the operations. This scheme should be drawn up by the Superintendent of the Forest, and submitted to the Epping Forest committee, who might, if they thought well, take further advice as to the proposals made in the scheme.

OUR ALMANAC.—We shall be obliged if secretaries of horticultural and other societies, and our correspondents generally, will send us as soon as possible the dates of any exhibitions or meetings to be held during 1896, for insertion in our annual Almanac.

LINNEAN SOCIETY.—On the occasion of the meeting on Thursday, November 21, Mr. J. G. BAKER, F.R.S., Vice-President, in the chair, his Grace the Duke of Bedford, Messrs. Bernard Arnold, and E. B. Fernan were elected Fellows of the Society. Mr. B. B. Wood was admitted. The Rev. G. Henslow exhibited a MS. Commonplace Book of the latter end of the fourteenth century. The entries in Latin and English were found to consist chiefly of medical recipes, in which about 200 plants are named for their use, and some methods of distilling *aqua vitæ* described. In addition were some notes on

The obliteration of the two cells began about the second or third week after the spathe was open. By the end of the seventh week they were reduced to narrow slits, which were still traceable in the mature fruit. On behalf of Mr. A. J. Ewart, Professor Harvey Gibson gave an abstract of a paper on "assimilatory inhibition, the causes by which it may be induced, and their influence on vitality." It was shown that most inhibitory agencies operate by inhibiting the initial stages in assimilation, but any cause affecting the rapidity of removal of carbohydrates from assimilatory cells will also affect their power of assimilation, the commencement of which is determined mainly by the development of the chlorophyll pigment, but is also influenced by other indeterminate factors, probably plasmatic in origin. The paper dealt mainly with the discussion of experiments with a large number of plants, and criticism of the results arrived at by

other investigators. An interesting discussion followed, in which Dr. Scott, Professor Reynolds Green, and Professor Weiss took part. On behalf of Mr. A. C. Seward, Professor Reynolds Green gave the substance of a paper on a new species of *Pinitis* from the West Indies (England).

— At the evening meeting to be held on Thursday, December 5, 1895, at 8 P.M., the papers to be read are:—1. Mr. J. C. DANCE, F.L.S., "On a New Species of *Bromus* in Britain; 2. Mr. W. F. KILBY, F.L.S., "Notes on New or Rare Phasmids in the Collection of the British Museum."

THE ROYAL HORTICULTURAL SOCIETY'S COMMITTEES.—At the last meeting the various committees were asked to recommend the names of new members to replace those who retire by rotation or otherwise. It is very desirable that new members be introduced, and those who can suggest desirable persons should at once communicate with the chairmen of the respective committees. The meetings of the Scientific Committee have been very poorly attended during the last year, and it is obvious that the rule enacted a few years since, though unimpeachable in theory, has, in the case of this committee, proved disastrous in practice.

NATIONAL ROSE SOCIETY.—The nineteenth annual general meeting of the National Rose Society will be held, by permission of the Horticultural Club, at their Rooms, Hotel Windsor, Victoria Street, Westminster, on Thursday, December 5, at 8.30 P.M., to receive the report of the committee, to pass the accounts, to elect the committee and officers for the ensuing year, and for the transaction of other general business. The nineteenth annual dinner of the National Rose Society will take place, by permission of the Horticultural Club, at their Rooms, Hotel Windsor, on the same day at 5.30 P.M. The chair will be taken by the Rev. A. FORSTER-MILLMAN, Vice-President.

ROYAL BOTANIC SOCIETY.—A meeting of the Fellows of the Royal Botanic Society was held on Saturday afternoon in the Museum at the Royal Botanic Gardens, Regent's Park, Mr. ANTHONY BREE presiding. The following new Fellows were elected: Sir Oswald Mosley, Lady Milford, Mrs. Milley, Mrs. Nugent Stuart, Mrs. Vignoles, and Messrs. D. Sherman, H. Hoare, J. Eoman, and C. Blaligh, and, as a member, Mrs. Carter Tucker. The secretary stated that the society was in possession of one of the finest collections of economic plants in England, and he exhibited three specimens of *Cinnamomum* grown in the gardens, *Cinnamomum zeylanicum* (Ceylon), *Cinnamomum Cassia* (East Indies), and *Cinnamomum Kamini* (Japan). The following donations were also on view: *Balanites* of *Gloriosa speciosa* (India), presented by Mrs. GARDNER; Tears of "Frankincense" (*Olibanum thuriferum*), presented by Mr. JAMES COLLINGS, and some very fine *Chrysanthemum* blooms and seedling *Cyclamen*, one year old, grown in Japan etc.

THE PALMS AT BATTERSEA PARK.—This park contains a fine collection of Palms, estimated to be worth £2,000, but there is no proper building available for their reception. Many are thrust away from public observation in one of the more greenhouses, the door of which has had from time to time to be lowered to give space for the growing plants. They now stand in a pit nearly 5 feet deep, and as this is below the river level, flooding takes place. Other Palms are ignominiously laid on their sides in a neighbouring greenhouse. In 1894, the County Council resolved to build a proper shelter for these plants, but this decision was subsequently revoked in view of the possibility of the Albert Palace becoming available for the purpose. The Parks Committee is again seeking authority to erect a Palm-house at an estimated cost of £2,000.

MR. H. R. HUTCHINSON.—The completion of the gigantic *Indica Lemnata* has liberated Mr. HUTCHINSON from the employment of that work. Mr. HUTCHINSON has been working under Mr. JACQUES's supervision for more than twelve years,

and his services as an amanuensis familiar with plant-names and with botanical literature would be of high value to anyone requiring such services, as we can testify from our own knowledge.

"THE ROSARIAN'S YEAR-BOOK FOR 1896" will be published on January 1, 1896. It will be edited by the Rev. H. HORTWOOD D'OMERAIN, Hon. Sec. of the National Rose Society, and will contain:—1, Mr. Alexander Dickson (with photograph), by Mr. C. J. Grahame; 2, The Ministrations of the Flowers, by Rev. D. Williamson; 3, Rose Growing in California, by Mr. John L. Howard, of San Francisco; 4, Simple Roses for Garden Decoration, by Mr. George Laing Paul; 5, The Rose and the National Rose Society in 1895, by the Editor; 6, Lord Penzance's Hybrid Sweet Briar—their further Development, by Mr. Charles Wyatt; 7, The Rose Weather of 1895, by Mr. Edw. Mawley, F.R.M.S., Hon. Sec. of the National Rose Society.

BOTANICAL ESTABLISHMENTS.—The *New Bulletin* (Appendix III, 1895), has a full list of public botanical establishments at home and in the Colonies, together with the names of the officers of those establishments.

FLOWERS IN SEASON.—We have received from Penzance Castle, Cornwall, where Mr. T. JOHNSON is gardener to Colonel A. CONYTON, some exceptionally robust flowering shoots of the lovely and fragrant greenhouse plant *Lonchitis graminifolia*. Usually, the plants are not easy of cultivation, and such heads of flower as sent are very rarely seen. In size they reminded us whilst unpacking them, of large-flowered Hydrangeas. From the appearance of the flowers we conclude that the plant has been grown in a border in a cool greenhouse, but in such a locality it would probably succeed under the shelter of an outside wall.

PEESHESHIRE HORTICULTURAL ASSOCIATION.—The fortnightly meeting of the above association was held in the lesser Good Templar Hall on Tuesday evening, and in the absence of the Vice-President, Mr. A. SALTER, the chair was occupied by Mr. D. L. MACKINTOSH, Kingmanstown. After the meeting was opened, the chairman introduced Mr. JAMES GRAY, gardener, Colchester, who read an instructive paper on the "Cultivation of Orchard-house Fruit Trees in Pot." At the close the chairman conveyed to Mr. GRAY the thanks of the association for his instructive paper, and also for the fine exhibition of Peas which he brought to illustrate his subject.

MILD WEATHER AND HARDY FLOWERS.—A correspondent, writing from the west of England, remarks upon the wonderfully mild weather—Jasmines, China Roses, Wallflowers, Violets, Pyrus japonica, &c., are in full flower.

PRESENTATION.—We understand that it is the intention of the leading foreman and others in the employ of Messrs. JAS. VINTON & SONS, Royal Exotic Nursery, Chelsea, to present an illuminated address, a timepiece and two silver candlesticks to Mr. DAVIDSON, on his retirement from service. Mr. DAVIDSON has occupied the onerous post of manager of the seed department for twenty-seven years, and is relinquishing it on account of failing health.

SUMMER & AUTUMN SHOWS.—At Warwick in Nottinghamshire last summer the local Rose and Horticultural Society's exhibition was held under very unfavourable weather conditions, the result being a heavy deficit, although the show itself was all that could be desired. To enable the committee to meet the loss, it was proposed that an autumn show should be held, without prize competitions, simply relying upon the support of the horticulturalists in the neighbourhood. H. N. MACHES, Esq., of Warwick, gave very cordial support to the idea, which resulted in a surprisingly successful exhibition in the town-hall on Nov. 21, when, without a price of any kind, an admirable display of *Chrysanthemum* plants and fruit was obtained. Collections of cut blooms, groups of plants and fruit were sent by

the Duke of PORTLAND, the Right Hon. F. J. SAVILE FOLMAMEB, Sir H. WATSON, Viscountess GALWAY, Mrs. ANDERSON, J. D. ELLIS, Esq., Viscount HALIFAX, and Mrs. MELLISH, Hoickock Priory, Messrs. B. S. WILLIAMS & SON also contributed a group of plants. The exhibition was opened by the Duchess of Newcastle, and resulted in a clear gain of £50 after paying off the deficit. It was an interesting experiment, but it is to be hoped the next summer show will not only be able to meet its own expenses, but possibly to provide something towards the establishment of an annual autumn exhibition. *Cor.*

CHESHUNT, WORMLEY AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.—At the usual fortnightly meeting of this Society, held at Turnford on Friday last, Mr. HUTCHASON presiding, Mr. A. PRABOE contributed an interesting paper on the Tuberous-rooted Begonia. At the close, a discussion was initiated by Mr. HUTCHASON, and taken part in by Messrs. G. WESTON, A. SIMONS, W. PALMER, and others, the subject being chiefly the rust-diseases of the leaves of Begonia, peaty-compost, manures, &c. Heartly votes of thanks to Mr. PRABOE and the chairman concluded the meeting. The next meeting will be held on Thursday, December 5, when Mr. Wm. HARRISON will give a lecture on Grape-growing for Market.

"FLORA OF DUMFRIESHIRE."—Mr. G. F. SCOTT-BELLING, assisted by J. McANDREW, J. T. JOHNSTONE, Miss HANNAY, and others, has written a Flora of Dumfriesshire, including Nithdale in Kirkcudbrightshire. This work is, it is stated, almost entirely produced by local botanists, who have studied not merely the land and maritime plants growing in the districts named, but also the insects frequenting the vegetation, and the conditions of climate and soil under which it occurs. Introductions on the geology, entomology, climate, and meteorology of the neighbourhood, and a map, partly geological, are accordingly included in a volume treating mainly of the local flora. Everywhere, nowadays, the inter-relationships of the various sciences are acknowledged, and also the impossibility of treating of any one of them without constant reference to kindred studies.

AN UNPARALLELED ATTRACTION.—In a cottage window in a well-known seaside town, we lately observed a small, but doubtless select, collection of fruit and nuts. That possible purchasers might on no account fail to notice theseainties, attention was attracted to them by the following inscription, most legibly written, and pointed among some Apples: "Look. Number six, 1d. a pint." Though the quality of the fruit might be easily equalled or excelled by that of other samples of it, the label surely was, at least, as regards spelling, a nonpareil.

TREE PLANTING IN ABERDEENSHIRE.—The Lords Committee of the Government of Gordon's College, Aberdeen, a college possessed of many acres of land, have accepted the offer of Messrs. WILLIAM SMITH & SONS, nurserymen, Aberdeen, for planting the lands of Pittodulzie, Auchterless, with trees, their estimate being at the rate of £1 16s. per imperial acre, and 8s. per acre for renewal for two years. Mr. THOMAS MINNIE, Glenburnie, was the successful offerer for furnishing the plantations at Logierstone and East Craig, his estimate being at the rate of £2 per imperial acre. He also stipulates to renew at least 1000 trees within two years if required.

TREE PLANTING AT EXMOUTH.—The first Lime-tree of the many which are to grace some of the principal streets in Exmouth, was planted recently in most beautiful weather by Mr. R. LEY, the chairman of the District Council. Some outside pressure was brought to bear, and a private committee offered to purchase several hundreds of trees if the Council would accept and plant them. This they have undertaken to do, and in the presence of an enormous crowd, among whom were some hundreds of school-children, who sang some appro-

prate school-songs, the initial step was taken. The chairman in the course of his remarks said that it was a great pleasure to him to have planted the first tree, and hoped the avenue of which it would form a part would become a source of pleasure to the inhabitants.

IRISH GARDENERS' ASSOCIATION.—Mr. J. H. PARNELL, M.P., lately delivered before this Society an exhaustive lecture on Fruit Culture in the Southern States of North America, in the course of which he described the Irish as a quarter of a century behindhand in fruit-growing, being in about the same condition as were the inhabitants of the State of Alabama when the lecturer first settled there. Now fruit-growing was one of the most important industries of that State. If Irish fruit-growers meant to make their industry a commercial success, they must first of all find out by experiment what were the varieties of fruit and vegetables best adapted to the local conditions. When he first began to send fruit to New York, one car-load a day was considered sufficient—indeed, almost to glut the market; now they were sending 100 car-loads a day. It took a long time to ascertain what each tract of country was specially adapted for, but perseverance and experiment had done it for them, and similar steps would have to be taken in Ireland with a view to finding out what fruits did best in different parts of that country before the industry could be established on a sound commercial basis. The full account of Mr. PARNELL'S lecture is given in the *Irish Farmers' Gazette* of November 2. Mr. F. W. MOORE, of Glasnevin, made some pertinent observations on the subject of fruit-growing in Ireland, pointing out that finer Apples were not to be seen than those produced in Ireland.

TREE PLANTING IN THE ISLE OF MAN.—We learn that on the crown lands in the Isle of Man Her Majesty's Commissioners of Woods and Forests continue afforestation operations, and we understand Messrs. THOS. KENNEDY & Co., Dumfries, have again secured orders to supply a large number of forest trees for this purpose.

HORTICULTURAL MEETING AT GHENT.—The finest exhibit at this meeting was certainly that sent by M. LUCIEN LINDEN, consisting of eight splendid varieties of *Catssetum*, of which five received a Certificate of Merit (*par acclamation*); they were *C. mirabile*, *macrocarpum*, *Lindeni*, *splendens*, *chryso-toxum*, *Banerthi* *capuliforme*, and *macrocarpum aureum*, already described and figured in the *Gardeners' Chronicle*. M. L. LINDEN sent a *Davallia Truffautiana*, which also obtained a Certificate of Merit (*par acclamation*), and which is also known to our readers. M. G. DE SAIGHER obtained a similar award for fifteen beautifully grown *Chrysanthemum*, all good sorts. An equal award was allotted for *Hypolytrum Schraderianum*, from M. PYNABERT, a very ornamental plant, resembling a graceful *Pandanus*; the leaves at the base are of a beautiful violet-rose tint (see *Gardeners' Chronicle*, April 8, 1893, p. 414). [Certificates of Merit were awarded as follows:—To M. F. DESBOIS, for *Poinsettia pulcherrima* fol. aureo var., the leaves nicely bordered with golden-yellow, giving a very pretty effect when the plant blooms. To the same exhibitor, for *Scolopendrium vulgare* scalariforme, a very curious variety, crimped, embossed, and undulated; to M. PYNABERT, for *Asplenium marginatum*, the foliage very pale green, almost transparent, remarkable above all for a thickened membrane of darker colour which borders each leaf; and also to M. PYNABERT for *Pteris serrulata* voluta, a seedling variety with wavy foliage and pale in colour. To M. RODIGAS, for *Pennisetum Rappelianum*, a most elegant grass; the light spikes are violet-rose in colour, and will be useful for floral decorations. To M. JULES HYE, for *Lelio-Cattleya Diana*, L. elegans \times C. pumila; the lip, which is dark purplish-red, is a great advance. To M. L. DE SMET-DEUVIERE, for *Cypripedium bellatulum* and *C. Charlesworthi*, two varieties of each species. To M. ARTHUR VAN DEN HEEDE, for *Pteris Bachneri*, a variety of strong and robust habit: useful for cultivation on a large scale.

To MM. DEO MRYZE and L. DE SMET-DEUVIERE, for *Asparagus Sprengeri*, a greenhouse variety of vigorous growth, and producing, if just sheltered from frosts, a quantity of elegant bright green spikes, very decorative.

CHRYSANTHEMUMS AT ANTWERP.—The recent exhibition organised by the Société Royale d'Horticulture of Antwerp, shows the progress made in *Chrysanthemum* culture, as both amateur growers and horticulturists alike staged new and well-cultivated plants. Among the exhibits were the following from M. TR. VERMEULEN: *Internationale*, with thirty flowers; *Mlle. M. A. de Galbert*, *Dac de York*, M. E. G. DAVERNAY, M. CHARLES MOLIN, M. E. BOYCE, M. Ad. GIRAUD, Benjamin Giraud, and other varieties, attaining a maximum height of $4\frac{1}{2}$ feet, and each bearing from twenty-five to forty flowers. M. HENRI VANDERLINDEN staged *Lincoln*, 4 feet high by $4\frac{1}{2}$ feet across, with 200 flowers; *Internationale*, with fifty-four flowers, nearly 8 inches across; *Souvenir de Jambon*, with ninety-two blooms, and nearly 5 feet across, and other varieties. Among the plants a year old should be mentioned *Sunset*, with fifteen large flowers; *Docteur Allard*, with fifty blooms; *Waban*, a marvel, with flowers nearly 10 inches across; M. Benjamin Giraud, with fifty blooms; Charles Davis, with twenty-five large flowers; and *L'Etendard*, with flowers nearly 8 inches across. Among M. CALVAT'S new varieties were an un-named sort, clear sulphur-yellow, very delicate; *Secrétaire Général Ern*, Eijerens, dull red, spotted with yellow; *Réve d'Or*, pale, shining golden-yellow; and *Madame K. Rey-Jourin*, lilacy-rose, C. De B.

EXHIBITION OF FLOWER PAINTINGS.—An interesting exhibition of flower-paintings in water-colours has just been opened at 293 (over SQUIRE'S), Oxford Street, by Miss MARIE LOW, F.R.H.S., who is already well known as a clever floral artist. For some years Miss Low has made a speciality of flower painting, and anyone who sees her work at this exhibition will be convinced of its excellence. Among the many examples of her art may be mentioned a glorious picture of a mass of Lord PENZANCE'S Sweet Briars, which have excited so much attention during the last year or two. *Papaver orientale*, with its huge scarlet blooms, makes a splendid picture; so also do *Disa grandiflora* and a group of Dr. WALLACE'S *Calochorti*. Among many other flowers represented may be mentioned Mr. A. J. ROWBERT'S new yellow *Panay*, the *Uriah Pike Carnation*, *Anemone japonica*, *Mimulus*, *Daffodile*, *Clematis*, and several *Orchids*. The charm of Miss Low's water-colour paintings lies in the softness and brilliancy of the colours, and the fact that she can portray objects in a very natural way.

NEW PUBLICATIONS.—*Introduction to the Study of Fungi*, by M. C. COOKE, M.A., LL.D. (London: ADAM & CHARLES BLACK.)—*Our Edible Toadstools and Mushrooms*, by W. HAMILTON GIBSON, with thirty coloured plates. (New York: HARPER BROTHERS.)

WHITELEY'S NURSERIES, HILLINGDON.

IN the rapid and perfect manner which characterises Mr. Whiteley's business operations, another portion of the nursery, to the extent of $2\frac{1}{2}$ acres, has been put under glass, and is now occupied by a fine roomy block of houses, each 240 feet long and 24 feet wide, and by a run of commodious lean-to houses under the boundary wall. When started, the old block was thought to be ample, but it was not found sufficiently extensive, hence the present great addition, and the contemplation of covering more ground next year.

The block of houses, built with a view to every possible need in the culture of the plants, by Mr. W. DUNCAN TUCKER, of Tottenham, requires more than passing attention, for in it are several new ideas in the arrangement, and in the ventilation and water-supply, most of them worked out at the suggestion of Mr. G. Bethell, the clever and

well-known manager at Whiteley's Nurseries. For example, every part of the wood-work of the interior is either grooved or throated, so that drip is impossible, and the throating of the heavy pitch-pine timber which forms the wall-plate of each pair of houses, as well as the water-way between them, will give a much longer life to the structures by preventing decay in that vulnerable part. The bottom ventilation too, which is arranged by glazed drain-pipes bringing air from each end, and allowing it to pass into the house at intervals through openings carefully regulated, is another good feature. The pipes are made to answer a double purpose, viz., to bring in fresh air, and to carry off the water from the roof. Continuous lever-gearing effects the other ventilating appliances of the houses. The arrangements for water-supply at all points, and for passing plants from one house to another, and other labour-saving contrivances, are admirably and economically carried out.

With regard to the heating, the new block enjoys exceptional natural advantages, for the ground gradually rises from the end, where the two sets of three 10-foot Cornish boilers are placed to the extreme end, and thus a proper flow and return are facilitated. So pressing is the demand for space, and for the stock to be got out of it, that all through Mr. Bethell has been treading on the heels of the builder, and even now the greater portion of the block is filled—and well filled too. Some four of the great roomy structures contain thousands of beautiful Palms, among which the graceful *Kentias* of course predominate, though *Latania*, *Sesforthis*, and *Coryphas* are represented in such proportion as the knowledge of the demand at the great establishment in Westbourne Grove shows well how to regulate. *Kentias* are the favourites everywhere, and in boxes fast requiring potting-off, Mr. Bethell has something like a million coming on ready to take the place of those now saleable.

About 14 000 splendidly-grown *Chrysanthemums* occupy several of the other large houses, and present a bewildering mass of colour in them from end to end. Only the best sorts for market, and for cutting, are grown in quantity. Though every new one is tried, few succeed in getting on the list of those to grow largely. One of the best ever tried is W. H. LINCOLN, and of this Mr. Bethell has thousands, both tall and dwarf, the large plants having from eight to twenty immense rich yellow flowers; while those not more than a foot high, in 48-pots, bear six to ten. It has strong wood, fine lasting foliage, and noble flowers, which last long, either cut or on the plant, and these qualities constitute a fine market variety. Two sports obtained at Hillingdon are being worked up, and bid fair, viz., a bright yellow Charles Davis, and a fine white *Mlle. Lacroix*. *Eynesford White*, too, is a great favourite.

Azaleas, *Tuberoses* in all stages, *Bouvardias*, *Genietas*, and all kinds of bulbs for forcing, occupy the remainder of the houses, many of which in their season will be filled with *Tomatos*, a commodity with which the consumer never seems to get satisfied.

In the old block, with its lofty covered arcade 300 feet long, for packing and other operations, some twenty-six houses are devoted to Ferns, and yet so rapid is the sale of plants in small pots that there is often a difficulty in getting enough for potting-on. One house is full of all pure white *Cyclamens*, not one of the plants having a trace of colour; several with *Aralia Sieboldii*, some with *Crotons* as brilliant in their coloured foliage as are the flowering plants in their blooms. In one are scores of plants of the graceful and handsome *Dendrobium Phalanopsis Schroderianum*, their fine sprays arching all around, and in no part of the vast establishment is an inch of room wasted.

This portion is thus described by the builders, Messrs. Messenger & Co., of Loughborough:—

"The west wall (to right of illustration, fig. 108) is 14 ft. high, and upon this are built the lean-to vinerias, in all 650 ft. in length, and 14 ft. wide. They are divided into two blocks, disconnected in the centre; but the houses are practically seven in number, thus divided for early, intermediate, and

late varieties of Grapes. The wall in the foreground is occupied by Peach-houses (lean-to) in three divisions; total length 268 feet. The further or south wall provides accommodation for the Mushroom-house, 180 feet long.

"The main block of buildings consists of thirty-three houses, chiefly equal spans, arranged in three sections, with intervening roads. The section on the south side comprises Chrysanthemum-house (in centre), 18 feet wide; Pine-house, 15 feet wide; and others for Orchids, Melons, stove, and other plants, each 12 feet wide. The length of each house is 117 feet, with divisions as required for growing purposes.

"The central block comprises Camellia-house, 18 feet wide; Pine-house, 15 feet wide; Orchid-houses, Cucumber-houses, stoves, and plant-houses, each 12 feet wide. These are also 117 feet in length, with divisions.

"The remaining block comprises houses of various lengths, the longest being the five to the west side, which are 265 feet in length, and are built without front lights for use as stoves. These are 15 feet wide. Next comes a commodious structure for Roses, Camellias, and Chrysanthemums, 231 feet long, 18 feet wide. A three-quarter span for Strawberries, and four span plant-houses, each 218 feet by 14 feet, complete this group.

"The span and lean-to pits are a feature of the range, and the total length of them is close upon 1,450 feet.

"To obtain an efficient water supply, capacious tanks run crosswise through the centre of each group of houses. Into these the rainwater is carried, the collecting surface of course being considerable. Provision is also made in each house for obtaining the water from the tanks.

"The heating is derived from nine Trentham boilers arranged in five stokeries at convenient intervals. These can be used separately or together as desired. There is also an ample amount of piping to each house."

ABOUT CHRYSANTHEMUMS.

(Continued from p. 619.)

AT THE HOME OF FLOWERS, SWANLEY.—In the very large house which Messrs. Cannell & Sons group their Chrysanthemum plants each autumn, it is possible to make a very imposing display, its capacity being practically equal to the accommodation of the whole of the stock, which is itself exceedingly large and varied. Of course, there is no room to spare, and it has become requisite here, as in other places, to select with great discrimination the varieties to be grown, for the object of furnishing blooms that may be exhibited at the various shows, where Messrs. Cannell take their wonderful Pelargoniums, Cannas, and other things. Space has to be found for the increasingly large number of home seedlings, and for the testing of Continental, American, and other novelties. In addition to these, only the very best and newest varieties are included, and the greater part of the stock is planted out and grown quite differently for the production of healthy cuttings for stock purposes.

Examining the seedlings first, we were impressed by the unusually dwarf character of the plants. Mr. Cannell has been working for some years to procure a race with lower stature than we have become used to, and to a large extent he has succeeded, but one is prepared to find that a large-flowering tendency, as well as varied colours, are not easily obtained for the first few years that these efforts are made. However, when good flowers are borne by seedlings not more than 2 feet high, it may be hoped that such varieties, should they be worthy of a place in respect to the quality of the flower, will at least prove less in height another season than those that used to run up to the roof of a vinery at its centre. Eureka is a name given to such a seedling. It is a white-flowering Japanese, a wide flower with broad florets, which beside slightly incurving, have also a kind of twist in the direction of a ring. Mrs. Oporto Tait, on the seedling plant, is also very dwarf; the flower is a yellow Japanese, florets broad and slightly twisted, colour very pleasing. Lord of Lorne is a deep gold colour, similar to Thunberg, and Mr. Cannell thinks it may be superior to that fine variety. Wood's Pet is a seedling from Sanflower, and is rose-coloured, the florets droop in ringlets, and it is hoped the variety may prove a good one. Other seedlings, many of which are as yet unnamed, were noticed in considerable quantity. New varieties by other raisers were noticed, but most of these we have referred to on former occasions. Kentish White looked well, and was present in quantity. It was awarded a Certificate by the National Society a week or so again, and though the bloom as generally exhibited is of moderate size only, it is very pretty, and

the habit of the plant is dwarf and good. Decorative varieties, such as Mr. Cannell's Centaurea, Mrs. Filkins, and others, with narrow, twisted, and otherwise bizarre-appearing florets, are popular with many persons, and are no doubt very adaptable to some kinds of decoration.

As usual, there was to be seen on this occasion an excellent display of zonal Pelargoniums in full flower, and Cannas, and other plants, interesting and cheerful-looking. *Mum.*

CHRYSANTHEMUMS, ETC., AT THE GRANGE.

For several years past Mr. A. H. Smee, of the Grange, has made a practice of throwing open his gardens to his neighbours and the public generally in the autumn that they may see the Chrysanthemums, and in the spring that they may have an opportunity of inspecting the orchards for which he is famous. In accordance with this custom, the gardens have been once more thrown open to visitors. The Chrysanthemums were arranged in the large greenhouse, between 400 and 500 plants being exhibited. This year they have been grown much more dwarf than hitherto, and consequently the visitor on entering the house found facing him a bed of bloom rising from between 2 and 3 feet high to over 6 feet. Perhaps the most notable were Commandant Blussett, Beauty of Exmouth, Florence Davis, President Borel, W. Seward, Mrs. Harman Payne, Mdlle. Thé ére Rey, Lord Brooke, Autumn Tints, Niveum, Duke of York, Glorionum, and Madame Cambon, which was grown from seedlings raised in Algiers. Amongst the singles were Miss Rose and Mary Anderson. All the plants are strong and well grown, showing that the greatest care and cultural skill have been bestowed upon them, while the blooms are large, well-shaped, and in the finest possible condition. In addition to the Chrysanthemum-house, visitors were permitted to inspect the Fern-house, which never looked better. The Cattleya-house contained some very fine specimens of Cattleya in bloom, some *Oncidiums*, *Cypripediums*, and *Dendrobiums*. *Wallington and Carshalton Herald.*

WARTER PRIORY, POCKLINGTON, YORKSHIRE.

This, the residence of C. H. Wilson, Esq., M.P., is delightfully situated in beautifully undulating, well-timbered grounds, near the village of Warter. The Priory was formerly the site of a religious house, but nothing remains but the name. The commodious modern mansion is replete with present-day conveniences of all kinds. The gardens are tastefully laid out with flower-beds, lawns, and shrubberies, and everything about them is in perfectly good order, as befits a place of which the owner is proud. The flower-garden this year had at the time of my visit suffered severely from a thunderstorm, and the well-filled beds of Pelargoniums were bereft of much of their blossoms, and all the others had temporarily suffered with the exception of two large beds of tuberous-rooted Begonias, which were, in spite of it all, a blaze of colour. Other fine-looking beds consisted of Pelargonium West Brighton Gem, a variety that withstands rough weather better than some others; and Mrs. Clibran *Nasturtium*, a good thing for bedding. Several species of *Bambusa* and *Palms* of large size are among the plants effectively made use of in groups together, and as single specimens.

A plant-conservatory adjoins the residence, and here were found *Palms*, *Dracenas*, climbing plants, &c., and even in the full summer, it is kept well furnished with plants in flower. The large range of plant and fruit-houses well repaid the visit. The Orchid-houses numbered three, and these were filled with many valuable species and varieties. There are two plant-stoves, two Rose-houses, a Gardenia-house, fernery, Palm-house, greenhouse, two houses for the cultivation of *Eucharis*, and four for that of *Carnations*; the varieties of the latter consisting of *Souvenir de la Malmaison*, *Winter Cheer*, *Uriah Pike*, and others. Rarely have I observed the first-named in finer health and condition. The fruit-

houses consist of two large span-roofed vinerias, with Vines carrying heavy crops of good Grapes, the varieties consisting of Muscat of Alexandria, Gros Colmar, Lady Downes, and Black Alicante. Some small lean-to's supply Early Grapes, Peaches, and Nectarines. The Peach-houses contain splendid trees of the best varieties. Among other houses observed, mention should be made of one for growing Pears, Melon and Cucumber-houses, and some orchard-houses. Much work was in progress, and alterations and improvements of various kinds undertaken. The Chrysanthemum is a plant that is largely grown for decorative purposes, and the gardener, Mr. Pike, is an exhibitor of them; the collection contained a great number of the best modern varieties. *B. W.*

HOME CORRESPONDENCE.

ENGLISH *versus* GERMAN CYCLAMENS.—As the grower of Cyclamens for one of the firms best known in England for their strain of Cyclamens, and who cultivate upwards of 20,000 seedlings and old bulbs or corms every year, I think, after reading the article, "English v. German Cyclamens," that the English varieties could not have had full justice during the growing period, or they certainly would not have appeared so inferior in quality as pointed out. I myself think it would be a very difficult undertaking to surpass the English varieties that were grown by Mr. Schwarzburg, if they had the right treatment, most of which were raised by the firm I am with, and certificated by the same at different periods. I also noted that there was a complaint about purity of colour. Nor is a pure white mentioned in the list of English names. If they had, the following four named varieties, Mont Blanc, Dame Blanche, Baroness Burdett Coutts, or grandiflora alba, I think they would have compared very favourably with the German strain, as all four are splendid whites if grown to their best. The marking of the foliage is not given much attention in England, the point aimed at being a good sturdy plant, with quantity of flowers and quality combined to make it sell. But if our friends over the water would like to see English-grown specimens in their glory, they could not do better than take a trip across in March and attend the Crystal Palace and Regent's Park spring shows, and I think they would be highly satisfied that Cyclamens can be well done in England. *J. N. S.* [Why should not our Berlin friends send some of their choicest samples for comparison? *Ed.*]

THAT CLIMBING FRENCH BEAN.—Referring to the correspondence on this subject, may I ask if anybody ever saw a French Bean that did not climb, more or less, where it had the chance? or if there be any gardeners who would have a climbing French Bean needing sticks to support it, when they could have the same Bean equally good without that extra and needless trouble? French Beans will climb, if allowed, and Scarlet Runners, if pinched, will do equally well without climbing, and are extensively grown that way by market-men. I understand from what I have seen, and from what I have read in the *Gardeners' Assistant*, &c., "that the French growers have French Beans (not Runners) that climb from 6 to 9 feet, but the dwarf form is the most popular. It does seem absurd to have one grower recommending a Pea because it does not need sticking, and another putting up a Bean for the opposite reason; and it would be very interesting to learn if "A. D." or anyone else belonging to the Royal Horticultural Society's Committees ever seriously proposed to bestow an award on a Bean whose sole recommendation was that it needed sticks to support it, or, as Mr. Ward puts it, because it attained "a hitherto unheard-of height of 7 feet!" "Not wanted" would be the verdict of any practical man even if the "climbing" claim was new. A large portion of the cost of climbing Pea and Bean culture is the sticking. I dispose of thousands of Pea and Bean rods annually from the woods, at from 1s 3d. and 2s. and upwards per 100, according to quantity, some amateurs having rather fancy notions about their Scarlet Runner rows. That is the cost of sorting out in the wood, and by the time they are carried and put to the crops and removed again in autumn, a large part of the profit, if any, is gone. I know

of crops of Scarlet Runners which, during the past summer, did not pay for the sticks and sticking, at from 1*d.* to 2*d.* per lb. I have seen from twenty to thirty long rows of tall Peas and Runners, in gardens, that must have cost nearly 20*s.* per row to stick—a sum that would have supplied the Peas. *J. S. W.* [Our usual 'cute correspondent seems to have missed the point in this case; for it is not because it is a climbing variety that it has found, and is likely to find, favour with gardeners; but because it is a much more continuous bearer, and in that way saves land, seed, and labour. With French Beans of the ordinary type, we must sow once in three weeks from the middle or end of April till the middle of July, if a good succession of tender pods is to be obtained; whilst with this new Bean twice or thrice would suffice. It is a moot question if this Runner Kidney Bean would not be profitable as a forcer. The chief danger to be apprehended would be, of course, the entire loss of the leaves from red-spider. We can insert no further correspondence on this subject. *Ed.*]

ROSA RUGOSA FOR GAME COVERT.—During the past two winters we have planted small patches

APPLES: THE TRUTH ABOUT PRICES—RIBSTON AND COX'S ORANGE PIPPIN.—I heartily thank the essayist for his obliging reply to my inquiry as to the low-placed price occupied by these two finest of our dessert Apples. I had the most perfect faith in his quotations, and had a shrewd suspicion—confirmed by his lucid explanation—that it is but another case of size, colour, bulk, over-riding quality. It must be borne in mind that the essayist is here writing of marketing and making solid profit out of Apples, and most growers will readily allow that Peasgood's Nonsuch at 28*s.* per cwt. will fetch more money per acre than Cox's Orange Pippin at 30*s.* per cwt. The more's the pity! But then pity will be a long time in moulding public taste or controlling prices by quality alone; though possibly as raw Apples get to be more eaten as food, such splendid sorts as the Ribston or Cox's Orange Pippin will command such high prices as to render them the most profitable market Apples. Meanwhile, however, it is very discouraging to hear on such high authority as that of this able essayist, that he has never yet been able to make a profit on his Ribstons, either on the Paradise or free stocks. I had hoped that the Paradise stock root-pruning improved culture and training would

price that Peasgood's Nonsuch and Warner's King, we should no longer have our market growers and writers assuring us that they could no longer grow our best dessert Apples at a profit. I hope no one will assume that the Apples named are necessarily on all sites and soils the best of their class for eating or cooking. In any attempt to get prices controlled by quality, I thought it wise not to have the issue confused through comparison of the merits of contending varieties. *D. T. F.*

THE JUDGING OF VEGETABLES AT SHOWS.—We seem sadly to want a national code of rules for judging. Might not some public body such as the Royal Horticultural Society, for example, compile such a code? It should take each vegetable in the order of its utility, and state the number of marks to be given it, allowing for quality, cleanliness, staging, &c. If such a standard were formed it would be of the greatest service to judges, particularly as in a case I have in my mind, where the judge was a traveller and not a practical man. I shall be greatly pleased to hear that such a code is available, and that I have overlooked it. *W. H. Patterson.*

VALE OF CLEVELAND AND SHARPE'S VICTOR POTATOS.—For some years we have grown Vale of Cleveland Potato, and we have no hesitation in pronouncing it to be identical in every respect with the yellow-fleshed Sharpe's Victor, and this opinion has been confirmed from time to time by Potato experts who have seen the two varieties growing side by side in our trial grounds. We procured Vale of Cleveland direct from Mrs. Short, of the Seed Stores, Market Place, Stokesley, and she informed us that her late husband sold the whole stock, excepting a few small tubers, to Messrs. Chas. Sharpe & Co., of Sleaford, and that he claimed that Sharpe's Victor, when it appeared, was in every respect similar to his own Potato. Admitting this to be so, it is quite evident that to the late Mr. Geo. Short belongs the honour of having first raised this distinct type of Potato, which possesses all the good qualities of the variety now so well known in commerce as Sharpe's Victor. It is a singular coincidence that two hybridisers should have raised seedlings the characteristics of which are identical, but from entirely different parents, and it is somewhat remarkable that Messrs. Chas. Sharpe & Co. should have become the fortunate possessors of them both; for there can be no doubt that amongst the very earliest varieties of Potatos, Vale of Cleveland and Sharpe's Victor probably have no rival. *W. W. Johnson & Son, Boston.*

— With reference to Mr. D. T. Fish's letter in your columns recently, allow me to say that the confusion referred to appears to arise owing to the variety of the Potato introduced and still known in the name of Albert Victor, which has a white flesh, being confused with Victor, better known as Sharpe's Victor, which has a yellow flesh. *Cultivator.*

PEACHES AND NECTARINES.—I can fully endorse the sound and opportune remarks made by Mr. Markham under the above heading in the *Gardeners' Chronicle* for September 28, p. 370. Peach and Nectarine trees are easily enough grown in 90 per cent. of the gardens in Great Britain and Ireland, where the necessary wall or fence space is available for training the trees to, always assuming that the cultivator has a practical knowledge of the requirements of the trees, and that healthy kindly-growing trees, true to name, are obtained and duly planted in good-sized well-drained holes, using sound fertile loam as a rooting medium. The observance of the above simple but most important points is absolutely necessary to attain to success not only in the culture of the Peach and Nectarines, but also in that of Plums, Pears, Apples, &c. All that is required after the trees have been selected and planted in the manner indicated is to keep them perfectly clean and the soil about the roots uniformly moist. The growths should be trained thinly rather than otherwise over the space allotted to each individual tree, disbudbing freely at short intervals, as advised in Mr. Markham's excellent note, after the wall space has been furnished, which, starting with maiden trees, may be accomplished within a few years from the time of planting by following the extension system of training. This consists in not cutting back the young growths to within a few inches of their bases, as used to be the practice, and is still done in many places, at pruning-time the first year after planting—that is, in twelve or fourteen months from that time. This is how it is done. In the ordinary way, the trees are planted as soon as they

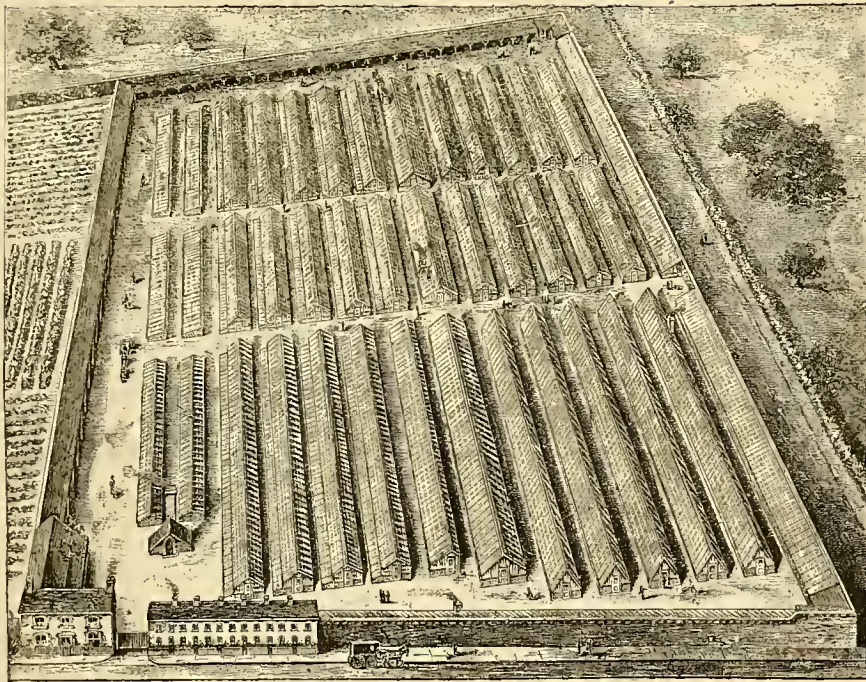


FIG. 108.—THE OLDEST RANGE OF GLASSHOUSES AT MR. WHITELEY'S ESTABLISHMENT, HILLINGDON. (SEE P. 651.)

of the above-named charming species of Rose, with a view to testing it as a suitable plant for game coverts. So far our venture is satisfactory. Rabbits have not destroyed any of them. I am bound to say, though, they are not very numerous in the part where the *Rosa rugosa* are planted; still, they have injured Laurels and Berberis planted near to them. Will those of your correspondents who may have tried planting them where rabbits are plentiful kindly say if their experience is satisfactory? In our stiff limestone soil this Rose grows well, and if rabbit-proof, I can see it is going to be a capital covert plant. It keeps its foliage well into the winter months, which is an important point in this class of plants. The price, too, will soon be a moderate one, if the demand springs up for it, seeing that it can easily be reproduced from seed [or suckers]. Just imagine large masses of it in flower in July in the open glades of woods and plantations, or in autumn, when thickly sprinkled with its large rich red-coloured seed-vessels or "heps." I mention these advantages, as they would add to its value in the opinion of sporting gentlemen, nearly all of whom have a strong liking for natural beauty, as well as for sport. I should say, too, it would be a grand stock on which to bud many of our choicer garden Roses. I have not heard of its having been used for this purpose, though it may have been. *H. J. C., Grimston, Tadcaster.*

have made, as it has, the cultivation of Ribston Pippins practicable, and likewise profitable. To ensure the latter, however, a more elastic list of trade and market prices may have to be formulated and established. This may be difficult, but ought not to be impossible. And it was chiefly with a view of directing the attention of such able growers and capable business gentlemen as those essayists, to the national importance of revising our Apple prices on some standard of quality, rather than the allurements of colour and the weight or size, that induced me to query the position assigned to some varieties named. Of course, it may be answered that our salesmen have already classified our Apples and other fruits, as we soon find to our cost when we attempt to buy Ribstons or Cox's Orange Pippins by name. But these fancy prices in retail hardly reach the growers for wholesale. We want a gradation of prices based on quality, chiefly as discriminating and far reaching among Apples, Pears, Plums, as we already have it among Grapes. Few or none would grow Muscat of Alexandria if their market price hardly exceeded that of Hamburgs. But while Muscats command four or five times the price of Hamburgs, their place and presence in our markets and on our tables are assured. Supposing, and the supposition can hardly be held to be extravagant, that the Ribston Pippin and Cox's Orange Pippin commanded double the

have been received from the nursery after the fall of the leaf—say, towards the end of November. The young shoots, whether two, three, five, or seven, are secured loosely to the wall to admit of the fresh soil settling down a little, as well as retarding the flowering period. Early the following February, as soon as the sap begins to rise, and the unpruned shoots towards the ground, and secure them to the wall with nails and shreds in that position, the bend starting from the point whence the first of the young shoots is desired to proceed—say, 4 or 5 inches from the bottom of the individual shoots. The check thus given to the flow of sap causes a sufficient number of wood-buds to push from each shoot to form a good-sized "fan-shaped" tree the first year after planting. Of course, as soon as the buds nearest the base of the individual shoots so treated have pushed into growth, the nails should be drawn, the shoots—main shoots—spread out on the wall, in the form of a hand with distended fingers, and secured thereto with nails and shreds, leaving sufficient room in the latter for the development of the branch, the young shoots indicated above being trained at proper distances over the intervening spaces. Trees of *Crimson Galande* and *Djmod Peach*, and *Dryden* and *Humboldt Nectarine*, planted a few years ago and treated in the manner described above, have completely furnished the trellis fixed to one of our highest (12 feet) walls out-of-doors, and planted at the usual distance from one another, ripened this year twelve to fourteen dozen good-sized fruits on each, which were the admiration of all who saw them. I merely mention this to show those readers of the *Gardeners' Chronicle* who may hitherto have taken an unfavourable and wrong view of Peach culture out-of-doors, what good returns may be easily secured from Peach and Nectarine trees in two or three years from the time of planting by following the extension system, which I have more than once advocated in the *Gardeners' Chronicle*. The crop, taking thirteen dozen fruits as the average for each of the four trees, and at the moderate price of 4s. per dozen, would be £10 8s., not by any means a poor return for the initial outlay, space of wall occupied, and labour incurred in training, &c. That the Peach and Nectarine will grow and flourish planted against walls having south, west, and east aspects I have the most conclusive evidence, the only difference being in the time of ripening; the same variety planted in all the aspects indicated would yield a pretty good succession of ripe fruit, those ripened on the east and west walls possibly might not be quite so good in flavour as the fruit ripened against a wall having a south aspect. Like Mr. Markham, I have formed a high opinion of the *Early Rivers Nectarine*. It is a good grower, and apparently a free bearer, the fruit being unusually large, of handsome appearance, fine quality, and very early in ripening. In conclusion, I may say that the present is a good time for transplanting young trees which have been grown for a year or two in available spaces between those permanent trees which have not quite furnished their allotted space; lifting them with good balls, they experience little, if any, check in being transplanted into their permanent positions, and time is afforded for the roots to push into the new soil before the trees shed their leaves. Trees so planted gain time, and have decided advantage over trees planted after the fall of the leaf. *H. W. Ward, Longford Castle.*

TIMBER v. GAME.—I am rather puzzled by Mr. Foote's distinctions, p. 582, between practical and technical knowledge, and to learn that employers do not want the latter. I thought technology consisted of the application of established principles in the arts and crafts, and constituted intelligent practice as opposed to "rule of thumb;" and I must say I never met with an employer who would not have preferred a technically-trained forester or gardener to one of the misnamed "practical" type. As to woods and game, they can be successfully combined, except in the case of rabbits in young plantations. It is quite easy to plant a mixture, or pure forest of good timber trees, for a crop, that will shelter game, provided the thinning is not over-done. Pheasants want most protection. They will not stay in winter in a wood which the wind blows too freely through, but a forest of bare poles will break and subdue the stiffest gale that ever blew if they stand thick enough on the ground. Everyone knows this who has stood on the lee-side of a Larch plantation in winter, thick, but one which you can see through. The trees break the wind in the same way that stakes or stones driven in, not far asunder, will break up the most furious torrent into gentle dribbets.

I have just been making a trout-stair on this principle to enable the fish to climb a kind of cascade. Employers rarely object to follow intelligent advice from their foresters whom they expect to understand their business, as a matter of course. What is most needed among owners of estates is a better system of managing their game in conjunction with their woods. We want more pheasants for the gun and fewer rabbits. Keepers never have a sufficient number of pheasants, and if a rabbit or two is not frequently popping up between the pheasants, sport flags; hence keepers will not kill rabbits unless forced by some one who can step in and take the duty off their hands, and that does the business. Then your keeper will act; if a woodman with a gun, dog, and ferrets has the mere authority to step in when and where he chooses, if the keepers fail. This just works a miracle on our friend in velvet. There are no objections to pheasants, but the system of hatching is deplorable. Given a fair covert with a sufficient stock of cocks and hens to begin with, I would undertake with well-regulated shooting, to crowd any wood or estate with wild birds permanently in one year. But what is done? All the early eggs are picked up in large numbers, perhaps every season, and as many more bought to put under hens; and at the shooting season about one or two birds may be to every dozen eggs bought all to the gun, and often not so many, so great is the mortality. I know of the record on a number of estates, and this statement is no exaggeration. Rabbits have to be preserved to make up for the pheasants, and the woods have to be kept quite for these, and the woodmen banished for the greater part of the year in order not to disturb the game. If gentlemen would put down stock for wild-nesting in the first instance, and simply let their keepers know that game would be expected, and the woods looked after at the same time, they could, by some proper arrangement of the work, then have plenty of sport, and also timber. My advice to foresters who cannot secure something like the above conditions is to do their duty as far as circumstances permit, and to view the damage done by the game with philosophic equanimity, always taking good care to let the damage be easily seen by those who have to pay for it, and to have the said regularly estimated and sent in to the game department. A correct debtor and creditor account against the keeper is one of the best methods I know of for keeping the subject "warm," for the process is one "velveteen" cannot stand, but it has opened the eyes of some employers. All game-keepers, I contend, should be under the control of the forester. *S., The Woods.*

PACKING COMPETITION AT CRYSTAL PALACE SHOW.—I was much interested in this packing competition, and I quite endorse what Mr. Harris says respecting the judging being intrusted to Covent Garden salesmen—one would be enough. I did not attend at the Palace this year, but what I saw in 1894 convinced me that a salesman would be the best judge, and I expressed this opinion at the time. I do not refer to the Grapes, but to the Peaches and Pears, which were nearly hidden from view by the mass of material used, and which I considered was quite unnecessary, whether they were intended for market or private use; and as one of the judges, p. 555, says, he and his colleague found but slight advance over last year, I may conclude that what I saw last year was simply repeated. In the month of August last, I was in Covent Garden market, and at the stall of one of the leading salesmen I was looking at the Peaches offered for sale, packed in a mass of cotton-wadding, some over-ripe, and the wadding clinging to the bruised parts; and I said to the salesman's foreman, "You cannot sell stuff like this." His reply was, half the fruit sent into the market is spoiled by bad packing. Cotton-wool is not now used by growers to pack Peaches for market, neither is moss, and no salesman would look with admiring eyes upon any exhibit which was packed in either of those materials. Wood-shavings are recommended by some, and they are certainly very elastic, in fact, too much so, and there is an odour on opening a box of fruit packed with them that is not at all appetising; so growers use for packing Peaches, finely cut white tissue paper, which can be bought for £1 17s. 6d. per cwt., and 4 ozs. will back a box of twenty-four Peaches, costing a little over 1d. To prove this, I have this year grown and packed 15,000 Peaches and Nectarines, and used 1½ cwt. of paper shavings in packing. Our *modus operandi* is to shake a handful of well-teased shavings over the bottom of the box, take the fruit in the left hand, and with the right wind a few shavings tightly round the stalk-half

sufficient to keep it clear of the box; when placed firmly in it repeat the process until the box is full, taking care to keep them pressed tightly together as the packing progresses. When full, place a sheet of tissue paper the size of the box over all, now shake enough well-teased shavings on the paper so that when the lid is put on the shavings are slightly pressed upon the fruit; should the box be too deep, use clean well-dried moss or grass, filling up the space firmly before shaking on the shavings, and so high that the fruits, when packed, are nearly level with the top of the box, only requiring a few shavings to keep them in position. By this method of packing, nearly one-half of the fruit is displayed, so that buyers can see the size, colour, and condition without touching it. The boxes are tied three or two together, and sent by van 5 miles to the railway station, over roads and under conditions that would make a nervous grower faint. Nine-tenths go to London, the other to Manchester, i.e., about 150 miles, and not one complaint has reached us this year. Single boxes are more liable to injury than when two or three are tied together, but we send Peaches to all parts in large and small boxes, singly, and by rail, and post, without the least bruising—using boxes adapted to the number of fruits to be packed into them, so that firmness is preserved, which is the great essential to successful carriage. The time taken to pack a box of twenty-four fruits is about five minutes. I grade and pack 60 dozens in three and a half hours, and this quantity I do almost daily during the busy season, the largest number sent away in one week being 333 dozens, and the largest number in one day 131 dozens. *Wm. Armstrong, Toddington Orchard Co.*

SOCIETIES.

ROYAL HORTICULTURAL.

NOVEMBER 26.—The usual fortnightly meeting of the Society was held in the Drill Hall, James Street, Westminster, on Tuesday last, when an interesting exhibition was made, albeit the hall was less full than on some previous occasions. *Chrysanthemums* again constituted one of the more important items, and there were several novelties recognised by the committee. Orchids were not numerous, neither were fruit exhibits, but there was a large collection of Apples and Pears, and another of vegetables.

Floral Committee.

Present: W. Marshall, Esq., in the chair; and Messrs. Jno. Fraser, Jas. Walker, H. B. May, H. Herbst, R. Dean, Geo. Stevens, J. H. Fitt, R. B. Lowe, C. J. Salter, H. Briscoe Ironside, Chas. Jefferies, J. D. Pawle, Chas. E. Shea, J. W. Barr, Chas. E. Pearson, Ed. Beckett, H. J. Jones, Geo. Nicholson, Geo. Gordon, C. Blick, and Rev. G. H. Engleheart.

A group of Rose trees in pots formed the exhibit of Messrs. WM. PAUL & SON, Waltham Cross Nurseries, Herts; the variety was *Enchantress*, described as a new winter and bedding Rose, a hybrid between China and Tea-scented kinds. Some very free-flowered sprays were also shown, and the committee recommended the variety an Award of Merit. The bloom is white, with lemon flush, but in the bud shows a pleasing tint of fresh salmon or pink (*Silver Banksian Medal*).

Messrs. JNO. LAING & SONS, Forest Hill, London, S.E., exhibited a plant of *Dracena lentiginosa*, with long strap-like leaves, of good colour. Also *Calamus Palembangicus*. Messrs. JAS. VEITCH & SONS, Royal Exotic Nursery, Chelsea, again exhibited their *Javanico-Jasminiflorum* hybrids of *Rhododendrons*, but on the present occasion there was a very beautiful group of small well-flowered plants, in place of the cut blooms shown last time. Messrs. VEITCH also staged a plant in flower of *Begonia* × *Mrs. Heal*, which we recently figured, and a variety of a similar strain named *Eusign*, with larger leaves and paler flowers (*Silver Banksian Medal*).

From the Botanic Gardens, Glasnevin, Mr. F. W. MOORE sent foliage and flowers of *Sphaeralcea umbellata* (*Malva umbellata*), a stove shrubby plant with *Malva*-like flowers of bright violet; native of Mexico.

H. GUNLING, Esq., Harrow Weald House, Stanmore (gr., Mr. Ripley), showed a plant of the very old *Canarina campanulata*, a greenhouse herbaceous perennial with campanulate flowers of a curious shade of orange-purple, not showy but interesting, and not frequently met with.

Mr. J. CRAWFORD, of Cedlington Hall Gardens, Newark-on-Trent, sent cut blooms of *Carnations*.

A handsome *Begonia* in flower was exhibited by J. T. BENNETT POE, Esq., Holmewood, Cheshunt. This was a seedling from B. Froebeli, and named B. F. *incomparabilis*. Leaves were nearly a foot across, handsome and pubescent on under surface, the veins very conspicuous by reason of their pale colour contrasted with the deep, but bright, green of the leaves. Spikes upwards of 2 feet high, many-flowered, each bearing upwards of thirty flowers nearly 2 inches across, pubescent outside and full, bright scarlet in colour. The appear

ance of the plant in the hall was distinct and fine, and it probably excited more interest than any other exhibit.

CHRYSANTHEMUMS.

Mr. R. OWEN, nurseryman, Maidenhead, had a collection of new varieties, Awards of merit being made to the following:—Country of Gold, a small Primrose-coloured narrow-petalled variety, very free, charming in sprays, and promising well for market and decorative work. Mrs. Ellen Newbold, a pale yellow reflexed Japanese, broad petalled, of good size as a decorative variety, and pleasing shape. Another promising market flower, and incurved, Bonnie Dundee, having, in a true incurved form, the colours of Lord Brooke, but less of reddish-brown and more of gold, a charming exhibition variety. In addition there were Oceana, a broad-petalled flower of the Vivand Morel type, white, with a delicate pink suffusion; Walter Owen, reddish cerise, with a bronzy-yellow reverse, but roughly shown; and General Roberts, &c. (Silver Bankian Medal).

From Mr. WELLS, Earlswood, Redhill, came incurved Sir Trevor Lawrence, a very promising white flower of the Queen of England type, and a primrose sport from it named Harry Wells. As the Floral Committee declined to say whether or not it was a true incurved, no award was made; and Major Bonaffon was similarly treated, as no pronouncement was made as to the particular class, though recently shown in several cases as an incurved variety.

From Mr. W. Slogrove, gr. to Mrs. CRAWFORD, Gatton, Reigate, came a grandly-formed and full incurved golden yellow Japanese, named William Slogrove, a flower of great refinement, which will make a very acceptable exhibition variety (Award of Merit).

From Mr. H. J. JONES, Rycroft Nurseries, Lewisham, came Anemone Japanese Surprise, pale lilac-pink, with faint stripes of purple (Award of Merit); Major Bonaffon, in fine character; Mrs. P. Purcell, delicate purplish-pink, with silvery reverse, a very novel incurved Japanese; and Olive Ochree, the golden florets with a bronzy reverse, much incurved, and a golden centre, distinct in character (Award of Merit). Mr. H. BRISCOE-IRONSIDE, Burgess Hill, had some seedling Pompons, but to all appearance partaking too much of a mixed character; and Neve, a white Japanese of a decidedly promising character, if it can be grown large enough. Mr. W. JUKES, Weybridge, had Japanese Mrs. W. Maling-Grant, a promising variety, a mixture of yellow-salmon and bronze; a handsome reflexed variety. From Mr. E. H. JENKINS, Hampton, came a fine and showy yellow Japanese, Golden Dart, which was recommended an Award of Merit as a valuable market and decorative variety.

Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; and Messrs. Jas. O'Brien (Secretary), T. B. Haywood, S. Courtauld, Dr. M. T. Masters, E. Hill, H. Williams, E. Ashworth, W. H. Protheroe, T. Statter, F. Hardy, J. Gabriel, H. J. Chapman, W. H. White, C. J. Lucas, J. Douglas, and H. M. Pollett.

The meeting was a thin one so far as the exhibits were concerned, the only group of any extent being staged by Messrs. F. SANDER & Co., St. Albans, and for which they received a Silver Bankian Medal. The body of the group was composed of fine examples of beautiful hybrid Calanthes, varying in colour from cream and rose to purple. Among them were C. x Bella, C. x Florence, C. x Wm. Murray, C. x Bryan, C. x Clive, and C. x Harold. An interesting plant in Messrs. SANDER'S group was Phaiocalanthe x Berryana (P. Humboldtii x C. Masuca), and which had bright rose-coloured flowers, with singular-shaped labellum, in which P. Humboldtii could be distinctly traced. Also in the same group were Phaiocalanthe x Arnoldiana, Pescatorea Lehmannii, P. Klabochorum, and the white Bollea Schroderiana, the rare Dendrobium Leeanum, Acanthisia ionoptera, Angreicum polystachys, Brassia Lewisii, Lælia autumnalis alba, Habenaria Suzanne; Sophronitis grandiflora, Odontoglossum Biconense album, Miltonia Schroderiana, some fine hybrid Cypripediums, and the singular Bulbophyllum crassipes.

To Messrs. LINDEN, l'Orticulturne Internationale, Parc Leopold, Brussels, fell the honour of taking the only First-Class Certificate at this meeting, its award being secured by their richly-coloured Catasetum imperiale, about which opinions differ as to whether it is a crimson-purple C. Bungeorothi, or a richly-coloured form of the variable C. x splendens. In any case, it is the most gorgeous Catasetum known (see *Gardeners' Chronicle*, March 16, 1895, fig. 44). Messrs. LINDEN also showed cut spikes of their form of Cattleya maxima.

Sir TREVOR LAWRENCE, Bart., Burford, Dorking (grower, Mr. W. H. White), sent a very fine hybrid Cypripedium raised between C. Stonei platytenum and C. concolor, and named C. x platycolor. It had an inflorescence of three flowers and one bud, the flowers equal in size to those of C. x concolor, cream white, flushed with rose, and with minute purple dots on the sepals and petals (Award of Merit). Sir TREVOR LAWRENCE also showed Arundina Philippi, a slender plant with terminal sprays of rose flowers with crimson lip, like small A. bambusefolia (Botanical Certificate).

THOS. STATTER, Esq., Stand Hall, Whitefield, Manchester (gr., Mr. R. Johnson), sent Cattleya aurea Marantina, a fine variety, with rich purple, gold-veined lip, and yellow petals and sepals, over which spread a coppery hue, the petals also being marked with rose colour in a very effective manner (Award of Merit); and Cypripedium x plumosum (barbatum x conantherum superbum)

Messrs. JAS. VEITCH & SONS, Royal Exotic Nursery, King's Road, Chelsea, again showed the singular hybrid Epidendrum x Wallisio-ciliare, and the two species from which it was

derived. On this occasion it secured an Award of Merit. Messrs. Veitch also showed the pretty Malayan Dendrobium subclausum, with brilliant orange-coloured flowers (Botanical Certificate).

J. W. TEMPLE, Esq., Leyswood, Groombridge (gr., Mr. E. Briatow, sent Cattleya x Miss Williams (Harrisonia x labiata Gaskelliana), with pretty rosy-lilac flower, with crimson blotch on the lip; and C. labiata, Temple's variety, fine in form and colour.

G. L. PALMER, Esq., Springfield, Trowbridge (gr., Mr. Chas. Richman), sent Cypripedium x Madehne (ballatulum x Argus), with yellowish-white flowers, spotted with purple, and tinged with lilac (Award of Merit); also C. x Dibdin, C. x Seegerianum, and other hybrids.

C. J. LUCAS, Esq., Warnham Court, Horsham, showed Cypripedium x Warnhamensis (Curtisii x philippinense).

Sir FREDERICK WIGAN, Clare Lawn, East Sheen (gr., Mr. W. H. Young), showed fine cut examples of Epidendrum (Barkeria) Lindleyanum and Lælio-Cattleya x Wm. Murray.

Mr. Gribble, gr. to the Marchioness of LONDONDERRY, Plas Court, North Wales, sent Lælia anceps.

Messrs. HUGH LOW & Co., Clapton, showed Oncidium hæmatocichum, Phalenopsis Brymeriana, P. intermedia Portei, some pretty Cypripediums, &c.

STANLEY CLARK, Esq., Oak Alyn, Wrexham, sent Cattleya Trianaei Mrs. Stanley Clark, a noble form, with rich crimson-purple lip, and a feather of the same colour on the petals.

F. W. MOORE, Esq., Royal Botanic Gardens, Glasnevin, Dublin, sent an extraordinary Calanthe (named provisionally F. W. Moore), with a fine head of lilac-purple flowers, which on reaching maturity, become light rose, the lip changing to bronzy-yellow (Botanical Certificate); Masdevallia Chimæra aurea, in which the flowers have large patches of clear yellow on the sepals (Award of Merit); Odontoglossum præstans, and the pretty Phaius Bernaysii, from Fiji, with white flowers with chrome-yellow face to the segments.

T. W. SWINBURNE, Esq., Corndean Hall, Winchcombe, sent Cypripedium x Wallærtianum (Harrisonianum x villosum).

Fruit Committee.

Present: T. Francis Ritter, Esq., Chairman; and Messrs. H. G. Pearson, Jas. H. Veitch, Jos. Cheal, J. Wright, Alex. Dean, J. W. Bates, Geo. Wythes, Jas. Hudson, H. Balderson, G. Reynolds, Geo. Norman, Robert Fife, and Philip Crowley.

Exhibits of fruit were few. The largest of these was a collection of Apples and Pears from the Lowfield Nurseries of Messrs. J. CHEAL & SONS, Crawley, which included 100 dishes.

The most attractive of the Apples, by reason of their large size or good colour, were Blenheim Orange, Ribston Pippin, Alfriston, Jubilee, New Hawthornden, King of the Pippins, Cox's Orange Pippin, Mère de Ménage, Prince Albert, Bess Pool, Peasgood's Nonsuch, Cox's Pomona, Hereford Beefing, and Bismarck. Of the last-named, excellent fruits in regard to both size and colour were shown, whilst their fresh-looking appearance proved that they will keep well for some time longer (Silver Knightian Medal).

There were several exhibits of seedling Apples, including Stubb's Seedling, a Quarrenden-like fruit, but a good keeper, also before the committee on a previous occasion. The committee recommended an Award of Merit to this variety, the exhibit of Mr. W. PALMER, Andover; and requested that Mr. E. STEWARD, 57, Carrington Street, Nottingham, who exhibited fruits of a pale yellow variety with russet spots and blotches, fruits rather flat-looking, with deep eye, would exhibit same on a future occasion.

A variety named Palmer's Favourite was shown by Messrs. JNO. LAING & SONS, Forest Hill Nurseries, London, S.W.; and another one named Christmas Pea-arsin, was shown by Mr. GEO. WYTHES; and a double Apple, caused by the fusion of two fruits, was from Mr. H. APPLEBY, Dorking, Surrey.

Messrs. LANE & SON, Berkhamsted, exhibited excellent specimens of their Apple Lane's Prince Albert, gathered from trees in the open orchard twenty years old (Vote of Thanks).

Mr. Jno. Crook, gr. to W. H. EVANS, Esq., Forde Abbey, Chard, showed a dish of small red Plums, of the variety Coe's Late Red.

A Tomato of the Perfection type, named Nield's Seedling, was shown by Mr. W. NIELD, Horticultural College, Cheshire, and was referred to Chiswick for trial.

A dish of Jerusalem Artichokes, Vilmorin's New White, was shown by Mr. WYTHES, and also a dish of Wythe's Seedling Potato, a kidney, from a cross between Myatt's Prolific and Beauty of Hebron, said to be ready for use nine weeks after planting, and of good table quality (referred to Chiswick). Fine with fruits of Tomato, All the Year Round, certificated in April last, were exhibited by Mr. Farr, gr. to A. PEARCE, Esq., Spring Grove, Isleworth; the exhibit well represented this variety's free-bearing qualities in November.

Earl of PERCY, Syon House, Brentford (gr., Mr. G. Wythes), supplemented his previous exhibits of vegetables by another another one consisting chiefly of green kinds, which included about forty sorts of Brassicas, some forced Asparagus, also Syon House and Veitch's Improved Telegraph Cucumber, and some Mushrooms. Leeks in several varieties were commendable. Veitch's self-protecting Broccoli, the green curled Savoy, Cottagers, Asparagus, arctic and other varieties of Kales, and Coleworts, were all represented by meritorious produce. Of Brussels Sprouts we noticed Veitch's Exhibition and Sutton's Dwarf Gem, the latter as being a short-stemmed variety, thickly furnished with small close sprouts from base to apex (Silver Knightian Medal).

Lecture on Asparagus Culture.

The lecture in the afternoon was upon Asparagus culture, by Mr. Jas. Mason, a market grower. After briefly alluding to the botanical affinities and characteristics of the plant, as well as its native habitats, the lecturer declared that after cultivating the common Asparagus for many years, he was impressed by the fact that British growers allow far too much foreign-grown produce to be imported into this country. English "buds" were admittedly less in size, but they were of undoubtedly better quality, and sufficient ought to be produced to supply the London market entirely. This delicious vegetable was convenient to the grower in regard to sending it long distances, being easily packed, and of comparatively insignificant weight.

In respect to propagation by means of seeds, Mr. Mason had several points to insist on with emphasis. Seed should not be sown in the autumn, nor in May, as some growers have advocated; but in March, preferably towards the middle of the month, or when the weather was sufficiently open. The seeds were some little time before germinating, and if sown in autumn were very liable to rot; on the other hand, the ground was usually too dry during May for them to germinate as freely as was desirable. Seed should be sown in drills about 1 foot asunder, sown rather thinly, and afterwards the plants thinned to 4 inches or more apart. Before sowing, the land should have been given a winter's good cultivation, by well trenching, and afterwards thoroughly working it. The aim should be to secure really hard, strong plants by the following March. Five or six pounds of seed would produce sufficient plants to plant an acre of land the following year. In regard to land, the Asparagus was not very fastidious. The soil generally near the coast suited it well, if there was sufficient depth. Indeed, any soil of good texture and sufficient depth was sufficient, providing the same was porous. The last-named condition was an essential one in any case. Rough, wet land would always be unsatisfactory. When the seedlings are above ground, the surface of the land should be hoed, and some weak manure-water given to encourage as good growth as possible. Planting should be done the following spring as soon as the "buds" began to move. It was best to select the strongest plants, and keep them to themselves, thus obtaining even beds. Only one-year-old plants should be used, and it was better to sow seed as advised, and then replant, than to sow, and thin to the distance required in permanent beds.

If green Asparagus was required only, the crowns need not be deep, about 3 inches of soil and mulching being quite sufficient; but there were several advantages connected with the deep-earthing system. It was a protection from frost, and from the light, and atmosphere. The buds were much better also. Mr. Mason would advise a medium course by putting 5 or 6 inches of matter above the roots. Common salt was a good manure, and should be applied while the plants are growing, preferably during the months June, July, or August at the rate of 5 or 6 cwt. per acre. If the beds were well made, and planted, and consistent care given afterwards, they may last twenty, thirty, or even forty years. Buds should never be cut after midsummer, however, or the practice would induce the formation of smaller buds for the following season. If it was wished to cut Asparagus after that date, it should be cut from a portion of the land only; the crowns would continue to produce buds until September at least, and it would be well to throw those crowns away.

The French method of culture was then alluded to, Mr. Mason saying that the French growers planted at greater distance apart, at greater depth, and obtained larger but fewer "buds" per acre than English growers. Asparagus should be cut carefully, and a proper toothed knife always used for the purpose. As soon as the "buds" were about 2 inches above-ground was the best time to cut them. In conclusion, the lecturer said that cottagers might easily cultivate Asparagus if they so desired, and thus secure for their tables the finest of all vegetables.

ULSTER HORTICULTURAL.

NOVEMBER 12.—The above society held its annual Chrysanthemum, fruit, and vegetable show on the above date in the Great Hall, Belfast. The usual enthusiasm was more manifest than ever, probably by reason of this being the finest show ever seen in these parts. The exhibits were of high order of merit, and their number more than doubled those of 1894.

The rockwork set up by Mr. McKIMM, Curator of the Belfast Botanic Gardens, was a great point of attraction for visitors. The sheet of water, the bridge which could be crossed, the great variety of foliage plants, hardy and exotic, made use of, and the noble Palms, the Ferns, and other plants so generously made use of, appeared to afford much pleasure.

Close to this exhibit was, in a cultural sense, a grand display of exotic plants from the gardens of J. B. HOUSTON, Esq., Orangefield (gr., Mr. Gray). Of this collection, Codiaeums (Crotons) formed the larger part, and their leaf-colouring was very fine. Interspersed with these were Palms, Ferns, Ficus, and Dracænas, and an edging of Ivy and moss gave the whole an appropriate artistic finish.

Passing long lines of Roman Hyacinths, Mignonette, bouquets in great numbers, Carnations, and table plants, the onlooker came to the exhibits of Messrs. H. DICKSON, viz., foliage plants, both hardy and exotic, in great variety, flowering plants, Conifers, and hardy shrubs, to which a 1st prize was awarded. Other varied and attractive groups came from the same exhibitor.

The PARKS COMMITTEE sent their quota, consisting of

graed groups of pot Chrysanthemums of somewhat dwarf habit, of good width, with vigorous foliage and fine flowers. Mr. Mahappy, the gardener, holds a leading position as a grower.

CUT BLOOMS.

The Countess of PEMBROKE, Mount Merrion, Dublin, was 1st for thirty-six cut Japanese varieties, a capital lot containing many excellent new and old varieties. T. H. TORRENS, Esq., was 2nd with a capital lot of rather less even character than those which came from Mt. Merrion. J. G. SMALLMAN, Esq., was 1st with twenty-four, his flowers of Vivand Morel, A. Perry, and Niveum, being extra fine ones. Many fine exhibits were noted in the smaller classes. The Countess of PEMBROKE was easily 1st for six white blooms; and J. ROGERS, Esq., for six yellow ones, consisting of finely-grown blooms of Sunflower.

Twenty-four incurved blooms were well represented, Golden Empress, Princess of Wales, and Lord Alcester being the more prominent ones for size and fineness. The six blooms of Japanese and six of Anemone-flowered varieties were of much merit, especially the latter. The names of their owners we were unable to discover. A weak point in these shows is the withholding the names of the cultivators.

FRUIT.

Among the leading exhibitors of fruit were General O'NEIL, Lord DOWNSHIRE, and General PAKENHAM. The trade was well represented by fine collections of Apples and Pears from Messrs. RIVERS & SONS, Sawbridgeworth; Messrs. MCGREY & SON, Portadown; Mr. GEO. DICKSON, Newtownards, and others. Alongside on the tables were about 700 dishes of brilliant-coloured Apples, and many dishes of generally good Pears, and an extra large display of Potatoes. In at least two of the competing collections an exhibitor defeated his chances of success by dusting a white substance over his tubers—and was disqualified.

In the Grape classes, Lord DOWNSHIRE (gr., Mr. Bradshaw) took the lead, and received a special award for a collection of four varieties. Lord O'NEIL's and Mr. JOHNSTON's gardeners were well to the front in the choice fruit classes.

Lord ANNESLEY was a leading exhibitor in the vegetable classes. Enormous Leeks and heads of Celery in great quantities, and good Cauliflowers, were the vegetables which were the finest in quality. The Parsnips and Beet were too large and coarse for ordinary use.

TWICKENHAM CHRYSANTHEMUM.

NOVEMBER 19.—A thorough representative show was held on the above date at Twickenham. Chrysanthemums were the chief feature, but other exhibits were also numerous and good. There were only two competitors for the prizes for groups, but each of these made good display, which combined quality in the plants with effective arrangement.

The best came from Mr. Rickwood, gr. to Lady FRAKE, the blooms in this case being the finer; Mr. G. H. Sage, gr. to Earl DYSART, Ham House, Richmond, was 2nd, and his plants were dwarfer than the others.

For a miscellaneous collection of plants, Mr. H. E. FORDHAM, florist, Twickenham, had much the best arrangement, and consequently won quite easily.

For twenty-four Chrysanthemum blooms, incurved and Japanese in equal numbers, Mr. PORTBURY, Ripon House, Putney, was worthily 1st, with an even exhibit, comprising the best-known varieties; Mr. C. J. Waite, gr. to Hon. W. P. TALBOT, Esher, was 2nd, quality of the incurved varieties costing him several points.

Mr. PORTBURY also had the best twelve incurved blooms in another class, Mr. BRADY being 2nd. The same positions were taken by these exhibitors in the class for twelve Japanese, the contest being a close one.

The class for Pompons was a capital one, Mr. Chas. Garrod, gr. to J. R. TINDALE, Esq., being 1st, and Mr. BRADY 2nd.

Floral decorations made a notable feature, the most successful in this section being Miss C. B. COLE and Miss N. H. COLE, who both displayed excellent taste.

NATIONAL CHRYSANTHEMUM.

NOVEMBER 20.—The Floral Committee met at the Royal Aquarium on the above date, a considerable number of novelties being staged.

First-class Certificates of Merit were awarded to incurved Bonnie Dundee, pale bronzy-yellow, of lovely shape, and highly refined; and to Japanese Anemone Robert Adair, delicate flesh, with drooping petals, attractive in colour; both from Mr. R. OWEN, Maidenhead. To Japanese M. A. D. Chatin, a creamy-white incurved Japanese, a large, full flower of good quality; and Jules Chrétien, a large, broad-petalled incurved Japanese, of good substance; from Mr. E. BRACKETT, Aldenham House, Ektres. To single Kate Williams, bright yellow, large but somewhat loose; and to Japanese Parthenia, a delicate blush reflexed Japanese, small in size as Japanese go now; both from Mr. H. J. JONES, Lewisham. To Japanese Surprise Amiral, a large yellow Japanese of full substance, partly incurved and partly reflexed, with an inclination to roughness; from M. E. CALVAT, Grenoble, France. And to Japanese Mrs. Hermann Kloss, reddish-bronze and gold, also with a tendency to looseness; from Mr. WILLIAM SEWARD, Hanwell.

The following are of a decided promising character: Japanese Luino, bright yellow, very pleasing in tint; Japanese Strava, pale yellow; and Vignolo, of much the same colour, but different in build; from Mr. H. B. IRONSIDE, Japanese

Graphic, warm pink, with silvery reverse; from Mr. R. OWEN. Japanese Desdemona, a delicate blush-pink reflexed Japanese, from Mr. H. J. JONES.

NOVEMBER 27.—A good number of novelties were staged on this occasion.

First-class Certificates were awarded to William Slogrove from Mr. W. SLOGROVE, and described in our Royal Horticultural Society's report of the previous day. Japanese Anemone Surprise (R. OWEN), and to Japanese Olive Oclee, both previously described. Japanese Madame J. Bernard, delicate rosy-lilac, with silvery reverse, the petals arranged in a kind of whorl. The committee wished to see it again. Other promising flowers were staged which will, no doubt, be seen again in better condition next season.

YORK CHRYSANTHEMUM.

NOVEMBER 20.—The Ancient Society of York Florists opened their annual exhibition of plants, flowers, fruits, and vegetables in the grand hall of the Fine Art Institution at York.

The exhibition of Chrysanthemums, considering the lateness of the date for such an early season, was very good. One of the principal features of the show was the splendid collections of Apples exhibited by Messrs. BACKHOUSE & SON, York; Messrs. G. BUNYARD & Co., Maidstone; and Mr. JOHN WATKINS, of Withington, Hereford. They were the most magnificent ever seen in the north of England.

CHRYSANTHEMUMS.

The competition for the prizes offered for groups of Chrysanthemums arranged with other foliage plants, was very good, the 1st prize going to Mr. COTTAM, nurseryman, Cottingham, Hull. 2nd, Mr. J. H. KINGSTON, York. The groups were very effectively arranged around the sides of the great hall. Circular groups of Chrysanthemums, cultural merit being the chief point of consideration, were arranged down the centre of the hall, and somewhat detracted from the effect produced by the side groups. A grand effect would have been produced had they been grouped right round the hall. The 1st prize for these was taken by Mrs. GUTCH, of York; 2nd, Mr. W. B. RICHARDSON. Very excellent blooms of the best varieties in cultivation were shown in all these groups.

Open class for specimen plants of Chrysanthemums.—In these, the competition was not great, but some good incurved varieties were shown by Mrs. GUTCH, who was 1st in the class for four plants with Mr. G. Rundle, Mr. Glenny, R. Cannell, and Mrs. Dixon; 2nd, Mr. DICKENSON.

Mr. DICKENSON was 1st for four Japanese; 2nd, Mrs. GUTCH. *Cut blooms.*—The competition in these classes also was not so large as we have seen previously. Many exhibitors who entered, no doubt owing to the warm weather, were unable to appear. The 1st prize, £10, to which is added the Citizens' Challenge prize, value £12, for thirty-six blooms, eighteen incurved and eighteen Japanese, was taken by Sir JAMES WALKER, of Sand Hutton, York, with a grand lot of flowers, especially of the incurved varieties, which included Empress of India, Golden Empress, Baron Hirsch, Hero of Stoke Newington, Princess of Wales, Princess Teck, Mrs. Coleman, J. Agate, Jeanne d'Arc, John Lambert, and other good varieties; among the eighteen Japanese were Mrs. H. Payne, Madame M. Hoste, Vivand Morel, Col. Smith, Miss D. Shea, Sunflower, Stanstead White, E. Molynsux, &c. The 2nd prize went to Mr. A. MILNTHORPE.

The best twelve blooms, incurved, one variety, were from the Earl of FAVERHAM.

Eighteen incurved blooms in twelve varieties were best from C. H. SIMPSON.

Sir JAMES WALKER won for eighteen Japanese blooms. The class for eighteen blooms, open to gardeners and amateurs residing within 5 miles of York, to the 1st prize for which is added the Citizens' Challenge prize. 1st was won by Mr. W. B. RICHARDSON; 2nd, Mrs. GUTCH.

FRUITS.

Pears and Apples were shown in splendid condition. Pitmaston Duchess Pears, and Ribston Pippin Apples, shown by Lord HOTHAM and Sir J. W. PEASE, were prodigious in size, and excellent in colour. Grapes were not quite up to the standard of former years. In the class for six bunches, in three varieties, the 1st prize was taken by Lord HOTHAM, Dalton Hall, Hull (gr., Mr. J. Allop), with moderate-sized, well-finished bunches of Muscat of Alexandria, Alicante, and Mrs. Pearson; 2nd, Mr. R. H. HEYWOOD JONES; two bunches of Black Grapes were also best from Lord HOTHAM; two bunches of White Grapes from Mr. ARTHUR WILSON.

For a collection of fruit in six varieties, Lord HOTHAM was 1st, and Sir W. PEASE 2nd.

The best six dishes of baking Apples were from Lord HOTHAM, and six dishes of dessert varieties also. Lord HOTHAM had the best six Pears.

Sir J. W. PEASE was 1st in the class for nine dishes of Apples, and six dishes of Pears; with Apples—Gascoigne Seedling, Royal Russet, Bismarck, Ribston Pippin, King of the Pippins, Court Pendu Plat, Blenheim Orange, Adams' Pearmain, Manchester Pippin. Pears: Josephine de Malines, Léon Le Clark, Marie Louise, Ne Plus Ultra, Durondeau, Pitmaston Duchess—splendid dishes.

VEGETABLES.

Messrs. SUTTON & SONS, Reading, exhibited a splendid collection of ninety varieties of Potatoes, which were a great attraction.

In the open classes for vegetables, the principal prize-takers were Sir J. W. PEASE, Messrs. SANGSTER & SONS, Mr. T. WAITE, Mr. G. WELBY, Mr. J. SUTTON, Mr. J. WHITEHEAD, Mr. J. G. THRAXTON, and Mr. WRAGG.

SOUTH SHIELDS AND NORTHERN COUNTIES CHRYSANTHEMUM.

NOVEMBER 20, 21.—The above society held its first exhibition in 1882, but after 1886 became defunct until reconstituted again in 1890. The show has every year since improved, and the one held on the 20th and 21st inst. in the Royal Assembly Hall, South Shields, was the best the society has held.

For twenty-four Japanese, eighteen varieties, there were ten competitors.

For twenty-four Japanese, eighteen varieties, Mr. J. T. Wheeler, gr. to Mrs. MITCHELL, Jesmond Tower, Newarth, was 1st, amongst ten competitors; his best flowers were Vivand Morel, Chas. Davis, Mrs. C. H. Payne, Boule d'Or, Mr. G. J. Nofford, Mlle. Thérèse Rey, Eva Kowles, Niveum, Sunflower, Waban, and Duke of York. Mr. G. Shotton, gr. to Mr. H. ANDREWS, Swarland Hall, was 2nd.

For twenty-four incurved blooms, eighteen varieties, Mr. G. SHOTTON was 1st. Mr. Shotton is a new exhibitor, and bids fair, along with Mr. Wheeler, to do honour to Northumberland. Mr. Jas. Coultas, gr. to Alderman HARRINGE, Hollyhurst, Darlington, was 2nd; and Mr. J. BLAIR 3rd. The first were a fine lot, and the judges were most emphatic in their praise.

For eighteen varieties, Japanese, Mr. T. J. WHEELER won, with flowers and bunches equally good as those in the class for twenty-four blooms; Mr. P. BLAIR was 2nd.

Mr. G. SHOTTON was 1st for eighteen incurved blooms; and Mr. JAS. COULTAS was 2nd.

For twelve Japanese, Mr. PETER BLAIR was 1st; and for a like number of incurved, Mr. G. SHOTTON won.

The best six bunches of Pompons were shown by Mr. T. J. WHEELER; and for twelve Anemone-flowered, Mr. G. C. SMITH, Floral Cottage Hall, was 1st. Whilst for twelve reflexed, Mr. G. SHOTTON was the most successful.

BOUQUETS, &c.

Epergnes and bouquets are always an important feature at this exhibition. One centre table, the entire length of the hall, was filled with admirable exhibits of this description. The best bouquet was from Mr. J. SUMMERS, Fawcett, Sunderland; and Messrs. PERKINS & SONS, Coventry, were 2nd. For bridal bouquet, these exhibitors occupied the same position.

The epergnes were tastefully arranged, and contained many choice flowers. Mr. THOS. BATTENBY, Anwell Park, Blaydon-on-Tyne, was 1st for dinner-table.

For bunches of Chrysanthemums and for ladies' sprays, Messrs. PERKINS were 1st; and for button-hole bouquet, Mr. J. McKenzie, gr. to the Rev. R. BURDON, Heddon House, Wylam-on-Tyne, was 1st.

PLANTS.

For a group of miscellaneous plants, not exceeding 10 feet by 8, there were four competitors, Mr. Jno. McIntyre, gr. to Mrs. GURNEY PEASE, Woodside, Darlington, being 1st; the arrangement was of his usual artistic manner. Mr. J. Wood, gr. to Ed. HOPPER, Esq., Riverside, Morpeth, was 2nd.

There were classes in this section for table and miscellaneous plants.

The amateur classes were well contested, and those for Grapes in open classes especially so.

GLASGOW CHRYSANTHEMUM, FRUIT, AND VEGETABLE.

NOVEMBER 21.—This show, the second held in Glasgow, was an improvement on that of last year. The St. Andrew's Hall, in which it was held, was filled throughout with an excellent display of Chrysanthemums, arranged with tables of plants so as to relieve the monotony of a display of merely cut flowers. The towering Palms, foliage plants, Ferns, &c., called forth favourable comments on all sides, and were most creditable to Mr. Dewar (president), Mr. Cunningham and Mr. Wyllie (secretaries), and the other promoters who had spared neither time nor trouble to render the display worthy of the western capital of Scotland.

CUT BLOOMS.

The 1st prize, contributed by the Corporation of Glasgow, was gained by Mr. JAMES DAY, gr. at Galloway House, for thirty-six blooms (Japanese), which were in every respect first-rate, and equal to any seen elsewhere in the north; the 2nd prize went to Mr. JAMES BRIGGS, gr., Cochoa, Duntocher.

Mr. D. NICOL, gr., Kossie, Forgardenny, was 1st in the class of twenty-four Japanese, and well sustaining his reputation as an excellent cultivator. His bloom of Madame Carnot received an Award, as being the finest bloom in the show; and he had several other grand flowers. Mr. H. DUNAGAN, Dunfermline, was a good 2nd. This was a class in which the competition was rather severe. All the other classes of Japanese varieties brought exhibits of high order.

The incurveds were mostly finer in form than of large size, and many fine blooms were noticed in the numerous exhibits. Mr. DAY led well with excellent blooms in the class of eighteen; and Mr. JNO. CLARKE, gr., Selkirk, was 2nd, with finely-formed blooms.

For twelve incurved and twelve Japanese, Mr. NICOL was 1st, with a fine exhibit; and Mr. CLARKE was 2nd. The last exhibitor was 1st among many of the minor classes, for six grand blooms of *E. Molyneux*.

In the classes for amateur exhibitors, many fine blooms were tabled.

There were several tables in competition for effect which were brilliant with plants of dwarf Chrysanthemums and foliage plants. Mr. ARCHIBALD, gr., Bothwell Castle, was 1st, with a somewhat crowded table; Mr. DALE was 2nd.

Table Plants, which divided off the long lines of Chrysanthemum blooms, were said to be the finest display of the kind previously seen in Glasgow. Mr. LANDSEBOROUGH, gr., Beech Wood, was 1st for six plants which could scarcely be surpassed. His *Crotons*, *Chelon* and *Prince of Wales*, were greatly admired.

Specimen Chrysanthemums, in pots, although better than last year, called for no special comment. *Roman Hyacinths* were not equal to the display last year, still there were some fine half-dozen exhibited. Among special awards, Messrs. THYNE, AUSTIN & McASLIN were well to the front with tables loaded with Chrysanthemums. Messrs. CANNELL, Home of Flowars, Swanley, Kent, had fifty or more beautiful bunches of their choicest zonal Pelargoniums, which attracted many admirers. All shades of colour, from the white Sea Gull to Royal Purple, were in capital form.

Messrs. CROSS had grand Pears and Gros Colmar Grapes; Messrs. SMITH & SIMONS had a splendid display of Potatoes—about fifty large dishfuls, and all handsome; Messrs. BUCHANAN, of Forth Vineyard, had an attractive exhibit of Grapes in baskets, large in berry, and beautifully coloured. Their collection of Vine-leaves of brilliant colours was very attractive, and the baskets of Tomato-fruits were finely coloured, and of capital quality.

Huge Palms for competition decorated the orchestra.

Messrs. DOBBIE & Co. had a large table of Chrysanthemums in the lesser hall, loaded with many of their choicest seedlings, some of the forms quite distinct and very beautiful.

Orchids were few. Mr. MITCHELL, gr., Bantockine, was 1st for a plant of *Cattleya labiata*, densely loaded with blooms; Mr. WILSON, gr., Kelvinside, was 2nd, with a plant of *Cypripedium insigne*, of an immense size and plentifully flowered.

FRUIT.

This made a good show. The classes were not numerous, but all were well represented. Mr. LESLIE, gr., Pitoullan, as usual, was in great force; his Grapes were large in bunch and berry, but his Gros Colmans were not equal in colour to what he generally tables; but his 1st prize bunches of Muscats were first-rate. Mr. MURRAY, Parkhall, ran Mr. LESLIE hard in the various classes; Mr. ORMISTON, gr., Johnston, had some finely coloured bunches in the black Grape classes. Mr. MURRAY was 1st for Lady Downes; and his bunches of Trebbiano, for exhibition only, were examples of first-rate culture.

Apples were well represented, and Mr. DAY's collections of dessert and culinary varieties were far ahead of all others. Mr. ANGUS, Dalzell, was 1st in the larger class for Pears, his dishes of Marie Louise and Doyenné du Comice being about the best seen in Scotland. Mr. DAY showed well in this class.

VEGETABLES.

These exhibits were on the whole somewhat coarse for a Glasgow exhibition. Leeks and Celery were in great quantities; Cauliflowers remarkably good—Veitch's Protecting formed the 1st prize exhibit from Mr. STEWART, gr., Knock-derry Castle.

For a collection for ten sorts there was strong competition, and Mr. J. BROWN, gr., Houston House, greatly distanced his competitors with a first-rate exhibit; his Cucumbers, Celery, French Beans, and roots were as fine as could be desired. *M. Temple, Carron*.

NEATH CHRYSANTHEMUM.

THE above Society held its annual show in the Gwyn Hall recently, the display being the best yet made by this Society.

The competition was keen, especially in the cut-bloom section, and some of the best known growers in the Principality were present. Groups were very satisfactory, the 1st prize exhibit in the open class being an excellent one. The amateurs' and cottagers' exhibits have very much improved. Fruit was well represented; whilst with vegetables, Mr. Foster, gr. to Mr. WILLIAMS, Aberpergum, who has been so successful all the season, was invincible. Messrs. CLIBRAN of Manchester had a fine collection of fruit and cut blooms of Chrysanthemums; Mr. LLEWELLYN of Neath also had a fine stand of fruit and plants.

Mr. GWYN (gr., Mr. Bradley), won 1st place for a group in the open class; 2nd, Mr. H. PRICE—both of Neath.

For six specimen plants in pots, Mr. BRADLEY was 1st; and Mr. PRICE was 2nd.

The chief prize in the cut-bloom section was for twenty-four blooms, Japanese and incurved, to be included in equal numbers. There were seven entries, and Mr. Williams, gr. to the Earl of LISBURNE, Crosswood Park, Aberystwith, was 1st, with a grand collection, his chief blooms being Mrs. W. H. Lees, Charles Davis, Viviani Morel, Mille, The dse Rey, and Viscountess Hambleton, among the Japanese, the last-named variety gaining the special prize for best blooms in the show; and Mr. C. B. WHITALL, Mrs. R. King, Golden Empress, Lord Alcester, and Brookleigh Gem, amongst the incurved. Mr. Dumble, gr. to Sir CHARLES PHILIP, Pictou Castle, Haverford West, was a good 2nd; and Mr. Rogers, gr. to Mr. CLIVE, Llanelly, 3rd.

For twelve incurved, Mr. DUMBLE was 1st, and Mr. WILLIAMS 2nd.

The best collection of twelve Japanese came from Mr. Joy, gr. to Mr. BOWRING, The Heath, Cardiff, in a division open only to growers in South Wales and Monmouthshire.

The best collection of twelve varieties, including equal number of incurved and Japanese flowers, Mr. WILLIAMS was 1st; and for twelve incurved blooms, Mr. DUMBLE was the best exhibitor; Mr. JOY winning for twelve Japanese.

AYLESBURY CHRYSANTHEMUM.

NOVEMBER 21.—The seventeenth annual exhibition of this Society was held in the Corn Exchange on the above date, when the average quality of the exhibits compared favourably with that of 1894, the quality being good, and in some instances noteworthy.

Mrs. BARTLETT (gr., Mr. W. Turnham), secured for the third time the Silver Challenge Cup offered for the best group of Chrysanthemum plants, which now becomes the property of the exhibitor.

In the open classes Mrs. BARTLETT was successful in the class for forty-eight cut blooms; and Lady A. DE ROTHSCHILD (gr., Mr. H. Warren), was 2nd in the same class, and the winner of many other prizes. The quality of the blooms in this class was exceedingly satisfactory, and the disparity between the two most successful exhibitors was very small indeed. In Lady A. DE ROTHSCHILD'S stand was an excellent bloom of Robert Owen, selected by the judges as the best in the show.

The open class for thirty-six distinct blooms was won by Mr. H. GURNEY; and Col. LEE (gr., Mr. Lee), 2nd; whilst that for twenty-four blooms distinct, was taken by Mrs. BARTLETT. Lady DE ROTHSCHILD had the best six Anemone blooms.

Among the exhibits in the classes for trained plants, was an excellent specimen of *W. H. Lincoln* with 200 blooms upon it, shown by Mrs. BARTLETT in the specimen class.

NORWICH HORTICULTURAL.

NOVEMBER 21, 22, 23.—An excellent exhibition was held in St. Andrew's Hall, Chrysanthemums forming one of its principal features, and improvement in all sections was noted, except in the incurveds.

Cut blooms were many and good, and the 1st prize for forty-eight distinct Japanese varieties fell to Mr. Allan, gr. to Lord STUFFIELD, Gunton Park, the blooms, comprising the leading varieties, being excellent; Mr. Rogers, gr. to Lord RENDLESHAM, Rendlesham Hall, came in a good 2nd.

The best thirty-six Japanese, of Norfolk growth, came from Mr. OGLE, gr. to the Marchioness of LORNAIAN, Blickling Hall. The best twelve Japanese varieties, open, were those shown by Mr. Messenger, gr. to C. H. BERNERS, Esq., Woolverstone Park, Ipswich. This lot of blooms were grandly developed. Mr. MESSENGER won also for six Japanese with an equally good set.

Mr. J. C. SHIDDICK, gr. to Hon. A. E. FELLOWES, M.P., Honingham Hall, had the best incurved specimens, which were fairly good. Mr. F. KIRK, gr. to R. CROSS, Esq., Worstead, was 1st for six incurved of any one variety, namely, Empress of India; and also for reflexed and Anemone Pompon varieties.

Pompons made a fine display in the twelve varieties class, shown in bunches of six blooms. Mr. J. EASTWOOD, gr. to J. SUTTON, Esq., Telegraph House, Great Yarmouth, was 1st with blooms of leading varieties; Mr. W. TURNER, gr. to Dr. J. WILSON, Great Yarmouth, being a close 2nd.

In the competition for the best twelve Anemone flowered, and in that for six bunches of single-flowered varieties, Mr. EASTWOOD was 1st in both with fine examples.

PLANTS

showed improvement on former years. Mr. O. Wodehouse, gr. to H. TREVOR, Esq., Plantation, Norwich, was the winner in the class for six Japanese, with well-flowered plants of suitable varieties; and Mr. FISHER, gr. to E. MASTERS, Esq., Flixton Park, Beccles, in that for Pompon varieties, with remarkably well-flowered plants of *W. Westlake*, *Cedo Nulli* varieties, &c. Mr. BOLTON, gr. to J. G. SNELLING, Esq., Eaton Hall, was an easy 1st for six plants in reflexed varieties, likewise for six incurved varieties. Mr. NOTCUTT, Broughton Road Nursery, was awarded a First-Class Certificate for Japanese Chrysanthemum *Edith Tabor*, a pure yellow-flowered variety, possessing great merit; and a similar award was made to Mr. NOTCUTT, also for incurved *Major Bonnaion*, orange-coloured.

Messrs. DANIEL BROS. showed Chrysanthemums, fruit, a variety of plants and of vegetables, which added considerably to the attractions of the show.

MANCHESTER ROYAL BOTANIC.

NOVEMBER 22, 23.—The Chrysanthemum Show under the auspices of the above society, was held in the Town Hall. The exhibits generally were of excellent character. The pot plants, although showing evidence of being retarded, were full of well-developed flowers, and cast fine masses of colour along the sides of the spacious hall. The incurved blooms were highly meritorious, the chief prizetakers putting up an unusually well-grown assortment. The Japanese were scarcely so good upon the whole, although in much greater numbers than

we have seen them at previous exhibitions of the society. The cut flowers generally comprising those grown indoors and those grown outdoors, were clean and brilliant. What always adds to the features of the November exhibition, is the grand display of Orchids, comprising *Cattleyas*, *Dendrobiums*, *Cypripediums*, and *Sophrontias* from various exhibitors.

PLANTS.

The finest collection of nine came from T. HARKER, Esq., Bank House, Fallowfield, followed by G. H. GADDUM, Adrea House, Didsbury, and by J. C. CHORLTON, Esq., Didsbury Priory, these gentlemen taking the best positions in the other classes of pot plants. The Pompons were finely grown and abundantly flowered, the best coming from Mr. CHORLTON, Mr. JAMES BROWN, Lengfield, Heaton Moor; and Mr. R. HARDWICK, Woodley's Grange, Ashton-on-Mersey.

CUT BLOOMS.

For forty-six incurved blooms, not fewer than eighteen varieties, and not more than two blooms of one variety, E. BEHRENS, Esq., Bettisfield Park, Whitechurch, was a long way 1st among nine competitors; 2nd, Col. E. LLOYD, Aston Hall Shrewsbury.

For twelve incurved, E. BEHRENS, Esq., and Col. LLOYD respectively gained 1st and 2nd.

For twenty-four varieties, cut blooms, Japanese, Mr. BEHRENS was again 1st; and Mr. J. STANNING, Broadfield Leyland, 2nd.

For thirty-six miscellaneous cut blooms, 1st, J. BROCKLE BANK, Esq.

Amongst the whole, we noted as the best incurved blooms Charles Curtis, a fine showy primrose; J. Agate, a good white; Mrs. Coleman, buff; J. B. Whitnall, dull maroon; Golden Empress of India, a model flower; Princess of Wales, pink; with white centre; Queen of England, bluish; Robert Cannell, bronze; John Lambert, bluish and orange-shaded—very pretty; Mrs. Kearns, one of the best, of a soft pink glow—very compact; Lord Rosebery, purple-lilac; Miss M. Haggas, primrose; Wm. Tunnington, bronze, as compact as a cone; Mrs. Robinson Key, yellow; Baron Hirsch, one of the best of the bronze type; C. B. Whitnall, purple, shaded; Jeanne d'Or, flesh colour; Brockleigh, fine pale lilac.

Among the best Japanese were Mrs. B. Ward, orange and yellow; Viviani Morel, of a pinkish cast; Stanstead White, a really good flower, better than we have seen it this season; Duke of York, crimson, and white at the back of the florets, one of the prettiest; H. L. Sunderbruck, good, clear yellow; Ed. Molyneux, still a prominent bizarre; Mlle. Thérèse Bey, one of the most beautiful, white with yellowish cast; E. L. Jamieson, a good ruby shaded flower; E. G. Schwabe, a fine showy flushed pink, with white back florets; International, showy bluish; Etnie de Lyon, a roseate pink; Miss M. Blenkiren, shaded orange and white; Viscountess Hambleton, shaded lilac, with orange at the back of the florets; Mons. Panboucke, a very fine flower; Silver King, pale crimson, with the back of florets as if silvered; Primrose League, best of its class; E. W. Childs, mauve; Niveam, good, clear white Louise, fine broad petal, and good generally.

ORCHIDS.

The platform was filled with Orchids in great variety from HEATH & SON, Cheltenham, comprising *Cattleya labiata* in great number, but nothing of first-class excellence among them. *Cattleya Mastersii*, a hybrid in which the blood of *Harrisii* is largely intermixed, was good. There were quantities of *Dendrobium Phalaenopsis*, some very good *Ocoidium varicosum*, some rather rare *Cypripediums*, the chief amongst them being an insigne *Sandera* with three flowers, the pale yellow and the white being particularly pleasing, and calling forth general encomiums; the whole were nicely set amongst Palms and other ornamental plants, and made a picturesque display.

Mr. JAMES CYPHER, Cheltenham, had a less numerous but choice lot, in which a new *Cypripedium*, in the way of *Lecanum giganteum*, but with a dorsal sepal broader and clearer than in that superb variety, was prominent; also one of the most striking of the *Odontoglossum Cervantesii*, or, rather, *Humeanum* section, in which the whole of the segments were flushed, and the concentric rings and spots more than usually prominent. There were many good types of *Dendrobium Phalaenopsis*, which is proving itself to be one of the very best novelties that has been introduced for years for its great variety, and its usefulness for indoor decorative purposes.

Mr. G. S. BALL, Bowden, received First-Class Certificates for *Cypripedium insigne Sandera*, with two well-developed large flowers—pity that the dorsal sepal is not altogether free of faint pinkish spots—it is undoubtedly the best of the insigne division; also for *Lycaste*, a natural hybrid, showing the lip and petals of *Skinneri*, with the narrowish bronze sepals of one of the forms of *L. gigantea*. Along with these were several other good *Cypripeds*, and a white *Lycaste Skinneri*.

MISCELLANEOUS.

WM. CLIBRAN & SON, Altrincham, had a very creditable assortment of plants in variety, very effectively grouped together. This collection of cool, hardy herbaceous, as well as of Chrysanthemums of various types, and other flowers, was a showy one.

Mr. JAS. BROOME sent a lot of posies of hardy herbaceous flowers grown in his garden at Llandudno.

H. CANNELL & SONS had a beautiful lot of double and single-flowered Pelargoniums arranged in pyramidal bunches, along with a few select Chrysanthemums.

Messrs. **LOAD**, Ashton-on-Mersey, had a fine lot of cut sprays of various indoor flowers which sell well in groups at this season of the year.

DICKSON & ROBINSON exhibited a fine collection of Cyclamens set out amongst Maidenhair Ferns; and **DICKSON, BROWN & TAYLOR** had a similar assortment.

Mr. **JOHN WATKINS**, nurseryman, Hereford, put up a collection of over fifty dishes of dessert and culinary Apples in first-rate condition.

VARIORUM.

A TROPICAL FROG AT KEW.—Dr. Gunther, writing to *Nature*, says: A short time ago Mr. W. Watson, the assistant curator of Kew Gardens, informed me that he had noticed for several years, in some of the bothouses, specimens of a small frog, which, hiding away during the day among the pots and orchid baskets, enlivened the quiet evenings with their shrill, whistling notes. Suspecting that this frog must be of foreign importation, I asked the director to allow some of the specimens to be caught, and some days ago I had the pleasure of receiving three specimens in excellent condition. The frog is *Hylodes Martinicensis*, a small arboreal species, distributed over, and common in, many West Indian islands (Martinique, Porto Rico, St. Vincent, Dominica, Barbados, &c., and possibly in Trinidad). Mr. Watson recollects that he observed it first some ten years ago, that he lost sight of it for some time, but that it reappeared about four or five years ago. Taking into consideration the few facts with which we are acquainted as to the reproduction of this frog, it seems most probable that several specimens of both sexes were, on more than one occasion, accidentally introduced in Warden cases. However that may be, it is evident that the frogs have freely propagated since their introduction. At present they are most numerous in the propagating houses, in which the temperature ranges between 80 deg. and 100 deg., sinking in winter at times to nearly 60 deg. Accompanying Mr. Watson one evening, I heard from several points the call of the frogs, which somewhat resembled the piping of a nestling bird; and guided by the sound, I had soon the pleasure of seeing one of them clinging to the side of a glass case. There is nothing extraordinary in the accidental importation of individuals of a tropical species of frog into Europe; but it is an interesting experience, that the species should have permanently established itself. This is owing, in the first place, to the favourable conditions under which it found itself placed, and secondly, to the peculiar mode of its propagation. *Hylodes Martinicensis*, and probably the majority of its congeners, does not spawn in water, but deposits from fifteen to thirty ova on leaves in damp places. After a fortnight the young frogs are hatched in a perfect form, having passed through the metamorphosis within the egg, thus escaping the vicissitudes and dangers to which they would have been exposed during the progress of the usual Batrachian metamorphosis. This instance of the acclimatisation in Kew Gardens of the "Coqui" (as the frog is called in Porto Rico) is unique in Batrachian life at present. I trust that the little guest may long flourish where it has found such a congenial home, and where it usefully aids in the destruction of plant-eating insects and wood-lice, of which I found great numbers in the stomach of a specimen. If at a later period a nest with ova were discovered, Mr. Dyer would delight the heart of embryologists, to whom the opportunity of examining fresh ova of this frog would be most welcome.

Obituary.

LORD DE TABLEY.—The deceased peer was generally known as a scholarly and elegant poet. It is not so well known that as the Hon. Leicester Warren he was a critical botanist of great acuteness, as witness his investigations on the genus *Rumex* and many other British plants.

RICHARD GILBERT.—By the death, on Friday, Nov. 22, of Richard Gilbert, at the age of seventy-three, the gardening world is the poorer by an excellent gardener, and a man of sterling worth. The deceased had been gardener to the Marquis of Exeter, and during the last few years tenant of the kitchen garden and appurtenances at Burghley House, Stamford, at which place he died. His connection with Burghley began in 1868, he having been recommended to the post of lead gardener by the Superintendent of the Royal Horticultural Society's Gardens at Chiswick. Mr. Gilbert had the advantage of a varied experience in gardens and gardening, and had many changes of masters, before he settled to his life's-work at the place with which his name was to become intimately connected.

To those who may be interested in the matter, we would refer our readers to his autobiography, which appeared in these pages on August 14, 1875. He was an enthusiast in his profession, doing thoroughly, and with all his heart, whatever he undertook, but his forte was fruit and vegetable culture, and out-of-doors gardening generally. In few places could better



trained and fruited wall-trees, or finer Strawberries, be found. His British Queens were unsurpassed for size and goodness, and although, as was natural in a man capable of having an opinion, about retaining what was best in every sense in the older productions of the garden, he was constantly testing new varieties of fruit and vegetables. We believe there was scarcely a new Strawberry brought out by Messrs. Laxton of Bedford, Mr. Lovell, Mr. Allan of Gunton Park, or other raiser of note, that he did not at once buy and test in the capital soil of Burghley. At one period, some ten years ago, he endeavoured to raise varieties of Savoy, and crosses between Cabbages and Broccolis, which were the one or the other according to the season at which they were cut; but these, although they found favour with gardeners for a time, are, at this date, not generally liked. With his Queen of Broccolis, and Universal Savoy, he was more successful, and these are likely to survive for years to come. His Royal Sovereign Tomato, and Burghley Park Cherry, are meritorious productions, as are Victory of Bath and Gilbert's Green-Flesh Melons. Most of these novelties were raised by him, and of the others he was simply the introducer. One of his greatest feats as an exhibitor, and he exhibited much and frequently at the London and other big shows, was the winning of the Carter

Challenge Cup, for a collection of vegetables, at the Royal Horticultural Society's show on July 7, 1875, his chief opponents being Mr. Arkell and Mr. Pragnell.

GEORGE LAWSON.—The death has occurred, says the *Athenaeum*, at the age of sixty-seven years, of Professor George Lawson, who occupied the Chair of Chemistry and Mineralogy in the University of Halifax, Nova Scotia. He was a native of Dundee, and while engaged as a young man in a city office he devoted his leisure to science pursuits, and in 1848 he left his native town for Edinburgh as assistant to Prof. Balfour. In 1858 he was called to fill the Chair of Natural History at Kingston College, Canada, some years afterwards taking up his late position at Halifax. In 1888 he was elected President of the Royal Society of Canada. It is not too much to say that to Prof. Lawson must be ascribed much of the success attendant on fruit-growing in the Dominion, since he was the first to direct attention to the possibilities of Canada's development in this direction. He was a Fellow of the Royal Physical and Botanical Societies of Edinburgh, and of the Institute of Chemistry of Great Britain, and an honorary member of the Edinburgh Geological and Scottish Arboricultural Societies. He was also a Fellow of the Royal Society of Canada. In the summer of last year he visited Scotland, and in October last he retired from college work, looking forward to well-earned rest. On November 1, however, he was seized with paralysis, and ten days later passed away. He was twice married, and his first wife, Miss Lucy Stapeley, of London, contributed to the *Transactions of the Botanical Society of Canada* a paper on "The Silkworm and other Fibre-yielding Insects, and the growth of their Food Plants in Canada." Prof. Lawson was an old and valued correspondent of this journal, and furnished us regularly with reports on the Apple crops of Nova Scotia.

MRS. BRUCE FINDLAY.—It is with much regret we announce the death of Mrs. Bruce Findlay, wife of the Curator of the Manchester Royal Botanical and Horticultural Society, which occurred at Old Trafford on Wednesday, November 20.

MARKETS.

COVENT GARDEN, November 28.

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

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.			
	s. d. s. d.		s. d. s. d.
Adiantum, per doz.	4 0-12 0	Ferns, various, doz.	5 0-12 0
Aspidistra, per doz.	12 0-30 0	Ficus elastica, each	1 0-7 6
— specimen, each	5 0-15 0	Foliage plants, doz.	12 0-24 0
Chrysanthemum, doz. pots	6 0-12 0	Lilium Harrisii, per dozen pots	18 0-36 0
— (specimens), p. plant	1 6-3 0	Marguerites, p. doz.	6 0-12 0
Cyperus, per dozen	4 0-10 0	Mignonette, p. doz.	4 0-6 0
Dracena, each	1 0-7 6	Palms, various, ea.	2 0-10 0
— various, p. doz.	12 0-24 0	— specimens, ea.	10 6-54 0
Ericas, various, doz.	9 0-24 0	Primula sinensis, per dozen	4 0-6 0
Evergreen Shrubs, in variety, doz.	6 0-24 0	Solanum, per doz.	9 0-12 0
Ferne, small, doz.	1 6-3 0	Spiraeas, per doz.	9 0-12 0

FRUIT.—AVERAGE WHOLESALE PRICES.			
	s. d. s. d.		s. d. s. d.
Apples, Ribstons, per bushel	3 6-6 0	Grapes, Alicante, 1st quality, p. lb.	1 3-1 6
— Blenheim, per bushel	3 0-4 0	— Alicante, 2nd quality, p. lb.	10-1 0
— Kings, per bushel	3 0-4 0	— Muscat, 1st quality, p. lb.	2 6-3 0
— Cox's Orange, per bushel	3 6-6 0	— Muscat, 2nd quality, p. lb.	1 9-2 0
— Cocking vars., per bushel	1 6-3 0	Pears, Duchess, half-sieve	4 0-5 0
— From Nova Scotia, per barrel	11 0-14 0	— Beurré Diel, per half-sieve	4 0-6 0
Cobs, per 100 lb.	30 0 35 0	Pine-apples, St. Michael, each	3 0-6 0
Grapes, Gros Colmar, 1st quality, lb.	1 6-1 9	Quinces, half-sieve	1 0 —
— Gros Colmar, 2nd quality, per lb.	10-1 3	Walnuts, French, Grenoble, per bag	5 0-6

OUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	<i>s. d. s. d.</i>	<i>s. d. s. d.</i>
Aiums, p. 12 blooms	3 0-6 0	
Azalea, 12 sprays...	0 9-1 0	
Bouvardias, per bun.	0 6-1 0	
Carnations, 12 blms.	1 0-3 0	
Chrysanthemums,		
per 12 blooms	1 0-4 0	
per 12 bunches	3 0-6 0	
Eucharis, per dozen	3 0-5 0	
Gardenias, per doz.	3 0-5 0	
Lupageria, per doz.		
blooms ...	0 6-1 6	
Lilac, French, p. bun.	3 0-5 0	
Lilium Harrisi, do.	4 0-8 0	
— lancifolium, per		
dozen blooms ...	1 6-3 0	
Lily of the Valley,		
per doz. sprays ...	1 0-2 0	
Maidenhair Fern,		
per 12 bunches ...	4 0-6 0	
Marguerites, 12 bn.	1 0-3 0	
Mignonette 12 bun.	2 0-4 0	

ORCHID-BLOOM in variety

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	<i>s. d. s. d.</i>	<i>s. d. s. d.</i>
Cauliflowers, p. crate	8 0-8 0	
(5 to 8 doz.)		
Mushrooms, per lb.	10-1 0	
Cucumbers, per doz.	2 6-4 6	
Onions, Dutch, per		
cwt. bag ...	3 0-	

POTATOS.

Trade slow; supplies heavy. Snowdrops, 70s. to 90s.; Hebrons, 75s. to 85s.; Bruces, 55s. to 60s.; Black lands, 30s. to 45s. J. B. Thomas.

SEEDS.

LONDON: November 27.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report to-day's market thinly attended. There has not this week been any noteworthy change in the values of either Clover or grass seeds. As yet no general inquiry of any importance has sprung up for seeds, a few large provincial firms have, however, been taking advantage of the low rates current to lay in some supply. Tares are neglected. Peas and Haricots show no alteration. Mustard and Rape seed keep firm. As regards Bird seeds there is no fresh feature.

FRUITS AND VEGETABLES.

BOROUGH: Nov. 23.—Quotations:—Cabbages, 2s. 6d. to 3s. per tally; Savoys, 4s. to 5s. 6d. doz.; Carrots and Turnips, 2s. 6d. to 3s. per dozen bunches; Apples, 4s. to 6s. per bushel; Chestnuts, 6s. to 9s. 6d. per bag; Walnuts, 4s. to 5s. do.

SPITALFIELDS: Nov. 23.—Quotations:—Cauliflowers, beat, 6s. to 9s. per tally; do., seconds, 1s. 6d. to 2s. 6d. do.; bunch Greens, 1s. to 1s. 6d. per dozen; Savoys, 2s. to 3s. per tally; Sprouts, 1s. 3d. to 1s. 6d. per half-sieve; Artichokes, 1s. 6d. do.; Horse-radish, 1s. 1d. to 1s. 2d. per bundle; Carrots, 2s. per dozen bunches; Turnips, 1s. 6d. do.; Celery, 7s. to 9s. per dozen rounds; Onions, 3s. 6d. to 4s. per bag; Carrots, 1s. 3d. do.; Turnips, 1s. 3d. to 1s. 6d. do.; Apples, cooking, 3s. to 4s. per bushel; dessert, do., 4s. 6d. to 5s. 6d. do.

STRATFORD, Nov. 23.—There has been an abundant supply and a fair trade done at the undermentioned prices:—Cabbages, 2s. to 4s. per tally; Savoys, 2s. to 4s. do.; Greens, 6d. to 1s. per bag; do., 1s. to 1s. 6d. per dozen; Cauliflowers, 6d. to 1s. 6d. per dozen; do., 2s. to 7s. per tally; Scotch Kale, 6d. to 8d. per bushel; Turnips, 1s. to 1s. 6d. per dozen bunches; do., 20s. to 40s. per ton; Carrots, household, 25s. to 32s. do.; do., cattle-feeding, 17s. to 26s. do.; Mangels, 12s. to 15s. do.; Swedes, 15s. to 18s. do.; Onions, English, 8s. to 9s. do.; do., Ghent, 2s. 6d. to 2s. 9d. per bag; do., Ports, 4s. to 5s. 6d. per case; Apples, English, cookers, 2s. 6d. to 3s. 9d. per bushel; do., dessert, 2s. 6d. to 5s. do.; do., Nova Scotia, 13s. to 16s. per barrel; Pears, English, 2s. 6d. to 5s. per bushel; Beet-root, 6d. to 8d. per dozen; Celery, 6d. to 10d. per bundle; Horse-radish, 1s. to 1s. 3d. do.; Parsley, 1s. to 1s. 6d. per dozen bundles; Brussels Sprouts, 1s. 3d. to 1s. 6d. per half-sieve.

FARRINGTON: Nov. 23.—Quotations:—Cabbages, 2s. 6d. per tally (Collards); Cauliflowers, 1s. 6d. per dozen; Turnip-tops, 1s. 8d. per bushel; Leeke, 1s. 6d. per dozen; Sprouts, 1s. 6d. per half-sieve; Onions (English), 4s. 6d. per bag; Beetroots, 1s. 6d. per bushel; Turnips, 2s. per dozen bunches; Carrots, 2s. do.; Parsnips, 1s. per score; Celery, 13s. per dozen rounds; Apples, (Blenheims), 4s. 6d. per bushel; Wellingtons, 4s. 8d. do.; Canadian Ribstons, 15s. per barrel; Baldwins, 15s. 6d. do.; Newtown, 12s. to 16s. do.; Tonkin King, 15s. do.; English Grapes, 1s. 2d. per lb.; Tomatos, English, 3s. 6d. per 12 lb.

POTATOS.

BOROUGH: November 26.—Quotations ranged between 40s. and 80s. per ton.

SPITALFIELDS: November 26.—Quotations:—Main Crop Kidney, 50s. to 65s.; Reading Giants, 40s. to 60s.; Bruces, 40s. to 55s.; Imperators, 50s. to 60s.; Hebrons, 60s. to 80s.; Sutton's Abundance, 50s. to 70s. per ton.

STRATFORD, November 26.—Quotations:—Bruces, dark soil, 35s. to 40s.; do., light, 40s. to 60s.; Reading Giants, 40s. to 55s.; Sutton's Abundance, 50s. to 70s. per ton.

FARRINGTON: November 23.—Quotations: Main Crop Kidney, 80s. to 90s.; Jeannie Daus, 70s. to 80s.; White Hebrons, 70s. to 80s.; Bruces, 60s. to 65s.; Magoums, 45s. to 55s.; Sutton's Abundance, 65s. to 75s. per ton.

LONDON AVERAGES: Nov. 27.—Danbars, 90s. to 100r.; Snowdrops, 60s. to 90s.; Hebrons, 60s. to 90s.; Sutton's Abundance, 80s. to 65s.; Puritans, 55s. to 69s.; Regents, 60s. to 70s.; Imperators, 40s. to 50s.; Magoums, 35s. to 45s. per ton.

HAY.

Averages.—The following are the averages of the prices at the metropolitan markets during the past week:—Clover, prime, 80s. to 100s.; do., inferior, 50s. to 70s.; hay, best, 60s. to 90s.; do., inferior, 36s. to 60s.; mixture, 70s. to 87s. 6d.; and straw, 30s. to 41s. per load.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending November 23, and for the corresponding period in the previous year:—1895: Wheat, 25s. 7d.; Barley, 25s. 1d.; Oats, 14s. 4d. 1894: Wheat, 19s. 11d.; Barley, 22s. 4d.; Oats, 14s. 3d.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.				RAINFALL.		BRIGHT SUN.		
	Above (+) or below (-) the Mean for the week ending November 23.	ACCUMULATED.			No. of Rainy Days since Jan. 1, 1895.	Total Fall since Jan. 1, 1895.	Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1895.	
		Above 42° for the Week.	Below 42° for the Week.	Above 42° difference from Mean since January 1, 1895.					Below 42° difference from Mean since January 1, 1895.
0	20	12	+ 291	+ 301	5	213	43.8	9	28
1	13	22	+ 16	+ 465	0	174	28.1	24	36
2	24	9	+ 247	+ 297	1	170	25.9	21	35
3	31	11	+ 193	+ 285	1	147	23.3	28	41
4	30	15	+ 211	+ 376	2	143	22.1	26	37
5	37	3	+ 156	+ 338	4	139	22.1	19	41
6	23	7	+ 140	+ 397	4	177	33.7	23	38
7	23	3	+ 235	+ 316	3	162	29.2	23	36
8	44	0	+ 176	+ 369	5	151	31.5	32	43
9	28	6	+ 67	+ 293	1	192	31.8	33	32
10	36	0	- 12	+ 221	3	166	33.2	24	35
* 4	69	0	+ 283	+ 251	4	169	27.0	29	51

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

- 0, Scotland, N. Principal Wheat-producing Districts—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S. * Channel Islands.

THE PAST WEEK.

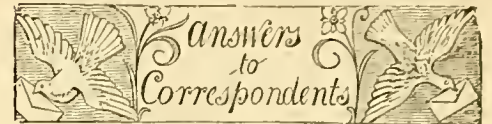
THE following summary record of the weather throughout the British Islands for the week ending November 23, is furnished from the Meteorological Office:—

"The weather varied considerably in different parts of the kingdom. Rain was of frequent occurrence excepting in the south-east, but the amounts were less heavy than those of the weeks immediately preceding. The air was very humid generally, and fog or mist were experienced at times. The temperature again exceeded the mean, the excess ranging from 4° in 'England, S.W. and the Channel Islands,

to 2° in most of the western and northern districts. The highest of the maxima were recorded on the 17th at most of the English stations, but later in the week in Ireland and Scotland. They ranged from 59° in the 'Channel Islands,' and 57° in the south-west and south of our islands, to 54° in 'Scotland, W.' and 'Ireland, N.' The lowest of the minima were registered on the 18th, and varied from 23° in the 'Midland Counties,' to 36° in 'Scotland, N. and W.,' and 'England, N.E. and N.W.,' and to 33° in the 'Channel Islands.'

"The rainfall slightly exceeded the mean in Ireland, and just equalled it in 'England, E.;' in all other districts there was a deficit.

"The bright sunshine was in excess of the mean for the time of year in most parts of the kingdom. The percentage of the possible duration ranged from 33 in 'Ireland, N.,' to 10 in 'England, S.,' and to 9 in 'Scotland, N.'



CHRYSANTHEMUM SPORT: J. W. V., Barnet. The bloom you send appears to be a sport from the variety you name, but the colour, though distinct from the type, is not very attractive. It may be well, however, to grow it as strongly as possible next season, and exhibit blooms before the National Chrysanthemum Society, when its true worth could be more certainly determined.

DENDROBIUM: F. W. M., Dendrobium Linawianum thrives in most collections as well as D. nobile when grown in the same manner. But in places where the proper resting season in a cool and dry house is not strictly observed the plants of D. Linawianum resent the neglect more than those of D. nobile. We recommend you to keep your specimens in a cool, dry, but light situation until they start into growth again and then gradually to take them into the warmest and most humid house you have until the growths are fully completed. We have no evidence of its situation in its native habitat.

"GARDEN ANNUAL" and "HORTICULTURAL DIRECTORY": W. E. L. You should apply to the editors of those periodicals. How can we tell?

INCANDESCENT GASLIGHT IN A CONSERVATORY: A. E. K. The fumes from gas, unless completely consumed, are very injurious to plant life, in proportion to the amount of sulphur left in the gas. It is rarely that the gas is quite free from this deleterious substance.

LILIUM LONGIFLOSUM VAR. HARRISH: L. L. B. The blooms are obtained at this season from long-delayed bulbs, which may not have been potted till June or later, but grown under natural cool treatment—except, perhaps, just before flowering, when they are placed in mild heat, so as to obtain well-expanded blossoms. These bulbs are selected from importations arriving late in the season, which are suitably retarded.

IVY: G. G. The grafting of the variegated forms on stocks of any strong green variety can be best undertaken when growth commences naturally; or, if you would hasten the operation, it may be done in a close moist pit or house having a maximum temperature of 65° and minimum of 55°, choosing the latter part of February or beginning of March. It would be better if the stocks were one-year rooted in pots.

MARKET STRAWBERRIES: A. K. H. We give you the names of varieties of moderate price when purchased as young plants, viz., Noble (Laxton's), Vicomtesse Héricart du Thury, Sir Chas. Napier, and Elton Pine. Your method of cultivation is very suitable, but we should be inclined to plant some of the early varieties in the warmer place, and the later in the colder site.

MUSHROOM SPAWN: A. B. C. We should imagine that he would be liable to an action for damages if he knowingly sold "spawn" that had lost its vitality, or which was incapable of producing Mushrooms.

MUSHROOMS: F. B. The withered brown appearance of the young Mushrooms points to spawnbricks having been employed in which the mycelium "spawn" had "run," and consequently become useless; or to too great warmth in the beds.

NAMES OF FRUITS: *H. Smith, Greenhaugh.* Your Apple is Egg or White Paradise.—*C. Kemp.* Apple, Emperor Alexander.—*C. W. C.* Apple, Golden Noble; Pear, Josephine de Malines.—*C. Liddiard.* Your Apples are unknown to us.—*G. D. 1.* Beurré Superfin; 2, Marie Louise; 3, Duchesse d'Angoulême. Apples, 1, Brymer; 2, Northern Spy; 3, not known.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to consult the next number.*—*W. G. Ventnor.* The Chrysanthemum bloom you send is true Val d'Andorre, but light in colour owing to an early had having been selected, and to the unusual warmth during September. Such matter as these should be addressed to the Editor.—*D. L., Contich.* 1, *Ocimum prætextum*; 2, *Ocimum tigrinum*; 3 and 4 *Ocimum annuiculatum*; 100, a *Phyllocactus*, possibly the seedling known as *sarantiacus*.—*J. H. Cheilanthes hirta.*—*W. M. M., Ross.* 1, *Liparis longipes*; 2, *Cymbidium giganteum*; 3, *Bulbophyllum inodora*.—*J. B. Maxillaria picta.*—*D. J. 1.* *Filiponia Pearcei*; 2, *Gymnogramma ochracea*; 3, *Selaginella viticnlosa*; 4, *Bambusa gracilis*; 5, *Dracæna fragrans*; 6, *Dracæna rubra*.

ODONTOGLOSSUM HABRYANUM: *F. H. M.* The variety is distinct in having the sepals almost wholly of a dark chocolate colour. The original, like your plant, comes darker in some years than others. Many thanks for promise to send a photograph.

RASPBERRY PLANTING: *F. J. F.* If the canes are to be planted at wide distances and then bent over and secured to a stake 3 feet high placed midway between the stools, the stools or clumps should not be less than 6 feet apart if it be land on which the Raspberry grows vigorously, and 5 feet in other cases. If the Raspberries are to be secured to an espalier fence, then, plant at 1½ feet apart. Do not put more than one plant in a hole.

SITUATION ON A TEA OR SUGAR PLANTATION: *W. B.* Advertise in some of the colonial papers, or in the *Tropical Agriculturist* and similar trade papers.

WOODLICE AND MUSHROOMS: *H. E.* Clear away the hay now covering the beds, and pour boiling-water into the crevice, which are sure to be found between the bed and the walls—repeat this twice a day; remove all material, stones, bricks, tiles, litter, &c., which could form hiding-places for the insects, and dash boiling-water into all accessible and likely hiding-places. Cover the beds with bast mats, or clean straw; or leave them uncovered. Mushroom-beds do not need covering, unless the soil be very light, or much fire-heat is used.

COMMUNICATIONS RECEIVED.—*J. H.—L. C.—E. A., Paris.*—*E. P., Ghent.*—*C. T. W.—H. J. W. B.—W. W.—J. W.—O. N.—W. Fell & Co.—R. C. W.—R. D.—W. S. H.—J. C. W. & Son.—J. B., Shifnal.—J. O., Fota Island.*—*A. J. B.—S. Abbey* (thanks for donation to Gardeners' Orphan Fund).—*J. Rogers.—C. W. S.—A. G. F.—Wm. T.—J. K. & Sons.—A. E. P.—J. Clayton.—W. R. H.—T. L.—J. H.—E. C.—A. E. N. G.—G. S.—W. Swan.—F. E. T.—J. J. W.—Messrs. Pope & Sons.*

PHOTOGRAPHS, SPECIMENS, & C., RECEIVED WITH THANKS.—*J. H.—A. H.—Fota.—H. O.—W. N.*

DIED—On November 20, 1895, Mr. JAMES WALTERS, of the Mount Radford Nurseries, Exeter.

— On the 25th inst., at Alpbington, Exeter, MARY, widow of the Hon. and Rev. JOHN TOWNSEND BOYCE, aged seventy-two.

— On the 26th inst., at his residence, 22, Courtfield Gardens, S.W., HENRY SEEBOHM (also of Horton Grange, Maidenhead).

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,

increased to the extent of more than 80 per cent., and that it continues to increase weekly.

Advertisers are reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN, AND ALL CLASSES OF GARDENERS AND GARDEN-LOVERS at home, that it has a specially large FOREIGN AND COLONIAL CIRCULATION, and that it is preserved for reference in all the principal Libraries.

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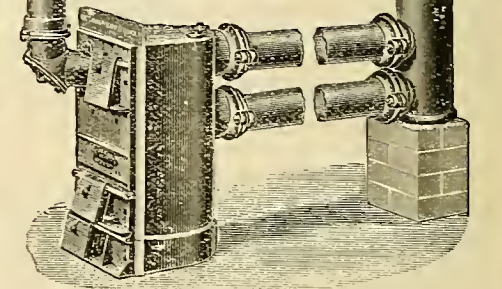
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BRIGHT, the late H. A. (“Notes from a Lancashire Garden”).
CLARKE, Col. Trevor.
ELLACOMBE, Rev. Canon.
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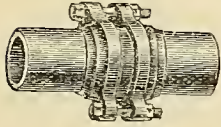
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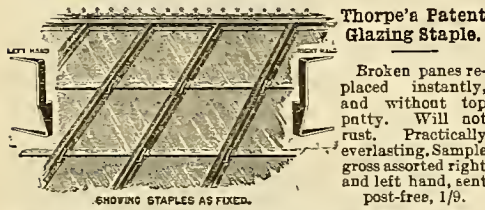
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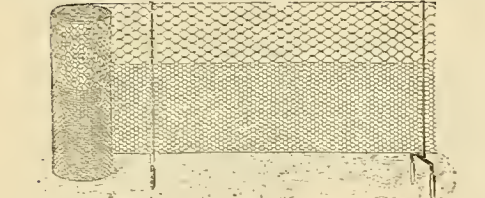
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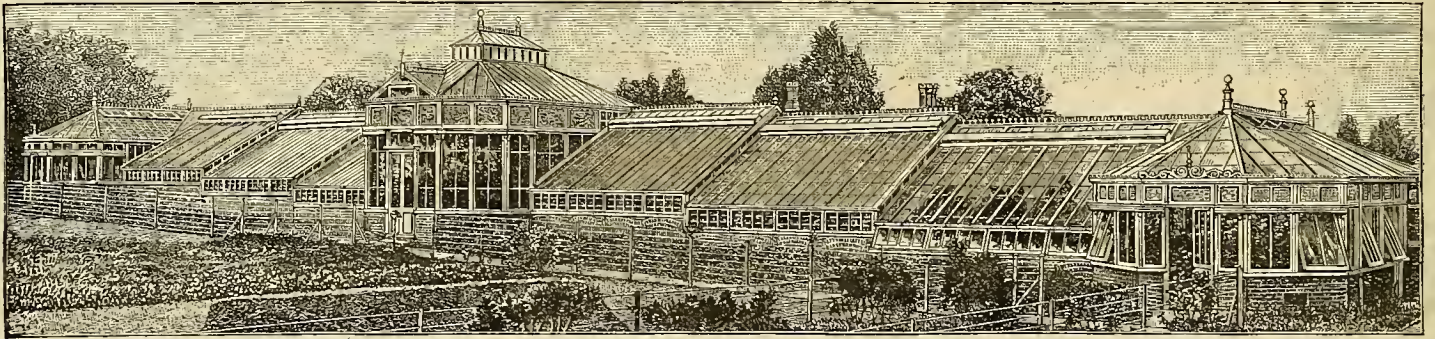
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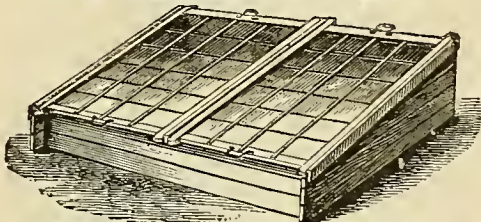


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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

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SALES BY AUCTION.

Monday, Tuesday, Wednesday, Thursday, and SATURDAY NEXT. GREAT FIVE DAYS' CLEARANCE SALE OF DUTCH BULBS.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on MONDAY, TUESDAY, WEDNESDAY, THURSDAY, and SATURDAY NEXT, December 9, 10, 11, 12, and 14, at half-past 12 o'clock each day, an enormous importation of BULBS from Holland, in the finest condition.

On view mornings of Sale, and Catalogues had.

WEDNESDAY NEXT.

700 Well-grown Plants, just received from Ghent, in excellent order, comprising AZALEA INDICA and A. MOLLIS in fine variety, well set with flower-buds; LATANIA BORBONICA, PHENIX, CORYPHAS, &c.; FICUS ELASTICA, a variety of DRACENAS, and other plants.

A Choice Collection of Border Plants, including many novelties in CARNATIONS, HOLLYHOCKS, IRIS, &c.

A Collection of rare Hardy Bulbs and Roots. Pyramid and Dwarf-trained Fruit Trees, including APPLES, PEARS, PEACHES, CHERRIES, NECTARINES, PLUMS, &c.

A small Surplus Stock of Ornamental Shrubs from an English Nursery.

15,000 best Berlin Lily of the Valley Crowns, 5000 SPIRÆA JAPONICA, 5000 DIELYTRA SPECTABILIS, 3000 HEMEROCALLIS AURANTIACA MAJOR from Japan.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, December 11, at half-past 12 o'clock precisely.

On view morning of Sale, and Catalogues had.

Thursday Next.

VALUABLE IMPORTED and ESTABLISHED ORCHIDS.

MR. J. C. STEVENS has received instructions from Messrs. Lewis & Co., of Southgate, to SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, December 12, at half-past 12 o'clock precisely, a grand importation of LELIA AUTUMNALIS ALBA, in splendid health and condition; ONCIDIUM TIGRINUM, SOPHRONITES, &c. Also a fine lot of ESTABLISHED ORCHIDS, comprising Cattleya Eldorado, Trichopilia suavis, Miltonia Morelliana, Lycastes in variety, Dendrobium, &c. ORCHIDS IN FLOWER, &c.

On view morning of Sale, and Catalogues had.

Monday Next.

400 Lots of DUTCH BULBS, AZALEAS, PALMS, CAMELIAS, RHODODENDRONS, &c., from Belgium; CALOCHORTI, Choice PERENNIALS, LILLIUMS, Rare BULBS from Palestine, CARNATIONS, DWARF ROSES, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, December 9, at 12 o'clock.

On view morning of Sale, and Catalogues had.

Friday, December 13, at half-past 12 o'clock.

SANDER'S GREAT CHRISTMAS SALE.

10,000 ORCHIDS, WITHOUT RESERVE.

For Amateurs and the Trade, Lotted to suit all Buyers. 100 HYBRID ORCHIDS.—Parentages guaranteed. Splendid crosses, including Cypripediums, Dendrobiums, Phaius, Phallo-Calanthes, Calanthes, Lelias, Cattleyas, and Lælio-Cattleyas; full descriptions given in Catalogues.

CATLEYA WARNERI.—A fine Consignment. Superb varieties are among them.

LELIA TENEBROSA.—Found growing with C. Warneri, and from this circumstance, and the distinct appearance of the plants, the magnificent natural hybrids.

LÆLIO-CATLEYA GOTTOIANA and L.C. ALBANENSE may be looked for. Both the C. Warneri and the L. tenebrosa are most distinct and remarkable looking.

ODONTOGLOSSUM VEXILLARIUM (Sander's radiatum type).—Black-eyed Susan and Memoria C. D. Owen illustrate this superb section.

VANDA CÆRULEA, a fine consignment, probably containing such forms as the huge-flowered varieties of Lord Rothschild, Lord Ardilana, J. Gurney Fowler, Esq., &c.

ODONTOGLOSSUM CEBVANTESII and O. ROSSII MAJUS, both in fine condition, and both splendid cool-house winter-flowering Orchids.

LELIA ALBIDA, a fine importation; plants in grand condition. L. a. sulphurea, L. a. Mariana, L. a. Stobartiana, &c., will be found among them.

A LELIA SPECIES, distinct-looking plants, imported with L. Wendlandiana, but possibly an Epidendrum, or perhaps a generic hybrid.

MILTONIA WARSCWICZII, a grand species, also known as Oncidium fuscatum.

CATLEYA LABIATA, unflowered plants of Swainson's genuine old type. Dendrobium densiflorum, D. nobile (from Annon), Cypripedium bellatulum, O. Rothschildianum, Cattleya citræa, &c.

TO BE SOLD BY AUCTION BY

MESSRS. PROTHEROE AND MORRIS at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, December 13, at Half-past Twelve o'clock, by order of MESSRS. F. SANDER & CO.

On view Morning of Sale, and Catalogues had.

Thursday Next.

GREAT SALE OF JAPANESE LILIES,

being an important consignment of 620 Cases, comprising:—

- 18,428 LILIUM AURATUM.
4,152 " SPECIOSUM ALBUM.
1,920 " RUBRUM.
6,200 " LONGIFLORUM.
5,450 " KRAMEBI, extraordinary bulbs.
300 " TIGRINUM SPLENDENS.
572 " BROWNII.
915 " MELPOMENE.
100 " AURATUM VIRGINALE.
200 " RUBRO-VITTATUM.
300 " ALBO-MARGINATUM.
140 " LEITCHLINII.
500 " THUNBERGIANUM ATRO-SANGUINEUM.
and 180 " TESTACEUM;

ALSO

- 98,000 SEEDS OF KENTIA BELMOREANA, in exceptionally grand condition.
344,000 " CORYPHEA AUSTRALIS.
20,000 " PHENIX RECLINATA.
28,000 " PTYCHOSPHERMA ALEXANDRÆ.
22,000 " SEAFORTHIA ELEGANS.

2000 LILIUM HARRISII.

30) AZALEA INDICA and MOLLIS; 50 RHODODENDRONS; 20 BASKETS CHINESE SACRED LILIES; 200 extra fine masses CYPRIPEDIUM SPECTABILE; 400 Imported Bulbs VALLOTA PURPUREA; 170 fine clean STANDARD ROSES, and 200 DWARF ROSES; 50 HELLEBORUS NIGER; HERBACEOUS PLANTS; HARDY BORDER PLANTS; English-grown LILIES; BEGONIAS; 100 Lots of DUTCH BULBS; Rare AMERICAN BULBS and PLANTS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY NEXT, December 12, at 12 o'clock precisely.

On view morning of Sale, and Catalogues had.

Chesterfield.

SALE of the LEASE of the NURSERY and GLASS ERECTIONS, in one lot as a going concern, and the STOCK IN TRADE by AUCTION in lots.

MESSRS. PROTHEROE AND MORRIS, in conjunction with Messrs. BYRON and RAMSLEY, are instructed by the Chesterfield Nurseries Company, Limited, to SELL by AUCTION, on the Premises, The Westfield Nurseries, Ashgate Road, Chesterfield, on WEDNESDAY and THURSDAY, December 13 and 14, at 11 o'clock precisely each day, the INTEREST IN THE PROPERTY known as THE WESTFIELD NURSERIES, comprising 1 1/2 Acres of Land, 18 Greenhouses, Heating Apparatus, 12 Brick Pits with Lights, Stabling, &c. Immediately following will be offered in suitable lots the extensive Stock in Trade, consisting of 5000 Ferns, in variety; 10,000 Geraniums, 500 Asparagus plumosus and tenuissimus, 300 choice Cinerarias, 5000 Tuberosus Begonias, 200 Azaleas and Camellias, 600 Cannas, several thousands of Herbaceous Plants, a special feature at these Nurseries, and including a fine collection of Peonies; 4000 Carnations, best varieties; Dahlias, &c.; a large quantity of Forest Trees, Conifers, 30,000 Fruit Trees, Apples, Pears, Plums, Cherries, and Raspberries, several hundreds of Dwarf Roses, Myrobella Plums, and other Stock.

May be viewed three days prior to the Sale. Catalogues may be had on the Premises; of Messrs. BYRON and RAMSLEY, 5, Low Pavement, Chesterfield; of Messrs. SEPTIMUS SHORT and CO., 19, Saltergate, Chesterfield; or of the principal Hotels in the neighbourhood; and of Messrs. PROTHEROE and MORRIS, 67 and 68, Cheapside, London, E.C.

N.B.—By a clerical error the address of the Property in last week's advertisement was stated to be the Ashgate Nurseries instead of the Westfield Nurseries.

GREAT CLEARANCE SALE

OF

122,000 FRUIT TREES & BUSHES

IS FIXED FOR WEDNESDAY, DEC. 13.

By order of Mr. W. H. HORNE, Cliffe, near Rochester.

Further Particulars Next Week.

MESSRS. PROTHEROE AND MORRIS, 67, CHEAPSIDE, E.C., are the Auctioneers.

Tooting, S.W.—Brightwell Nursery.

(At the rear of Mitre Hotel).

TO NURSEYMEN, FLORISTS AND OTHERS.

MR. JAMES E. FISHER is instructed by Messrs. Wiles & Co., who are retiring from this business, to SELL by AUCTION on their premises, Brightwell Nursery, Tooting, on WEDNESDAY, December 11, 1895, at 12 for 1 o'clock punctually, the whole of their STOCK, consisting of a large quantity of fine Arum Lilies in Pots, 100 Variegated Aspidistras in Pots, 12 dozen Pots of Minettia bicolor, 5000 Geraniums, choice varieties; a quantity of Fuchsias, India-rubber Plants, Ferns and Herbaceous Plants, &c., 1000 Narcissus in Boxes, large Kentia Palm, Stephanotis and other Choice Plants. Handsome Iron-Grays Cob, 14-3, five years old, and warranted sound, two Sets of good sound Harness, a 4-wheel Van, Quantity of Pots, Tools, Staging, Hoses, Cans and Utensils in Trade.

Can be viewed at any time prior to Sale. Catalogues on the Premises and of the Auctioneer, 1, Defoe Road, Tooting, S.W.

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

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

EXHIBITION.

KINGSTON and SURBITON CHRYSANTHEMUM SOCIETY.

The NEXT EXHIBITION will be held at the DRILL HALL, KINGSTON, on TUESDAY and WEDNESDAY, November 10 and 11, 1895.

WANTED, to RENT or PURCHASE, a NURSERY, with Glass; London or Provinces.—Particulars to F., 41, Wellington Street, Strand, W.C.

NURSERY GROUND with GREENHOUSES

&c., TO BE LET at £20 per annum; or 14 1/2 years' lease at £11 ground rent, for SALE, price £50. Apply on the premises, late Hillier's Nursery, Reservoir Road, Enfield Road, Southgate, N.; or Mr. DAVIS, 63, St. Martin's Lane, Charing Cross, S.W.

TO LET.—TO GARDENERS.—A six-roomed COTTAGE, and 12 GLASSHOUSES; about 600 feet run, suitable for Cucumbers and Tomatos.—Apply, K., 52, St. James' Place, Plumstead, S.E.

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

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free. P. McARTHUR, The London Nursery, 4, Maida Vale, London, W.

SEED POTATOS.—For Sale, Myatt's Prolific (True). 80s. per ton. G. F. YOUNG, Swinhead Abbey, Near Boston.

CROTONS.—Beautifully-coloured plants in variety, specially grown and hardened off for House Decoration, in 48-pots, 18s. and 24s. per dozen.—WILLIAM WHITELEY, The Nurseries, Hillingdon Heath, Uxbridge.

TREE CARNATION.—Duke of York, the largest and best Winter-flowering Crimson, very free and persistent bloomer, robust habit. Well-rooted stuff, fit for 3-inch pots, 6s. doz., 40s. per 100. Cash. CRANE and CLARK, The Nurseries, March, Cambs.

CHRYSANTHEMUM CUTTINGS for Market.—Mrs. Hawkins (best early bright yellow), Madame Desgranges, Lady Fitzwigram, W. H. Lincoln, Vivand Morel, Thérèse Rey, &c. Prices on application to—MEW, Florist, Earlswood.

TO THE TRADE.—ARALIA SIEBOLDII, strong plants, ready for immediate sale, in 5-inch pots, 4s. per doz., 30s. per 100; or exchange for new Zonalis or Fuchsias.—OLLINGTON, Florist, Bury St. Edmund's.

CHRYSANTHEMUMS. Best Exhibition Sorts. Strong cuttings, now ready, from 2s. per dozen, 12s. per 100. Catalogue, one stamp, of—W. ETHERINGTON, Swanscombe, Kent.

HOTHOUSE PINES.—Sixty-five strong plants, Queen variety, will be given to anyone paying Advertisement and cost of Packing. Closing house.—Apply, GARDENER, Nunnysirk, Morpeth.

CANON HALL MUSCAT, and other VINES, Fruiting and Planting Canes. CORDON APPLES and PEARS.—Well-spurred trees, 5 to 6 feet, with fibrous roots. PEACHES and NECTARINES.—Standard and Dwarf-trained fruiting trees. ELTON CHERRIES.—Clean, straight Standards. WILL TAYLER, Osborn Nursery, Hampton, Middlesex.

MILLER'S HYACINTH BULBS are of the finest quality, and produce the largest and best flowers. Grand Exhibition Hyacinths, the pick of Holland, 5s. 6d. per doz.; Named Choice Hyacinths, for pots or glasses, all large, first-class bulbs, 3s. 6d. per doz.; Hyacinths for pots or beds, in separate colours, splendid-flowering bulbs, 2s. 3d. per doz., 15s. 6d. per 100; Mixed Hyacinths, all beautiful colours, really good bulbs, 1s. 8d. per doz., 11s. 6d. per 100. Orders 10s. and upwards carriage paid. F. MILLER & CO., 297, Fulham Road, London, S.W.

Herbaceous Calceolarias.—James' Superb Strain. JOHN FRASER, The Nurseries, South Woodford, Essex, has a beautiful lot of the above to offer. The plants are strong and healthy; they are in 60's, ready for potting into 4 1/2's or 3 1/2's. Price 20s. per 100, packing included. Usual trade allowance.

OWEN'S ROYAL CHRYSANTHEMUMS.

—The best, cheapest, and most complete collection in the kingdom. All the latest and best varieties. Awarded 25 Medals and 275 First-class Certificates for New Varieties. Every variety of merit supplied. Catalogue, Penny Stamp.

R. OWEN, F.R.H.S., Floral Nursery, Maidenhead.

To Nurserymen, Builders, Local Boards, Vestries, AND OTHERS WHO INTEND PLANTING TREES and SHRUBS THIS SEASON.

ROBERT NEAL, The Nurseries, Trinity Road, Wandsworth, S.W., begs to offer an extensive stock of FOREST and ORNAMENTAL TREES, SHRUBS, ROSES, GRAPE VINES, FRUIT TREES, CLIMBING PLANTS, &c., which being grown in the neighbourhood of London are especially suitable for Town Planting. Also a large stock of extra fine SEAKALE and RHUBARB, for forcing. CATALOGUES free on application.

RHODODENDRONS.

Well furnished and well budded, with from seven to twenty buds, consisting entirely of the reliable hardy kinds; the MAJORITY BEING ON THEIR OWN ROOTS, they are without doubt the best Rhododendrons in commerce.

HARDY AZALEAS.

All the most beautiful varieties, varying in height from 1½ to 3 feet; the plants are covered with buds.

ANTHONY WATERER,
KNAP HILL NURSERY, WOKING, SURREY.

FERNS A SPECIALITY.

Our Collection is unrivalled. Over 1400 species and varieties of Stove, Greenhouse, Filmy, Hardy Exotic, and British Ferns. For prices of these and for specially cheap collections in beautiful variety, see our Catalogue, free on application.

W. & J. BIRKENHEAD, F.R.H.S.,
FERN NURSERIES, SALE, near MANCHESTER.

ROSA RUGOSA.

THE VERY BEST PLANT FOR GAME COVERT,
At 20s., 25s., 30s. per 100.
Cheaper by the 1000.

WM. WOOD & SON, Nurseries, Maresfield,
Uckfield, Sussex.

MANCHESTER WHOLESALE FLOWER MARKET.

CUT FLOWERS FOR FLORISTS.

GEO. FORBES, the largest Sa'esman of Cut Flowers and Ferns in the North of England, is prepared to SEND CONSIGNMENTS on receipt of letter, telegram, or telephone, with quickest possible despatch. Write for weekly PRICE LIST. All Florist's Requisites kept in Stock.
National Telephone, 1059. Established 1878.

IF YOU WANT

FRUIT TREES

That will bear regularly, purchase Apples worked upon our Paradise Stock.

We have 70,000 to select from, and shall be pleased to show them to visitors.

TRAINED TREES A SPECIALTY.
CATALOGUE FREE UPON APPLICATION.

J. R. PEARSON & SONS,
CHILWELL NURSERIES, NOTTS.

Established 1782.

RESULT

Proves more than volumes of print. My Collection of Chrysanthemums has again succeeded in winning the President's Prize for Group of Plants, and the Gold Medal for Table of Exhibition Blooms, at the National Chrysanthemum Society's Show, November 5, 1895. In addition to many other prizes my collection has now been awarded

6 GOLD MEDALS

in two years—the highest award obtainable in each case. I have much pleasure in announcing that I have secured some Grand Seedlings from our two most noted and successful English raisers, Chas. E. Shea, Esq., and H. Briscoe-Ironside, Esq., which, together with my own Seedlings will form a collection

UNRIVALLED.

My GENERAL GUIDE is now ready, with reduced prices for all last season's novelties, and contains the following Cultural Articles:—How to Grow Japanese for Exhibition; How to Grow Incurved for Exhibition; How to Grow Specimen Plants; How to Grow for Decoration; How to Dress Incurved for Exhibition; and How to Save Seed. A large number of Growers attribute their

SUCCESS

to following the advice given in my Guide, which can be obtained, post-free, for eight stamps.

My LIST of NOVELTIES for 1896 will be ready in December.

H. J. JONES,

RYECROFT NURSERY, LEWISHAM, S.E.

LARGE SPECIMEN HOLLIES.

From 6 to 8 feet, well furnished with shoots to the ground.

JOHN FRASER, The Nurseries, South Woodford, Essex, begs to invite attention to a splendid lot of cheap Specimen Hollies, which are suitable for planting in large towns or elsewhere. The sorts consist of the common Green, and many of the best broad-leaved kinds, such as Scotica, White-berried, Canadian, Hedgehog, Bay-leaved, Nigrescens, and others. These Hollies have been regularly transplanted, and will lift with good balls. As it is necessary to clear the ground, a Special Low Price will be quoted for large quantities. Sizes and Prices may be had on application.

NEW RASPBERRY.
(STEELE'S VICTORIA.)

A New Variety of great merit, introduced by us last year. This was raised by Mr. Steel, of Ealing, and is the finest market variety grown for Covent Garden: free-grower, heavy cropper, large handsome fruit, fruiting very early, and lasting well through the season until very late. The fruit is essentially a Dessert Fruit, being large, handsome, and very superior flavour. Strong Canes, 6s. per 100; 50s. per 1000. Now ready for Delivery. Special Quotations for large quantities on application.

WATKINS & SIMPSON,

Seed Merchants, 13, Exeter Street, Strand, W.C.

GLASS! CHEAP GLASS!

In Stock Sizes.

15-oz. 21-oz. (12x10, 18x12, 18x14, 24x14
7s. 6d. 10s. 0d. 14x12, 20x12, 18x16, 24x16
Per 100 ft. Box. 16x12, 18x14, 20x16, 24x18, &c.
1½ x 3 Prepared Sash Bar at 5s. per 100 feet.
Flooring, 5/9 per square; Matching, 4/9; 2 x 4, at 4d. per foot run. Garden Utensils, Trolleys, Ironmongery, Paints, &c.
Catalogues free.

THE CHEAP WOOD COMPANY,

72, BISHOPSGATE STREET WITHIN, LONDON, E.O.

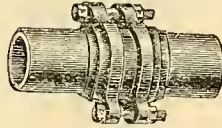
The "DENNIS"
HEATING
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Complete, 50s.

1895-6. NEW CATALOGUE GRATIS. 1895-6.

HOTWATER PIPES, BOILERS,
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LAMP POSTS, &c.



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DENNIS PARK,
STOURBRIDGE.

KIRK'S VINE and PLANT FOOD,

THE COMING MANURE.

The production of A. KIRK, F.R.H.S., the well-known Scottish Grape Grower. Excellent for Chrysanthemums. Hundreds of Testimonials already received.

London: J. D. KIRK. Edinburgh: TILLIE & TURNER,
74, Wigmore Street, W. 12, Melbourne Place.

WINTER DRESSING.

Guaranteed to clear out Mealy Bug.

Cleanse and prepare your Fruit Trees and Plants, both indoors and out, for a healthy start next season, and destroy Scale, Bug, Red Spider, American Blight, and the Larvae of other insects, by using the

XL ALL LIQUID INSECTICIDE WASH
(Patent).

A pure Nicotine Preparation (under a new system), from duty-free Tobacco. Absolutely safe, and no fear of injury to the buds. In use goes twice as far as any other Insecticide.

Per Pint, 2s.; Quart, 3s. 6d.; ½ Gallon, 5s.; 1 Gallon, 10s.

POSITIVE PROOF.

Mr. E. HILL, *The Gardens, Tring Park, Tring*, writes:—"Nov. 15, 1895. I cannot speak too highly in favour of your XL ALL Liquid Insecticide (Wash), as a Winter Dressing for Mealy Bug on Vines and Fig Trees. We gave it a trial last winter with the most satisfactory results, and if applied according to directions, it is perfectly safe in the hands of a novice, and I am justified in saying that for the purpose mentioned it is the best remedy that has yet come under my notice."

To be obtained from all Nurserymen, Seedsmen, Florists, and Sundriesmen; or, direct from—

G. H. RICHARDS, Sole Proprietor, Old Shot Tower Wharf, Commercial Road, Lambeth, London, S.E.

Further Particulars and Testimonials post-free on application.

THOMSON'S VINE AND PLANT MANURE.

The very best for all purposes. The result of many years' experience. Largely used both at home and abroad.

Agent for London:—J. GEORGE, 14, Redgrave Road, Putney, S.W.

Agent for Channel Islands:—J. H. PARSONS, Market Place, Guernsey.

Sole Makers:—WM. THOMSON AND SONS, LTD., Tweed Vineyard, Clovenfords, N.B.

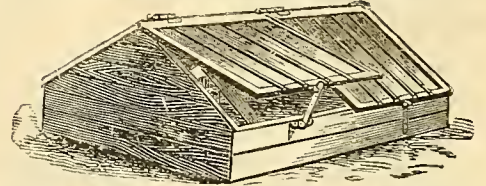
Price Lists and Testimonials on application.

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SOLD BY ALL SEEDSMEN.

ORCHID PEAT.—Dry and prepared, 5s. 3d. per bag, on rail; 15s. per cubic yard, in 12 yard trucks. BROWN FIBROUS PEAT, 3s. 3d. per bag; 10s. per cubic yard. WALKER AND CO., Poole, Dorset.

GREAT REDUCTION IN FRAMES
OUR WELL-KNOWN MAKE.



PORTABLE PLANT FRAMES.

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

Sizes and Prices, Glazed and Painted.	£	s.	d.
6 feet long, 3 feet wide	CASH	2	0
6 feet " 4 feet "		2	5
12 feet " 4 feet "	PRICES,	4	0
6 feet " 5 feet "		2	15
12 feet " 5 feet "	CARRIAGE	4	15
12 feet " 6 feet "		5	12
	PAID.		

Larger sizes at proportionate prices.

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

STOVES!—STOVES!

ROBERTS'S (IMPROVED) PATENT.

Terra-Cotta! Portable! For Coal!

Pure and ample heat, 24 hours for about 1d., without attention.

For Greenhouses, Bedrooms, &c.

Pamphlets, Drawings, and authenticated Testimonials sent See in use at Patentee's,
THOMAS ROBERTS, 34, Victoria St., Westminster.

THE GARDENERS' CHRONICLE

(THE TIMES OF HORTICULTURE)

A Weekly Illustrated Journal

(ESTABLISHED 1841)

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

ALPINE PLANTS:—

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

AMATEUR GARDENING:—

BADGER, E. W.
BOYLE, Hon. Mrs., "E. V. B." ("Days and Hours in a Garden").
BRIGHT, the late H. A. ("Notes from a Lancashire Garden").
CLARKE, Col. Trevor.
ELLACOMBE, Rev. Canon.
EWBANK, Rev. H., Hyde.
FREMANT-MITFORD, A. B.
GUMBELTON, W. E., Belgrove, Cork.
SALTER, J., F.R.S.
THOMSON, W., Teignmouth.
WEIR, Harrison.
WILSON, G., F.R.S., Weybridge.
WILKS, Rev. W., Shirley.

ARBORETUM, &c.:—

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ACLAND, Sir T., Bart.
ACTON, T., Kilmacouragh.
BAKER, W. R., Bayfordbury.
BARRON, W., the late.
COURTOWN, the Earl of.
CROUCHER, G., Ochtertyre, Crief.
DIECK, Dr., Merseburg.
DUCIE, the Earl of.
EGERTON, Sir P., Bart., the late.
ENNSKILLEN, the Earl, the late.
GROSVENOR, Lord R.
HENRY, Mitchell.
LONDESBOROUGH, the Earl of.
MACLEAY, the late Sir G.
MEATH, the Earl of.
NICHOLSON, G., Curator, Royal Gardens, Kew.
POWERS-COURT, Viscount.
RASHLEIGH, J.
SARGENT, Prof., Arnold Arboretum, Cambridge, U.S.A.
SHANNON, the Earl of, the late.
SMITH, T. A., Dorrien, Esq.
STAIR, the Earl of.
TREVELYAN, Sir W., Bart., the late.
VAN VOLXEM, J., the late, Brussels.

CHEMISTRY:—

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DEHERAIN, Prof., Paris.
DYER, Bernard.
GILBERT, Sir J. H., F.R.S., Rothamsted.
LAWES, Sir J. B., Rothamsted.
MITCHELL, W. S.
MÜLLER, Dr. Hugo, F.R.S.
WARRINGTON, E., F.R.S.
WILLIS, J. J., Rothamsted.

DISEASES OF PLANTS:—

ARTHUR, Prof., New York.
BOS, Dr. Bitezma, Wageningen.
COOKE, Dr. M. C.
KLEBAHN, Dr., Bremen.
MAGNUS, Prof., Berlin.
MASSEE, G., Kew.
MURRAY, G., British Museum.
PAGET, Sir James, F.R.S.
PHILIPPS, W.
PLOWRIGHT, Dr. C. B., King's Lynn.
PRILLIEUX, Prof., Paris.
SMITH, W. G.
SORAUER, Prof., Proskan.
WARD, Prof. Marshall.

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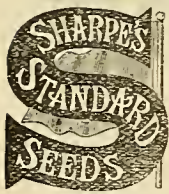
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ANTHONY WATERER respectfully invites from intending planters an inspection of the following well-grown and finely-rooted EVERGREENS:—

- ABIES PUNGENS GLAUCA } COLORADO BLUE SPRUCE, ARGENTEA } 3, 4, 5, and 6 feet.
- These are all SEEDLINGS. The plants usually met with are grafted on the Common Spruce.
- CEDRUS ATLANTICA, 5, 6, 7, 8 to 10 feet.
- GLAUCA, 4, 5, 6, 7, and 8 feet.
- CEDRUS LIBANI, 5, 6, 7, 8 to 10 feet.
- ENGLISH YEW, 4, 5, 6 to 8 feet.
- GOLDEN CHINESE JUNIPER, 4, 5, 6, 7, and 8 feet.
- GOLDEN YEW, Seedlings, perfect pyramids 4, 5, 6, and 7 ft. Standards, 6, 7, and 8 feet.
- PICEA CONCOLOR } VIOLACEA } 4, 5, 6, 7, and 8 feet.
- " LASIOCARPA } 6, 7, and 8 feet.
- " MAGNIFICA }
- PIÑUS AUSTRALIS } 3, 4, 5, 6, and 8 feet.
- " LARICIO }
- THUOPSIS BOREALIS, 5 to 8 feet.
- DOLABRATA, 5 to 10 feet.
- HOLLIES. GREEN, Common, up to 10 and 12 feet.
- " HODGINS }
- " LAURIFOLIA } up to 10 feet.
- " MYRTIFOLIA }
- " GOLDEN QUEEN } 4 to 10 feet.
- " SILVER QUEEN }
- " WATERER'S, and many other variegated kinds, 6 to 10 feet.
- " PERRY'S WEEPING } with straight stems and GOLDEN WEEPING } fine heads.
- YEW, ENGLISH, 4, 5, 6 to 8 feet, and as much in diameter. Knap Hill Nursery, Woking, Surrey.

FRIDAY, DECEMBER 13,

AT HALF-PAST 12 O'CLOCK.

SANDER'S GREAT XMAS. SALE 10,000 ORCHIDS

WITHOUT RESERVE.

For AMATEURS and THE TRADE. Lotted to suit all Buyers.

100 HYBRID ORCHIDS, PARENTAGES GUARANTEED.

Splendid crosses, including

CYPRIPEDIUMS, DENDROBIUMS, PHAIUS, PHAIO-CALANTHE,

CALANTHE, LÆLIAS, CATTLEYAS, And LÆLIO-CATTLEYAS,

Full descriptions given in Catalogues.

CATTLEYA WARNERI,

A fine consignment. Superb varieties are among them.

LÆLIA TENEBROSA,

found growing with C. Warneri, and from this circumstance and the distinct appearance of the plants, the magnificent natural hybrids, *Lælio-Cattleya Gottoiana* and *L.-C. Albanense* may be looked for.

Both the C. Warneri and L. tenebrosa are most varied and remarkable-looking.

ODONTOGLOSSUM VEXILLARIUM,

SANDER'S RADIATUM TYPE.

Black-eyed Susan and *Memoria G. D. Owen* illustrate this splendid section.

VANDA CÆRULEA,

A fine consignment, probably containing such forms as the huge-flowered varieties of Lord Rothschild's, Lord Ardilaun's, J. Gurney Fowler, Esq.'s, &c., &c.

ODONTOGLOSSUM CERVANTESII and ODONTOGLOSSUM ROSSII MAJUS,

Both in fine condition. Both splendid Cool-house, Winter-flowering Orchids.

LÆLIA ALBIDA,

A fine importation. Plants in grand condition. L. a. sulphurea, L. a. Marianæ, L. a. Stobartiana, &c., &c., will be found among them.

A LÆLIA SPECIES?

Distinct-looking plants, imported with L. Wendlandiana, but possibly an Epidendrum, or perhaps a bigeneric hybrid.

MILTONIA WARSCEWICZII.

A grand species, also known as *Oncidium fuscatum*.

CATTLEYA LABIATA,

Unflowered plants of SWAINSON'S GENUINE OLD TYPE, And *Dendrobium densiflorum*, *D. nobile* (from Annam), *Cypridium Rothschildianum*, *C. bellatulum*, *Cattleya citrina*, &c., &c.

TO BE SOLD BY AUCTION BY MESSRS. PROTHEROE & MORRIS,

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THE

Gardeners' Chronicle.

SATURDAY, DECEMBER 7, 1895.

ROSES.

THE National Rose Society has published a pamphlet entitled *Hints on Planting Roses*, compiled by a committee appointed for the purpose. The work is intended for novices and amateurs, and is likely to be received by them with favour from the clearness and simplicity of the directions given.

The subjects treated of are the season when planting operations should be considered, the best time to order Roses, the best time to plant or replant them, the best method of effecting these operations, lists of Roses suitable for cultivation for various purposes. The following extracts will show the practical nature of the little book, copies of which may be had at a cost of a few pence from the Secretaries of the National Rose Society, Rev. H. H. D'Ombraun, Westwell, Ashford, Kent; or E. Mawley, Esq., Rose Bank, Berkhamsted, Herts:—

HOW ROSES OUGHT TO BE PLANTED.

Whenever it is possible, Roses should be given a bed to themselves, in an open spot, away from trees, and not planted among other flowers. A bed 3 feet wide will hold two rows of plants, and one 4 feet 6 inches wide, three rows. The distance between the plants for dwarfs should be about 18 inches, and for standards about 2 feet 6 inches. The beds having been made ready, and the position of the Roses in them marked out, the next thing, and the most important of all, is to see that they are properly planted. Some of the plants should be carefully removed from the trench where they had been "heeled in," and brought to the side of the bed they are intended to occupy. A mat should always be thrown over them, to keep their roots from drying by exposure to sun or wind. A hole should then be dug about a foot square, and of sufficient depth, in the case of dwarf (or "bush") Roses, to allow the junction of the stock and scion to be about an inch below the surface of the bed when the operation is completed. In the case of standards the hole should be 6 inches deep. A plant should then be taken from beneath the mat, sprinkled with water, and held with the left hand in the centre of the hole, while with the right the roots are spread out horizontally and evenly in it, taking care that the roots cross each other as little as possible. Some of the finest soil available should next be sprinkled over the roots so as just to cover them. Over this light covering place 3 inches more soil, which may then be trodden in and the hole filled up. Tread the soil firmly round the plant when this has been done. Firm planting is very necessary for the future well-being of Roses.

In the case of heavy soils, or where the ground remains for any length of time in too wet a con-

dition for the planting of Roses to be satisfactorily carried out, it is an excellent plan to secure some light gritty soil, such as the clippings obtained from the sides of roads when the grass-edges are being cut. A spadeful of this material may then with advantage be placed both above and beneath the roots instead of the natural soil. Soil of this character may be firmly trodden without caking together, and the grit in it encourages the early formation of roots.

When planting Roses singly on lawns or elsewhere, the same method should be followed as when inserting them in beds. Where Roses are planted in the spring the shoots should be pruned before planting.

SINGLE PLANTS ON LAWNS OR IN BORDERS.

Previous to planting Roses singly on lawns or in borders a hole should be dug for each, 18 inches square and 18 inches deep. The soil removed from the holes should be well mixed with one-fourth of its quantity of well-decayed manure, before being restored to them. If the soil be found poor and unsuitable, better soil from another part of the garden or some turfy loam should be substituted. No grass should be allowed to grow within at least 6 inches of the stem of Standard Roses planted on lawns.

CLIMBING OR PILLAR ROSES.

For Climbing and other Roses of very vigorous growth the hole prepared for their reception should be 2 feet square and 2 feet deep, and care be taken that the soil be of a suitable character and well enriched with manure. For it must be borne in mind that such Roses require much more root-room than those which are pruned back every year, and in most cases are intended to occupy the same positions for many years to come. Therefore, any extra care and attention bestowed on the planting of strong-growing Roses, like those referred to, will, sooner or later, be well repaid.

STAKING STANDARD ROSES.

As the planting proceeds, each plant should be secured to a firm stake of some kind. In order to avoid damaging any of the roots, the stakes should be driven firmly into the holes prepared for the reception of the plants before planting them. Dwarf or bush-plants do not need staking; but, to prevent injury from high winds, all long growths should be shortened previous to planting.

THE LABELLING OF ROSES.

Where there is only one plant of any variety, a permanent label, with the name of the Rose either written or printed upon it, should be attached to a small stake placed near it, and not to any part of the plant itself; but when several plants of the same variety are grouped together, or follow one another, labels will only be necessary at the beginning of each such group or row.

THE WINTER PROTECTION OF DWARF TEAS AND NOISETTES.

All kinds of Roses should be planted in the way previously described. Teas and Noisettes and other tender sorts, however, require after planting some protection to be given them, or they will be liable to injury should an unusually severe frost afterwards set in. Fortunately, dwarf plants may be readily protected by drawing the soil over the centre or crown of them to the height of 3 or 4 inches. This will be found an excellent method, for, except in extreme cases, the plants are in this way saved from serious damage, although the exposed portion of their shoots may be destroyed. If further protection be required, bracken or straw may be placed loosely among them.

THE WINTER PROTECTION OF STANDARD TREES AND NOISETTES.

In most winters the insertion of bracken in the heads of Standard Roses, or tying their shoots to a secure central stake, and thatching them with straw or bracken, will be found to answer excellently.

ORCHID NOTES AND GLEANINGS.

ORCHIDS AT CAMBRIDGE LODGE, CAMBERWELL.

THE collection of R. I. Measures, Esq., Cambridge Lodge, Flodden Road, Camberwell, is rich in Cypripediums, and especially in the rare hybrids, many of which have been raised on that place; and much attention was given to the crossing of *C. bellatulum* and others like it, the results being in some cases very fine, although many of these crosses have not as yet flowered. It shows the adaptability of Orchids when properly managed, and speaks much for the skill and attention given them by Mr. Chapman, the gardener. The hybrids of the niveum section of Cypripediums are not the easiest to manage even in pure country air, much less at Cambridge Lodge, which is, in fact, in London.

Two beautiful forms, now in flower, are *C. × Annie Measures* (*bellatulum × Dayanum*), and *C. × Chas. Richman* (*bellatulum × barbatum*), the latter now bearing a second inflorescence which, like that of the preceding one, is two-flowered. Other plants in bloom in good specimens were *C. × Leeanum Masereelianum*, a very fine variety; *C. tonsum superbum* with nine flowers; *C. × Statterianum*, *C. × orphanum*, *C. × T. B. Haywood*, *C. × regale*, a pretty tinted flower; *C. × Amasiana*, *C. callosum*, the noble *C. × Allenianum superbum*, *C. × Carrierii*, *C. × marmorophyllum*, *C. Charlesworthii*, *C. × Arthurianum*. A great number of large specimens of *C. insigne* were remarked fast coming into flower; the best of those that were expanded being the clear yellow *C. insigne Sandersæ*, and the richly purple-spotted *C. i. Cambridge Lodge* variety, which among other characteristics has the flower bract striped with purple.

One of the *Cattleya*-houses was filled with glowing plants of *Cattleya labiata*, carrying hundreds of flowers. The floriferousness of these plants will be understood, some of the plants in 9 inch baskets or small pots carrying ten to fourteen flowers each. The dark colours predominate as usual, but the most prized is the white *C. labiata* R. I. Measures' variety, which possesses no other tint than a delicate veining of pink on the lip, which only serves to brighten the attractiveness of the flower. *Cattleya Hardyana* and *C. Bowringiana* add greatly to the display.

The genus *Madevalla* forms another feature of this collection, two houses now being set apart for these plants, in which at present many singular-looking botanical species are in flower, together with interesting *Pleurothallis*. The showy species of the former will not come into bloom till next spring and later. In other houses, an extensive collection of *Vandas* in splendid condition was noted; equally good *Cymbidiums*, containing all of the species, even the rare *C. Traceyanum*.

In one house were *Lælia purpurata* and *L. elegans* in splendid condition; in another warm-house the *Paalænopsis* were flourishing, and everywhere there was evidence of a keen interest being taken in the various plants.

SACCOLABIUM AMPULLACEUM, Lindley.

"Being of dwarf habit, it may be advantageously treated in baskets or teak cylinders, hanging from the roof, and thrives well under a regular temperature of 18° to 22° C., in a very bright and moist atmosphere. It requires scarcely any shading, as its leaves are thick and leathery, but in summer the humidity of the house must be maintained to near the saturation point, and the compost kept always alive and moist." *Lindley*, t. 1535.

CATTELYAS AT LAEKEN.

During the present and last week or two there have been flowering in the *Cattleya*-house at Laeken many plants of *Cattleya labiata* carrying nearly 600 flowers; and on one plant alone there were forty-two flowers fully open. This is a gorgeous *Cattleya*, free-flowering, and very easy to grow, and therefore cannot be too highly recommended, when flowers at this season are prized. It is, moreover, very various in its colouring. *Laeken, December 1.*

ORCHIDS AT CASTLE HILL, ENGLEFIELD GREEN.

The residence of George C. Raphael, Esq., is surrounded by a pleasant garden and pleasure-grounds, in a part of which a commodious block of houses, convenient of access, is devoted to Orchid culture, which seem to give more than the usual proportion of flowers at all seasons. On the occasion of a recent visit, the *Cattleya*-house was gay with flowers of *Cattleya labiata*, numbering about 100 spikes in various stages. Among them there was much variety, and some of the dark forms, of which *C. labiata*, Raphael's var., is the best, were very attractive, scarcely two plants bearing flowers exactly alike in colour or marking, and although popular fancy favours the dark varieties, the lighter ones are, in their way, equally beautiful. Arranged in the house with these plants were some *Cattleya aurea* and *C. Bowringiana*; a pretty plant of the fragrant old *Epidendrum ciliare*, *Cymbidium giganteum*, *Lælia autumnalis atropurpurea*; the noble *Vanda cœrulea*, Raphael's variety, with large, almost circular flowers, netted with violet; and fine varieties of *Lælia anceps* in bud.

In one of the warm-houses, *Paalænopsis* thrive admirably, which is more than can be said of them in many collections. Some plants of *P. violacea* and *P. rosea* were in bloom, and others showing for flower. In another house, in which a large plant of *Musa Cavendishii* bears a heavy bunch of fruits, and the handsome *M. coccinea* is in bloom, were in flower *Dendrobium superbum* and its variety, *Goldiei*; *D. Darcyi*, and some very fine *D. formosum giganteum*. At one end of the house, a noble specimen of *Nephrolepis exaltata*, some 8 feet across, was suspended from the roof; and *Dendrobium Dalhouseianum* had made many new growths more than 6 feet in length; here also the plants of *Eulophiella Elisabethæ* grow and flower vigorously, and *Cœlogyne pandurata* had eight spikes of its handsome emerald-green and black flowers.

In another house there was a fine show of *Dendrobium Phalænopsis Schroderiana*, of which Mr. Adams, the gardener, is justly proud. The fine sprays of variously-tinted flowers arching over from either side made a charming display; and not only are the plants grown to perfection, but the selection has been a happy one, for among them are a large number of superb varieties, both light and dark.

Flowering in the Cypripedium-house were good pieces of *C. Spicerianum*, *C. Charlesworthii*, *C. × Io superbum*, *C. × Leeanum*, *C. tonsum*, *C. × Arthurianum*, &c., and in the other houses, among other things, some good *Cochlidia vulcanica*, *Pleione lagenaria*, *P. Wallichiana*, *Oncidium tigrinum*, the singular and pretty *Zygopetalum Barkei*, *Arundina Bambusaefolia*, *Sopronitis*, *Odontoglossum*, &c.

CATTELYA BOWRINGIANA.

Your correspondent, W. Dawes, in last week's *Gardeners' Chronicle*, asks—"What is the greatest number of flowers known on a spike of this species of *Cattleya*?" We had a plant recently in bloom in a 14-inch pot with six spikes (which I exhibited at the Tunbridge Wells Show), one with nineteen, one eighteen, two seventeen, one fifteen, and one fourteen, flowers, on a spike. This is the greatest number of flowers I have ever had on a spike, although we have had the same plant for these ten years. Perhaps some of your correspondents will say what their experience is with this species. *Charles Earl, Somerhill.*

NOTES FROM OAKWOOD.

LILIAM ABRATUM was especially fine in the rather damp soil in the wood, and poor in the drier soil of the hill, owing to the hot dry weather. I think *Eulalia* are not enough grown. A good clump is always a pretty object, and when autumn frosts cut the flowers that are out, *Eulalias* still show well for a time; besides the graceful leaves, the flowers make very pretty winter decoration. I bought some sent from Japan, not knowing what plant produced them till our *Eulalia zebra* bloomed. This has flowered very well this season, and *E. gracillima* or *univittata* has had a few flowers with us for the first time. *Eulalia japonica variegata* has not flowered. I believe *E. zebra* is the only one which can be relied on

for flowers. The sharp frosts cut the Liquidambar a little, the leaves are beautiful, but not quite up to the usual colour. *Aponogeton distachyon* is flowering well. We have many Primroses and Gentianellas in bloom. *Iris Vartani* has been beautiful. *Gaultheria procumbens* clothing the sides of ditches and

NEW TEA ROSE ENCHANTRESS.

It has long been difficult to obtain good Rose blooms under glass during the dull weather of the late autumn and early winter months, before the forced blooms are available, and for this purpose

crop of young buds in various stages of development, promising to unfold during the winter months. *Enchantress* is the result of a cross between a Tea-scented and a Chinese Rose; the blooms are creamy-white with deeper centres, inclining to the globular shape, and produced in great abundance on the plants.



FIG. 110.—ROSE ENCHANTRESS; CREAMY WHITE WINTER FLOWERING VARIETY. (MESSRS. WILLIAM PAUL AND SON)

on banks in full sun is always pretty, the red fruit taking the place of flowers. The North American Cranberry, *Oxycoccus macrocarpa*, at the side of a pond makes a pretty carpet, and has fruited very freely. The fruit is excellent stewed and in tarts—I think better, from being fresher, than the Russian Cranberries. *George F. Wilson,*

Messrs. Wm. Paul & Son's new variety *Enchantress*, for which they obtained an Award of Merit at the recent meeting of the Royal Horticultural Society, is particularly valuable, as the plants exhibited were covered with large numbers of fine cream-coloured blossoms possessing all the desired qualities of size, fulness and fragrance; there was also a plentiful

In addition to its value as a late blooming variety indoors it is a fine bedding Rose, for throughout the summer and early autumn, plants growing out-of-doors in the Waltham Cross nurseries were covered with a profusion of most beautiful flowers, which continued unfolding until the severe frosts of last October so suddenly put an end to all outdoor Roses.

FRUIT GROWING FOR SMALL GARDENS.*

(Continued from p. 612.)

PEARS.—We next come to Pears. These are not such certain croppers as Apples, and during wet summers lose a great deal of their flavour, and do not keep so well; however, when they are good there is no fruit to beat them, and they should therefore be grown, but in smaller proportions than Apples, where room is scarce. There is no really good Pear worth growing for July and August; Jargonelle is perhaps the best, but it is very difficult to get it just right, as it goes sleepy without warning, and for that reason is not to be recommended. [Gather it ere it is quite ripe, and keep in a cool room for a day or two. Ed.] September, Williams' Bon Chrétien; October, Louise Bonne de Jersey (Fondante d'Automne)†; for November, Marie Louise (d. g.) (Emile d'Hayat); November to December, Doyené du Comice; January to March, Duchesse de Bordeaux; February to April, Josephine de Malines. Nearly all Pears will do for stewing before they are ripe, and windfalls come in very handy for this purpose; but a very valuable Pear, grown exclusively for baking, and ready from December to March, is Catillac.

Late-keeping fruit must always be left hanging on the trees as long as possible, as it will then keep better, be more fully flavoured, and should not be picked until it readily parts from the tree, except in places exposed to high winds; in many instances a greater portion of the leaves will have fallen before the fruit is ready for gathering, and this should only be done during fine bright weather, with as little handling as possible. A large number of fruits soon shrivel, and often do not keep through being picked directly a few premature windfalls occur (which are invariably worm-eaten), instead of being left on the tree.

Sound fruit should be stored in a dark place, free from frost, and well ventilated, on slotted shelves, easily accessible; and care should be taken not to mix any diseased or bruised fruit with it.

PLUMS AND CHERRIES.

We will next turn our attention to Plums and Cherries, about which little need be said, as the cultivation suitable for Apples and Pears is equally suitable for these. They are usually grown as trained trees against a wall or fence, where they succeed well, and are easily protected from birds; they will do equally well as pyramids, where they can also be well protected from birds by the use of the garden-webber, which will be found very handy for Currants as well; black cotton is better than white, as the birds are unable to see it until they become entangled, and are therefore much more frightened.

The following varieties of Plums are good, constant bearers: end of July and beginning of August, Rivers' Early Prolific, a deep purple; August, Denniston's Superb Gage, greenish-yellow; September, Victoria, bright red on sunny side, and yellow on the other; October, Coe's Golden Drop, light yellow, with dark red spots. Gather ripe fruit of Coe's Golden Drop Plum, wrap them separately in tissue paper a week afterwards, and store in a single layer in a cool, dry room. Fruit treated thus will keep until Christmas. Probably the best all-round Plum is the Victoria, of which such large quantities are annually brought into the market. It usually bears very abundantly, and should therefore be thinned shortly after the fruits are formed, and later on, when nearly fully formed, can be again thinned, and used for preserving, bottling whole, cooking, or stewing; the remaining ones on the tree will then grow to a good size, and make splendid dessert fruit.

The following Cherries are good bearers, and well-flavoured sorts: end of June, Early Rivers, black;

beginning of July, May Duke, dark red; middle to end of July, Bigarreau, red on sunny side, yellow on shaded side; August and September, Morello, dark red, but this is only suitable for culinary purposes and Cherry-brandy. If only one is grown, choose May Duke.

GOOSEBERRIES

require somewhat similar treatment as to planting and pruning, and are usually grown in the shape of a bush, and are not unfrequently allowed to grow into a tangled thicket, making it very difficult to pick the fruit, which is then very small and not fully flavoured. A general rule to be followed when pruning, is to allow a clear 6-inch space between each branch, and if pruned in the summer, it will make it far easier to decide which shoots to leave and which to cut back, as a tree looks very different when covered with leaves than when denuded. They are easily raised from cuttings. These should be firm, hard, and free from pith, about 15 to 18 inches long, from which every bud and spine must be picked off for about 12 to 14 inches of its length, so that 4 to 5 inches can be inserted in the ground, leaving a straight stem of 9 to 12 inches high; the cutting is pruned back to about four or five eyes above this to form the branches. When these have grown about a foot, they should be shortened about 9 inches to prevent them from drooping and eventually touching the ground. The future pruning should be carried out on precisely the same lines as already explained with Apples and Pears, except that when a strong vigorous growth forms in some convenient part, it can be left with advantage, and the old original branch next it can be cut entirely away—provided, of course, it does not crowd the bush. They can be planted about 2½ feet apart while young, and when they touch each other, the intermediate ones should be dug up and replanted elsewhere, 5 to 6 feet apart. They are also grown in the form of a three-pronged fork, either against a wall or wire fence, where they take up but little room and bear remarkably well. They should be planted 18 to 20 inches apart, so that each branch is 6 inches from its neighbour. If the young wood made during the year is under a foot long, the bushes require manuring when the fruit is setting next spring, but not otherwise.

Gooseberries are often infested with caterpillars, which if not checked, will seriously injure the tree. They may be got rid of by dusting the trees all over and under with lime after a heavy dew; this should be repeated two or three times. [Shaking them off on to calico sheets is effectual. Ed.] Sparrows and finches also attack the buds in spring, but the use of the garden-webber will soon prevent their depredations. The best kinds to grow are, Whitesmith, white; Early Sulphur, yellow; Keepsake, green; Warrington, red—this is a good variety for training gridiron fashion; Red Champagne is the fullest flavoured for dessert, but it does not bear quite so freely as Warrington.

RED CURRANTS

are usually grown in the bush form, but the best shape is probably for the head to form a cup, standing on a stem about 9 inches from the ground with branches about 6 inches apart, and when once formed they give no further trouble, as no fresh growths are allowed to form, every one being cut back to two eyes when they appear, and if the branches have never been allowed to grow more than 1 foot a year, the buds will develop all the way up, from which clusters of Currants will hang. Seven branches will usually be found sufficient, and when from 4 to 5 feet long they should not be allowed to grow any more; thus, in four or five years time, the tree will be fully grown. As the buds are a tasty morsel for the finches in the spring, they should be protected, otherwise one has to mourn the absence of fruit, and the trees are reduced in bearing properties for the next year or two. Under these circumstances, it is better to postpone the autumn pruning till late spring, as the birds will then take the buds on the

new growths, which are to be cut back in preference to those which are retained at their base. A very handy form which is sometimes adopted, is to grow the tree in the form of a miniature standard, with a stem 3 to 4 feet high, and a head as above described; Strawberries and vegetables can then be grown underneath. Manuring and cultivation are the same as for Gooseberries. Red Dutch is the best for either bushes or standards, and White Dutch is the best white sort, of which one bush will usually be found sufficient.

BLACK CURRANTS.

There is no easier fruit to grow than the Black Currant, which requires no training or staking whatever. Unlike all other bushes that have been described, suckers are induced to grow up from the roots every year, as the finest fruit is borne on the young wood; the older and weaker wood is cut out so soon as the fruit is gathered, to allow the tree to confine its energy to producing healthy new shoots, which should be left about 5 or 6 inches apart.

The earth around Currant-bushes and Raspberries should never be dug up, as they produce fibrous roots, but slightly picked up with a fork and manured every year with a top-dressing, which also protects the roots which are near the surface from injury from frost, and from becoming dry during summer.

Black-fly often attacks the points of the new shoots, causing the leaves to curl up, and the Currant bud-mite is sometimes very destructive. The easiest method to get rid of them both is to cut them off and burn them. Black Champion and Lee's Prolific are the best varieties to grow.

RASPBERRIES.

If one part of a garden is moister than another Raspberries will do better there than elsewhere, as they require a good deal of moisture, and the soil should be thoroughly good for at least 18 inches deep, to ensure strong canes and large fruit. After planting in the autumn, the canes should be cut down to about 9 inches from the ground to induce them to make good-sized roots, and thus lay the foundation for strong, healthy stools; if this is not done, however strong the canes may be, all the energy is expended in producing fruit, with the result that the next-year canes will be thin and weakly, and the stools ruined. When the stools are well established, from six to seven of the strongest canes should be allowed to grow each year, and the remainder, together with the old canes, when fruiting is over, should be cut right down; all growing rooted suckers—of which a large number grow every year—should be pulled up, and if planted again, they will form new stools. In the autumn, tie them securely to a stake, reduce the two outside ones to 15 inches from the ground, two of the others about 30 inches, and the remainder about 4 to 5 feet; fruit will then be produced the whole way up the bush.

When planted to form rows, two lines of wires or laths should be run 2 and 4 feet from the ground respectively, and the alternate canes reduced to about 2 feet, and the others about 4 feet 6 inches to 5 feet; the stools should be 6 inches apart, and the rows from 4 to 5 feet, according to the height the canes are left. There are some short standing kinds which do not require stakes, and are usually grown extensively for market purposes, Carter's Prolific being the best for this purpose; Superlative is, however, the best of all, but requires stakes. The Strawberry is the last fruit I propose to deal with this evening, for, although Peaches, Nectarines, and Apricots should, perhaps, have been included, yet they require special walls, localities, and treatment, which excludes them from general cultivation in small gardens, and are, in fact, far better grown in a cool orchard-house.

STRAWBERRIES.

Like all other plants, require to be carefully planted. It is no use making a hole with a dibber, forcing the roots in, and treading the earth in on top of them like so many Cabbage-plants, and then expect them to grow when probably two-thirds

* Extracts from a Paper read before the Streatham Hill Agassiz Society, on Oct. 25, 1895, by Mr. J. C. Waltham.

† Those in parentheses give a more extended list of good kinds.

have their heads covered up, and the remainder half out of the earth. Separate holes must be dug, the roots well spread out all round, and the earth gently, but firmly, pressed down all round, if we want to procure the strongest and healthiest plants, which at the same time means large fruit.

They reproduce themselves by runners. The earliest of these, when required to form new plants, should be pegged down firmly to the ground, but better still on to the underside of newly-cut turf without Couch, or into small pots containing rich soil, when they will be ready for planting out during August, and commence bearing fruit the following year. They should be planted about 1½ to 2 feet apart. The runners that are not required should be cut off as they appear, as they weaken the plants.

As the beds only last in good condition four or five years, others should be planted permanently in another part of the garden to take their place when it is seen that the old ones are giving out.

During the first crisp frosts in autumn, all runners and rubbish having been cleared away some time previously, and the ground between the rows lightly pointed over with a fork, turning in a little short manure (deep digging with the spade being injurious), cover the ground 2 or 3 inches thick with partially-decayed manure containing a good amount of stable dung. This must not be packed closely around the plants; it will be washed by the winter rains and be perfectly sweet by the spring, forming a close clean cushion for the fruit to rest upon.

The mulch also prevents the escape of moisture from the earth by evaporation, which is retained for the support of the plants and crops—a most important point in dry, hot weather. It also saves the trouble of putting clean straw under the trusses of fruit, which is liable to be injured by the process, and prevents the untidy appearance caused by the straw blowing about the garden.

The best kinds to grow are: early—Noble, or Keen's Seedling; medium—Sir Joseph Paxton; late—Latest of All, or Waterloo.

As well-rooted and well-grown varieties of fruit trees, true to name, cost no more to buy and cultivate than do those of an inferior kind, it is essential that they should be procured from growers of repute.

When a plot of ground is to be set out with trees it is better to commence planting the centre with the late-keeping kinds of fruit, so as to enable the early kinds and those that are gathered direct off the tree, to be as near the paths as possible when they are easily accessible during any kind of weather, and the ground is not so much trampled upon as when planted in the centre.

All trees, as they come from the nurserymen, have labels attached, which soon rot or become illegible, and as a great deal of the interest is then lost, permanent labels should be attached as soon as possible. The most suitable kinds can be procured of Mr. John Smith, Royal Label Factory, Stratford-on-Avon.

USUAL DISTANCES FOR PLANTING GARDEN FRUIT TREES AND BUSHES.

- Apples, pyramids or bushes on Crab, 6 to 12 ft. apart.
 " " Paradise (close-pruned), 3 to 5 feet apart.
 " espaliers, horizontally-trained, 15 feet apart.
 " cordons, same as Pears.
 " gridirons, 8 feet apart.
 Apricots against walls, 15 feet apart.
 Cherries, ditto, fan-trained, 15 feet apart.
 " pyramid, or bushes, 6 feet apart.
 Currants and Gooseberries, 4 to 6 feet apart.
 Figs against walls, 10 feet apart.
 Filberts and Cob-nuts, 12 to 15 feet apart.
 Nectarines and Peaches against walls, 15 feet apart.
 Pears, pyramids or bushes on Quince, 4 to 6 feet apart; if on Pear, 6 to 12 feet apart.
 " cordons, upright or oblique, on walls, 2 ft. apart.
 " " doubles, as edgings, 12 feet apart.
 " " single, as edgings, 6 feet apart.
 Plums, pyramids or bushes, 6 to 10 feet apart.
 " against walls, 15 feet apart.

FRUIT TREES SUITABLE FOR SPECIAL ASPECTS.

North Walls.—For Morello Cherries, early Pears, Plums and Cherries for keeping, late Currants, and Gooseberries, as trained trees.

East Walls.—For Plums, early Cherries and Pears, early Currants and Gooseberries.

South Walls.—For Apricots, Peaches and Nectarines, very early and very late Pears, Plums, Grapes and Figs.

West Walls.—For Pears, Plums and Apricots, and the hardier Peaches, Nectarines, and late Pears.

For walls not facing the cardinal points, a combination of the kinds may be tried; thus north-west would take those both north and west, and so on.

NUMBER OF TREES, ETC., REQUIRED FOR AN ACRE OF LAND.

19 360	at 1½ ft. apart	for Strawberries.
10 890	" 2 ft.	" cordon trees or Strawberries.
4 840	" 3 ft.	" pruned Pears on Quince, or Apple on Paradise.
2,722	" 4 ft.	" { do. do. do., or Gooseberries and Currants.
1,742	" 5 ft.	
1,210	" 6 ft.	" do., or partly-pruned Pyramids.
899	" 7 ft.	" Apples on Crab.
680	" 8 ft.	" do. do.
537	" 9 ft.	" do. do.
435	" 10 ft.	" feathered Apples or Plums.
360	" 11 ft.	" do. do.
302	" 12 ft.	" bush trees, pyramids, half-standards, and Nuts.
257	" 13 ft.	" espaliers.
222	" 14 ft.	" do.
193	" 15 ft.	" standard Plums, Damsons, or red Cherries.
170	" 16 ft.	" do. do. do.
150	" 17 ft.	" do. do. do.
134	" 18 ft.	" do. do. do.
120	" 19 ft.	" do. do. do.
108	" 20 ft.	" standard Apples, Pears, &c.
75	" 24 ft.	" do., and Cherries.
48	" 30 ft.	" Cherries, where pastured underneath.
40	" 36 ft.	" Cherries, or large-growing Apples.
36	" 40 ft.	" Cherries, or strong Pears.

In plantations where there is both a top and bottom crop, the standards may be placed at the greater distances, recollecting that Apples and Pears give a heavier shade than Plums.*

One of the best books on the subject before us is, *Profitable Fruit Growing for Cottagers and Small Holders of Land*, by John Wright, F.R.H.S., published by E. H. May, 171, Fleet Street, E.C., and was a prize essay, in competition with several others, read before the Worshipful Company of Fruiteers in 1889.

INDIA.

M A D R A S.

The *Proceedings of the Agri-Horticultural Society of Madras* for April to June, 1895, include reports of the proceedings, notes on *Araucaria* seed, *Euryale* ferox, and *Liberian Coffee*, the last two items being of especial interest.

THE SUPERINTENDENT OF THE BARODA STATE GARDENS.

Mr. J. M. Henry, the former Superintendent of the State Gardens, who, after serving about twelve years in the presidencies of Madras and Bengal, and sixteen years in Baroda, closed his Indian career lately, and left for England to start in business with his son.

Coming from the Royal Gardens, at Kew, in 1867, Mr. Henry was one of the oldest Kewites in India. He was, both as a gardener and a companion, highly esteemed and respected by all his numerous friends.

* The paper was illustrated with practical demonstrations of the various methods of grafting, samples of well and badly-grown branches, besides a good collection of the above-named fruit.

and everybody heartily joined in subscribing to a present consisting of a very fine breakfast glass set, in a silver frame.

Many of his gentlemen friends met at a dinner-party, when in the course of a speech proposing the health of Mr. Henry, and wishing him God-speed, Professor Littledale said:—"As regards his work as Superintendent of the Gardens, I may say, that although the extraordinary development of gardening in Baroda, under His Highness, has necessitated the calling-in of other trained professionals to assist in the work, we cannot forget that it was chiefly Mr. Henry who traced the original lines upon which he and others have since been working with such good taste and marked effect. Mr. Henry will not only be missed horticulturally, but also socially. He has kept up a very popular gymkhana for years, and his house has been an ever-open resort for his troops of friends. When he goes he will not leave a single enemy behind him at Baroda, but all of us who remain here will remember him with love."

Mr. Henry, in reply, said:—"When I arrived here in November, 1879, the park was so only in name. By the generosity of the Maharajah it is now second to none in India. Makarpara was a wilderness which took you half a day to reach, by reason of the badness of the roads. Now you may reach it in twenty minutes with a fairly good horse and trap. When you do, what a paradise! All the old dilapidated dwellings, with which it was the rule to surround palaces in olden times, cleared away; in their place, green lawns, flourishing Palms, and flowering plants. Luxmi Velas is a new palace, the foundation of which was laid shortly after my arrival. Its tower, domes, and minarets are landmarks for miles—"bosomed high mid tufted trees" in a magnificent garden and park of about 1000 acres. Umrat, our seaside resort, is a natural gem or oasis in a wilderness of sand, beautified and made a royal residence by the same hand. Time fails to enumerate all the improvements done and proposed to be done at Umrat, but a few more of the most important I will mention. The sands that surround Umrat as a wilderness are to be planted with Cocoa-nuts, and also all the sea coast for miles, now a sandy desert. The arid plains and dry hill-tops of the Kadi district are to be reforested. Roadside trees are being planted in every district, where the heavy-laden and weary may lie down and rest. Plans and estimates are in course of preparation for gardens and parks for every town of any size in the whole of the Maharajah's domain, beginning with those with a population of 15 000 or upwards. For every State bungalow now built, the estimate contains an item for the formation of a garden. I trust my successor, Mr. Krambeigel, may be given the strength and the length of life to see the fruits of his labour."

THE DORMANT PERIOD IN PLANTS.

A FRUITFUL cause of failure in the cultivation of exotic plants is due to ignorance of the climatal conditions under which the plants grow in the land of their origin, and especially the proper season for resting. In temperate climes, where the winter and summer are pretty clearly defined, deciduous plants discard their foliage as the year's temperature declines, and appear during the winter either as leafless objects or inconspicuous collections of dormant buds more or less hidden by the soil. Evergreen plants, on the other hand, retain their foliage till the spring, but only, as it were, on sufferance, active growth ceasing almost entirely, and the verdure only persisting by its own inherent toughness. This is easily seen by our familiar Christmas decorations, where the Holly, Ivy, Laurels, &c., last green for weeks unless placed in hot, dry rooms, where they perish by desiccation.

The resting period in these cases is clear enough, but it is another matter altogether when we import plants from tropical and sub-tropical regions, where the difference between the seasons may be very small indeed as regards range of temperature, and altogether dependent upon widely varying conditions of drought

and moisture, so that instead of having a warm and cold season, with a fairly evenly distributed rainfall throughout the year, we have a wet and dry season, with a constant high temperature. Under such conditions, we naturally find indigenous plants to be very differently constituted to ours, being fitted at once to withstand excessive drought and heat during their resting period, and to assume active development at short notice immediately the rains begin.

Now, these periods of drought and moisture vary considerably on different parts of the earth's surface, and the native plants adapt themselves in conformity to it. Nor is this merely a case of latitude and longitude; for if it were, the matter would be comparatively simple, and the native country of a plant would determine its needs within certain fairly-defined limits. Elevation above the sea-level is, however, a most potent factor to be dealt with, and if ignored, leads to many mistakes being made in the methods of cultivation pursued. In the tropics we may by ascending the loftiest mountains, pass through every grade of climate from the hot plains of the sea-level, with an average mean temperature of 80° or so, to the region of perpetual snow where only the hardest alpinists survive. Yet, despite this obvious fact, many a plant has been collected, and safely transmitted from high, cool regions in the tropics, only to die in a warm stove, where they have been placed because they came from the tropics, where a high temperature has been presumed to be universal. In several cases, presumably dead plants of this category have been thrown to the rubbish-heap, only to astonish their owner by braving the elements, and obtaining a new lease by their accidental exposure to conditions more congenial to their needs.

A curious feature in this connection is the great fastidiousness of some plants, which will only thrive if their natural condition be very closely imitated, and the cosmopolitan tastes of others which will stand most diverse treatment with impunity. Our native *Asplenium marinum*, for instance, which thrives on our western coasts, where it must occasionally be subjected to some frosts, revels in a hothouse treatment, and becomes a huge and much robust plant. Such wide adaptability is, however, the exception, hence it is of great importance to the gardener to know something of the native natural conditions of growth, temperature, and humidity, and above all, when and how the plant assumes its dormant state, and for how long it maintains it. With plants which are to be forced into flower it is essential to withdraw them from all disturbing influences, and knowing when the dormant period is due, to lead up to it by reducing heat or moisture as the case may be, and maintaining them under such conditions until it is desired to start them into growth. Then the application of heat and moisture will be followed by a healthy vigorous growth, accompanied by an immunity from vermin, the presence of which is only too often an indication of a previous too short sleep, and consequent weakness.

The period of rest seems, as we have indicated, to be determined mainly by the nature of the seasonal changes to which the plants are subjected in their native habitats, but in some cases it appears to be independent of this. The bulbs of Hyacinths, Tulips, and other spring-flowering plants are busy during the winter in forming their roots and even their leaves whenever not actually frozen up, and quite early in the year, little later indeed than many other plants that are beginning active growth, and long before the sun has attained very great power, they have flowered and formed new bulbs, their foliage has died down, and they lie in the dormant state for many months, only awakening when winter has again set in. This seems a very strange provision of nature that a bulb should resist all the vivifying influences of summer sun and shower, and wake up into active life when the soil is at or below freezing-point, and the great bulk of vegetation dead or asleep. It would be interesting to know how these bulbs would behave if shipped direct to the Antipodes in the spring. In those

cases where the cycle of life has been fully completed, and the whole vitality of the flower is compressed within the rootless bulb, it seems feasible that if they could be at once subjected to their normal growing conditions, they could hardly be weakened by losing their rest; though, on the other hand, it must be assumed that some subtle recuperative process is going on in resting plants akin to that which renews animal vigour during sleep, or otherwise the shortening of the period of rest could hardly be so detrimental as it is, even when favourable conditions for growth accompany the re-awakening.

With regard to Antipodean plants which have long been introduced into this country, such as the New Zealand *Todea superba* and *pellucida*, they have fully adapted themselves to our climate, and rise in our early spring at precisely the time when at home their growth would be ceasing. How long, however, such a change takes to establish, we do not know. Amongst our native Ferns we have noted a certain obstinacy in retaining the home periods of awakening deciduous *Athyria* found in Scotland, starting into growth a week or two later than southern finds even after years of culture under like conditions. *Polypodium vulgare*, especially in its varietal forms, demands, curiously enough, a much longer period of rest, or rather starts into growth under glass very much later than normal plants in native habitats. They often, indeed, show no trace of starting under glass until July or even August, and this with perfectly cold culture, so that the lateness of their starting is not to be attributed to growth unnaturally maintained by warmth long after the normal dormant period should begin. This case is unique in our experience, culture under glass inducing, as a rule, and as one would expect, a somewhat earlier development than out-of-doors. Seedlings, as a rule, are more precocious in their growth than old plants, and quite deciduous Ferns, like *Athyria*, with very little warmth indeed, will the first year retain their fronds right through the winter, though later nothing will prevent them dying down in the normal way in autumn. We have found, however, that even in a few generations, it is possible, by selective culture under glass, to considerably lengthen the growing period of *Athyria*s, shortening the dormant period in equal measure. Most of the plumose superbum section of this species remain quite green for fully a month after all their immediate progenitors in the same house have withered entirely down. One form, indeed (*A. f.-f. plumosum*, Drury), is perfectly green at the time of writing (end of November), and has been so at Christmas; while, on the other hand, without any stimulus beyond its own inherent robustness, it rises into active growth a full month before its fellows. One year, indeed, a robust growth started on Dec. 2, before the old fronds had even turned colour, but frost immediately after stopped its progress.

It would almost seem by this case that further selection might eliminate at one and the same time the deciduous nature of the species, and the dormant period also; this latter being decidedly reduced one-half in two generations, and nearly as much in one, since its parent is not far behind it in the long retention of its verdure, while the grandparent growing by their side, dies down as early and as thoroughly as any *Athyrium* we are acquainted with.

How long the actual dormant period is, as compared with the apparent, is an open question, as well as that of the recuperative or strengthening processes which undoubtedly accompany them. The roots certainly commence to be active long before there is any sign of life in the crown. Hyacinth bulbs grown in glasses are a familiar exemplification of this; and as regards Ferns, even in the depth of winter the crowns will be seen to be fattening up, implying great root activity and preparation for the coming rapid growth in the spring. It is highly probable, therefore, that in most, if not in all cases, much of the dormancy is more apparent than real, and that a good deal of secret and subtle work is being done, of which we know little or nothing, but the need for which is evidenced by the weakness

subsequently shown when the dormant period is unduly curtailed, and these processes are interfered with. *Chas. T. Drury, F.L.S.*

THE FLORA OF THE AMOUR LITTORAL.

The vegetable covering of the Amour country is luxuriant and peculiar, and displays a great difference from the floras of adjacent parts of Siberia. Even the woody vegetation exhibits a striking dissimilarity to that of Siberia and Transbaikalia. With the ordinary Siberian races of Conifers are here associated the Manchurian Cedar, the Pitch Pine, *Abies sibirica*, and an ally of the Conifers—the Yew peculiar to the mountains of the Caucasus. The flora of the foliage trees is very rich and varied, as it here meets the beneficent influences from the eastern ocean. The genus *Tilia* is represented by two peculiarly eastern forms, *T. cordata*, Mill., and *T. mandchurica*, Rupr. et Max. The Maple, a stranger to the whole of Siberia, has here four representatives; the Apple appears in Transbaikalia in the shape of a very small fruited variety. *Pyrus* is here represented by a beautiful species, *Pyrus ussuriensis*, Maxim.; and the bird Cherry—*Prunus Padne*—by two local varieties. Two local species of Walnut embellish the forests of the Amour, viz., *Juglans mandchurica* and *J. stenocarpa* Max.; and the Ash by a localised species unknown to Siberia, *Fraxinus mandchurica*, Rupr. With the European varieties of the Elm is associated *Ulmus montana* [campestris?], Winkl. There is also a new species of Hazel, the *Corylus mandchurica*, finally, among the Birches reappear a Kamchatka variety, *Betula Ermani* (*Ulmifolia*), Cham.; and one local timber tree, *B. costata*, Trantv. The charming little tree of the Amour country, with a palmy crown, *Dimorphanthus mandchuricus*, Rupr., is far removed from the Siberian species. It belongs to the natural order Araliaceæ, which loves a moist climate. Not less remarkable is the Cork tree of the Amour, belonging to the family of Xanthoxylaceæ, nowhere to be met with in the whole of Russia.

The shrubs of the Amour country are still more peculiar than the trees. No fewer than twenty-four species here met with are entirely new to anyone arriving from Siberia and Transbaikalia. Of these, three are climbing plants. They are, first of all, a beautiful plant, pertaining to the rare family of Schizandraceæ, with pale rose-scented flowers and red berries (*Maximowitchia chinensis*, Ruprecht), spreading from Northern China through Manchuria to the Amour; a species of Vine, very slightly distinguished from *Vitis amurensis*, Ruprecht. The species of Clematis appearing here belong to the non-climbing shrubby variety of that genus. Of the two species of local Barberry, one is also peculiar to Northern China, *Berberis sinensis*, Desfontaines, the other, *Berberis amurensis* is local. The very curious shrub, *Actinidia kolomikta*, Ruprecht, covered with large white-scented flowers, has not yet found a strictly definite position in systematic botany, being now classed with one and again with another of the natural orders.

Of the four varieties of spindle-tree there is one, *Eaonymus alata*, Thunberg, which is also found in Japan; and three local species, viz., *E. paniculatus*, Maximowicz, *E. Maackii*, Ruprecht, and *E. macropetrus*, Ruprecht. Of the Leguminosæ, the small shrub found here, *Læspedeza stipulacea*, Maximowicz, also grows in the environs of Peking. Of the Rosaceæ, the local species of Cherry, *Prunus glandulifolia*, Ruprecht, and Meadow-sweet, *Spiræa amurensis*, Maximowicz, are shrubs. Two local species, belonging to the same genus as our so-called garden Syringa (*Philadelphus*), are a conspicuous adornment of the forests, viz., *P. tenuifolius*, Ruprecht, and *P. Schrenkii*, Ruprecht. The beautiful local shrub of the same family, *Dentzia parviflora*, Bunge, is a Chinese plant, spread by cultivation. To the family of Araliaceæ, not met with in Siberia, belong two shrubs common to this flora, and that of Northern China. Of the Honeysuckles there are here one Chinese species and two local, *Lonicera Maackii* and *L. Maximowitschii*, Ruprecht. Common to Northern

China is a species of Lilac occurring here on the skirts of the woods, with somewhat minute whitish flowers, *Syringa amurensis*, Ruprecht. A variety of Laurel met with on the lower Amour is that called after Kamtchatka, *Daphne Kamtchatica*, Maximowicz.

Among the herbs of the Amour country, no fewer than 110 species are exclusively peculiar to this region; the rest are common to China, Japan, Kamtchatka, and even America, but more especially to

indicated that it might prove a shy bearer. And these prophecies have been all too literally fulfilled.

As to the quality of this Pear there can hardly be two opinions. *The Florist* of 1875, in giving a beautiful coloured wood-cut of Lucy Grieve Pear, summed it up in a sentence thus, "If we cannot claim for old England the parentage of many of our favourite Pears, we may at least assign to her some of the very best in quality, and among these must rank the subject of our present illustration, of which excellent

These fruits differ considerably from the type in other matters, and are so remarkable, that my wife has painted and forwarded a *fac simile* of the finest specimen (fig. 111). One of the peculiar leaves is still persistent from the end of the stalk, and is true to its Willow-like character. But the Lucy Grieve Pear, like many others, is less richly coloured this year than usual. However, it can hardly be said of the painting accompanying this note, that the colour is a deep lemon-yellow, though it is thin and in some places thickly marked with russet, and has a russet patch near the eye and the stalk. The flesh is also moderately firm, fine grained, tender, and melting, very juicy, with a rich, luscious flavour, and a slight and agreeable dash of acidity such as is occasionally met with in the Glou Morceau. Since this Pear has increased in size, it becomes more like this fine old Pear at its best, and possibly may have been raised from it. But the odour and the flavour of this Pear are more penetrating and agreeable. Dr. Hogg, our highest authority on such matters, calls Lucy Grieve a delicious Pear, having the texture and flesh of Marie Louise—and surely no higher praise can be given. The history of this fine Pear is thus pathetically written by the father of its raiser, Mr. Peter Grieve, so recently deceased:—

"It happened very long ago—
How long? we scarcely seem to know—
A fair young child, in joyous glee,
Plucked with her daring little hand,
A ripe Pear from a tree.
And ate the mellow fruit she chose
With all the zest which childhood knows;
But marvelled in its inmost core
Some dark green pips to see;
And marvelled more to hear it told
That each small pip so plump and bold
Might yet become a tree.
Then thoughtfully she pondered long,
How this thing could be so,
And lastly in a pot of earth
A tiny seed did sow.
That seed became a living plant,
And claimed her willing care,
While promises were kindly made
With friends its fruit to share.
In time the plant became a tree,
With foliage bright and fair;
The child, a merry little maid,
In favour everywhere.
Affection cherished for the tree,
Which cold and storm could brave,
But long before it bore a fruit,
The maid was in her grave.
And when at last it ripened fruit,
They who full well do know,
Declare on England's fertile soil
No richer e'er did grow;
And say that how that fruit so choice
Its raiser's name should bear,
And be hereafter always known
As little Lucy's Pear."—P. G.

—D. T. F.



FIG. 111.—LUCY GRIEVE PEAR.

(Weight, 14 ozs.; circumference lengthwise, 15 inches; shorter girth, 11 inches.)

FLORISTS' FLOWERS.

PROPAGATION OF CHRYSANTHEMUMS.

EARLY in the present month, and before the last of the plants which have borne large blooms are cut down, a beginning should be made in the propagation of Chrysanthemums, for although the Chrysanthemum season is short, a long period of time is required in cultivating the plant to perfection. Nowadays, when the large-flowered varieties are so numerous, especially those of the Japanese section, and they are so highly thought of, poor blooms are not tolerated; and every gardener who grows these plants should make himself acquainted with the best methods of culture, so as to enable him to excel. A most important detail of culture is the propagation of the plants.

It may be taken for granted that it is useless to hope for very fine blossoms if the start be not early; no amount of forcing at any stage making up for lost time. December is undoubtedly the best month in which to take cuttings, but there is no one day which is better than another, and the gardener must

Transbaikalia and Siberia. The whole flora of the Amour comprises 340 plants common to European Russia, whilst, with those of Transbaikalia, it numbers 527 varieties. *J. St. Vincent Corcoran, Odessa, Sept. 14.*

THE LUCY GRIEVE PEAR.

THIS fine Pear, though it obtained a First-class Certificate from the Royal Horticultural Society on October 23, 1874, has been comparatively little grown. Its long thin Willow-like leaves, which suffice to distinguish it from nearly all other Pears,

samples were sent to us last autumn by Mr. Grieve of Culford."

Up to the present year this fine variety has neither been distinguished by free-growth or free-bearing; but singularly enough 1895 has been a record year for this Pear. The sample before me as I write, grown by Mr. Hughes, gardener to Thomas C. Porteous Oakes, Esq., of Newton Court, measures 15 inches in circumference lengthways, 11 inches round at the widest part, and weighs 14 oz. This fruit, and there were several almost as large, is just as large again as that figured and described on p. 84 of *The Florist* for 1875, where the average weight is given as 7 oz.

be guided by circumstances—cuttings of particular varieties having to be taken when they are fit. There is also a difference in cuttings, some being good, others bad. The best kind of cutting is that which springs up through the soil an inch or so distant from the stem, and is free from all traces of buds, flower-buds forming early at the point of a cutting, rendering it useless for propagation. A cutting having a clean uninterrupted growth is essential, without which the efforts of the cultivator will be in vain.

There are several methods of striking cuttings, some gardeners preferring a cold frame, others a cool-house from which frost is simply excluded, but no artificial warmth employed, as this will cause the cuttings to be unduly hastened. The cold frame answers very well when the weather is not very frosty, but it has the bad consequences that in periods of sharp frosts there is a difficulty in affording air to the cuttings, to the loss of many of them from damp. In a cool-house capable of being warmed none of these drawbacks exist, and the rooting of the cuttings goes on unhindered, and growth takes place without a check. The formation of a callus is hastened if the leaves are not allowed to flag, and there is no better method of preventing this occurring than to place the cuttings under hand-lights or in a small frame, the pots standing on coal-ashes, and as near to the glass as possible, to prevent spindling. If one cutting be inserted in one small pot, the repotting of the rooted plant is facilitated, and no check given. A sandy soil pressed somewhat firmly into the cutting-pots and covered with a thin layer of sand, is all that is necessary for striking the cuttings, the sand hastening root-formation, as some of it is sure to be carried to the bottom of the hole when the cutting is dibbled in; and the cuttings of this plant root more readily in sand than soil. Having inserted the cuttings, afford them a plentiful watering, and cover them with the hand-light. Remove the top daily for about an hour to dissipate moisture, and in the evening wipe the inside of the top with a sponge. Water will not be required before the cuttings are rooted, but should the soil become dry it must be applied in sufficient quantity to moisten the soil throughout.

A period of from three to five weeks is required for the cuttings to become well-rooted, and when this has taken place the lights should be tilted on one side, until the amount of ventilation afforded in this manner is increased by degrees till the cuttings will bear exposure without their leaves flagging. By this method stocky growth and a thorough foundation are assured. *E. Molyneux.*

CULTURE IN WESTERN AUSTRALIA.

It is pleasant to learn, through the agency of the Agent-General, that fruit and vegetable culture are making satisfactory progress in the far-away auriferous portion of the globe which has so rapidly risen into fame all over the world. Orchards and vineyards are gradually being developed in valleys where rivers or streams of any capacity run, and in some places, as in Perth, we are told that Grapes are sold at 4d. per pound. Apricots, Peaches, and Melons also are gradually coming into market, and Strawberries, Raspberries, and Currants are to be found here and there. Of course, where the rainfall is limited in extent, cultivation is a ticklish job, but then irrigation is made to assert its beneficent power, and as population grows, so also does the extent of acreage under fruit and vegetable cultivation. Land is cheap enough, for it is stated that the cost of freehold in farms is something like 10s. per acre, the payment being extended over twenty years = 6d. per acre per annum! And so, possibly, it may come to pass that alluvial gold may by-and-by be found more easily of acquirement than diluvial—as in California. By-the-way, it may be noted that fruit trees and cuttings are sent from both New South Wales and South Australia. We are reminded by the Agent-General that grass

seeds are now placed on the free list of imports, as well as garden seeds. In the tariff-free list are to be found bulbs, fruit, and ornamental trees, scions and grafts, manures of all kinds, plants, and Vine cuttings. The following pay a duty of 5 per cent. *ad valorem*.—Agricultural, horticultural, and viticultural implements and machinery (not garden rollers); wire netting and steel fencing wire, standards and staples.

The increase in the value of timber exports is surely worthy of mention here. In 1893 the value of this export was £33,888, last year this had increased to £74,809. It may not be generally known that the forest region of extra tropical Western Australia occupies an area equal to the whole territory of Great Britain—the intratropic zone of forest is also enormous, and there is many an indication that as time goes on more and more of the timber produced in these regions will find its way to the mother country. *E. C.*

THE WEEK'S WORK.

THE FLOWER GARDEN.

By BAILEY WADDE, *Gardener, Birdall Gardens, York.*

THE HERBACEOUS BORDERS.—The work of cutting down and clearing away the dead and decaying stems and foliage of perennial plants should now be finished. Large plants of Delphiniums, Hemerocallis, Heliopsis, Ranunculus, Iris, and Michaelmas Daisies, growing in old borders which are not going to be replanted, should be taken up bodily with a spade, cutting off and replanting a good-sized strong healthy clump cut from the outside of the root-mass, affording the transplanted portions rotten manure and fresh soil. These pieces will grow well and flower more satisfactorily than old undisturbed clumps. When putting a border in order at this season, place a short stout stake against each plant which dies completely down, so that they may not be trampled upon; and when the work of clearing and planting the borders is finished, lightly prick over the surface affording a dressing of rotten manure and fresh loamy soil and the sifted charred remains of the refuse-heap, in all about 2 inches thick. Care should be taken that the top-dressing is free from the seeds of weeds. A few good indispensable perennials consist of *Alstromeria*, in variety; *Anemone japonica*, and the white-flowered variety *Honorine Jonbert*, and its double form; *Anthericum liliago*, *Asters Amellae*, *gandiflorus*, *Shortii*, *Nova Belgæ*, and *Nova Angliæ*; *Campanula persiciflora*, *Carpatia* in blue and white varieties, *grandis*, *latifolia*, and many more; *Doronicum caucasicum*, *plantagineum excelsum*, *Harpur Crew*, and *Cinsii*; *Delphiniums* in great variety, *Eryngium*, *Ferula gigantea*, *Helianthus*, or perennial Sunflowers, including the showy *angustifolius*; *Inula glandulosa*, and *I. g. grandiflora*; *Papaver nudicaule*, *P. orientale*, *Pæonies*, *Phloxes*, *Pyrethrum roseum*, in great variety.

MISCELLANEOUS MATTERS.—Now is the right time for examining the lawn-mower, repairing damages, and generally cleaning and oiling the parts where there is friction. The mower should be kept in a dry place. Flower-sticks, stakes, labels of all sorts and sizes, pegs for layering, should be made; cutting-boxes and plant-tubs well aired and then painted. The planting of deciduous trees and shrubs may still be proceeded with, weather permitting; also the thinning-out and cutting-back of such as are growing too thickly, and staking without any delay all standard trees which having but small hold of the ground are likely to be injured by wind. The grass edgings to shrub beds may be trimmed, and the soil slightly stirred with digging-forks, taking care to bury the tree-leaves in the spaces where there are no roots to be injured. Thorn and other deciduous hedges may be trimmed, keeping them broad at the bottom but narrowing towards the top. If heavy snowfalls occur, relieve all choice subjects of the greater portion, before injury is done to them.

PLANTS UNDER GLASS.

By W. H. SMITH, *Gardener, West Dean Park, Chichester.*

THE GREENHOUSE IN WINTER.—All hard-wooded plants such as *Ericas*, *Azalea indica*, *Rhododendrons*, *Boronia*, *Epacris*, &c., will stand in need of close attention as regards their watering throughout the winter; and in regard to the temperature of the

greenhouse, a small amount of artificial heat may be afforded, together with top and bottom ventilation in mild weather—a temperature of about 55° by day to 50° by night being sufficient, the warmth being allowed to fall 5° in very cold or windy weather. If any of the plants are infested with thrips, fumigate the greenhouse on two nights in succession with Richard's Compound. Any necessary training, sticking, &c., may be proceeded with; and a few plants of *Epacris*, *Erica hyemalis*, and *Boronia megastigma* may be placed in a slightly warmer house to bring them early into flower.

ADIANTUM CUNEATUM.—Where fronds of this species are in much request for cutting, it is good practice to cut the fronds, say of four to six potfuls, completely down, then allow them to get somewhat dry at the roots, and place them in a temperature of about 70° by day, and 65° by night, when they will soon push up new fronds, which as they grow, may be gradually hardened before cutting them as before. If plants of this species are treated in batches in this manner capital fronds may be obtained throughout the year.

CHRYSANTHEMUMS.—The plants as fast as the flowers fade, and they lose their beauty, should be cut down, for the Chrysanthemums being generally grouped together, the suckers which will form the cuttings get weak and drawn, and in some cases bleached in consequence; hence the need to remove the top growth quickly. Place the stools, as the plants are now called, in a light airy house for a time, to allow the shoots to become firm before taking them, and as soon as that is apparent, secure the necessary cuttings. After neatly trimming each cutting, place it singly in a small pot, in sandy loam and leaf-soil; afford the cuttings a good watering, and place them under a hand-light, or put into a pit or house from which the frost is excluded. Guard against damp by ventilating it in the morning, and by wiping the moisture off the glass daily if the hand light be used, and apply heat to keep out frost and dissipate excessive dampness. Two very pretty varieties for cut bloom are *Jane* and *Yellow Jane*; and three very late ones for Christmas decoration are *Admiral Sir F. Symonds*, *Lady Canning*, and *Lady Lawrence*.

LACHENALIA TRICOLOR.—These bulbous plants, now in full growth, will require liberal supplies of weak manure-water at the root when the pots or baskets are found to be filled with roots. I find that the plant flowers best when repotted in alternate years, or allowed to go for two years. Keep the pots or baskets near to the glass, and turn them round occasionally, for the purpose of keeping the foliage evenly distributed all round the pots, &c.

THE HARDY FRUIT GARDEN.

By W. POPE, *Gardener, Highclere Castle, Newbury.*

PROTECTING FIG TREES ON WALLS, ETC.—Means should be devised, and material got in readiness, for covering Fig trees in case of severe frost setting in. Light sheep hurdles neatly thatched with straw, and made long enough to reach the tops of the trees when placed in a leaning position, and standing out from the wall about 3 feet at the bottom, are a good form of protectors for out-of-door trees, as besides throwing off rain and snow, they are easily removed when necessary in mild weather, and with care will last for many years. Where, however, these are not available, Spruce Fir branches or other evergreen trees may be employed, and these, if properly applied, make a fairly efficient protection. Straw bands are sometimes used to envelop the branches which are taken off from the walls and banded together, but this method is untidy, for which reason I do not recommend it.

PRUNING AND TRAINING OF TREES IN GENERAL.—The pruning and training should be carried on with dispatch, weakly or stunted trees should be cut-back severely, as thin slender growths are of no use for fruit-bearing; and the operation, if performed early in the winter, almost invariably leads to strong breaks. If the roots are in a healthy condition, the surface-soil should be cleared away, and a good dressing of material suitable for encouraging root-action afforded. In the same manner, young trees that were planted last season, and which failed to make a satisfactory start, should have their branches cut back to the starting point, when in all probability a vigorous growth will be the result, and the trees greatly benefited. Pyramid trees now being received from the nursery as fruiting

trees frequently arrive with vigorous growth on the upper part, whilst the lower part is either bare or furnished with only a few weak branches, which is a consequence of the trees having been crowded in nursery plantations, and not getting enough light at the bottom. Such badly-furnished trees should be cut down to about 2 feet from the graft at planting-time; and from the strong growths which will result a sufficient number should be selected for the lower tier of branches, and for a stout leading shoot, which may have the point stopped once during the summer. By acting in this manner, no serious loss is really incurred by what may appear to be too severe pruning, but time will be saved, seeing that a handsome, vigorous tree is obtained sooner than would otherwise be the case. Let the training of old and young trees quickly follow the pruning, and in doing so, closely examine the old fastenings, removing any that are tight, or which are not likely to last another season. The leather shreds introduced by Mr. Murgatroyd, of Leeds, seem to be just what is wanted for wall trees; and, considering their probable durability, they are not too expensive. Young trees for horizontal training should not have the branches brought into position for the first few years, but should be trained at an acute angle, which will tend to the equal distribution of the sap, and conduce to the health and vigour of the lower tiers, these being after a time brought gradually into their proper position.

THE ORCHID HOUSES.

By W. H. WHITE, *Orchid Grower, Bedford, Dorking.*

HINTS ON WATERING.—As a rule, it is affording too much water at the root and too moist an atmosphere, that are the chief causes of the deterioration in Orchids, and it is safer to err, therefore, on the side of keeping the plants dry than on the wet side, especially if they are subjected to a reasonably low temperature. The same distinction should be observed when affording water to both tall and dwarf species of Epidendrum, as with Cattleyas. The plants of *Chysis*, *Catasetum*, *Mormodes*, *Cynoches*, *Cyrtopodiums*, and allied species should be kept comparatively dry whilst at rest. Warm or intermediate-growing *Ocidioms*, *Guatemalan* and *Mexican Oulontoglossums* should be afforded water occasionally to maintain the plumpness. Terete-leaved *Ochids* require very little water whilst at rest, just enough being afforded to prevent shrivelling of any part. Small-growing species, as *Promenæa*, *Rodriguezia*, *Paphinia*, *Compactia*, *Coryanthes*, *Oncidium pulchellum*, *O. triquetrum*, *Ionopsis*, *Burlingtonias*, &c., should be carefully attended to, and water afforded them occasionally to keep them from perishing. The various species which occupy the cool-house, as *Oulontoglossums*, *Masdevallias*, *Maxillarias*, &c., are growing almost at all times, and should be watered often enough to keep the compost moist.

DECIDUOUS SPECIES.—The plants of deciduous *Calanthes*, *Thunias*, *Cyrtopodiums*, *Catasetums*, *Mormodes*, and *Cynoches*, if properly matured, keep fresh-looking and plump in the resting-period without receiving any water. There are many species of Orchids in cultivation which bear a severe drying, and yet produce abundance of bloom, but they do this generally for one or two seasons only, and then push out weak and premature growth, gradually disappearing altogether. The object of beginners in Orchid culture should be to give the plants as good a rest as is possible, and see them safely through the winter.

EVERGREEN SPECIES.—Such evergreen epiphytal Orchids as *Aëridea*, *Saccolabium*, *Rhynchostylis*, *Renanthera*, *Stauropsis*, *Sarcophilus*, *Angraecums*, and the tall-growing *Vandas*, do not require so long a season of rest as the deciduous species; still, the longer they are kept in an inactive state, the stronger will be the new growth. These evergreen species should never be allowed to get quite dry, and water must be afforded in sufficient quantity to prevent loss of foliage. The state of the sphagnum-moss, which has been growing luxuriantly, should afford the cultivator an idea of the needs of the plant, and if it be allowed to assume a whitish-green colour before water is given, it will show that the plant has been kept sufficiently dry. The whole of the mass of compost should not then be saturated with water, but the top-dressing of sphagnum-moss should be merely sprinkled, so as to keep it alive. *Phalenopsis Schilleriana*, *P. Aphrodite*, *P. intermedia* *Portei*, and others, that are sending up their flower-spikes, should receive similar treatment. Evergreen species,

such as *Cypripediums*, *Phaias*, *Calanthes*, *Anectochilus*, &c., require the shortest period of rest of any Orchids, and this should begin immediately the flowering season has passed, affording water sparingly for a few weeks, when new growth will generally commence to be made.

DENDROBIUMS.—*Dendrobium*, especially those of the deciduous or semi-deciduous species, require a long rest, and no water at all at that season, unless the pseudo-bulbs shrivel, when water may be afforded in quantity sufficient to restore plumpness. *Dendrobium thrysoiflorum*, *D. densiflorum*, *D. suavisissimum*, *D. chrysoxum*, &c., which are evergreen, the *nigro-hirsute* species, *D. Lowii*, *D. cruentum*, *D. Draconis* (*eburneum*), &c., and the cooler-growing varieties, *D. infundibulum*, *D. Jamesianum*, *D. cariniferum*, and its variety, *D. Wattianum*, should be kept only slightly moist at the root when at rest.

CATTELYAS AND LÆLIAS.—As regards *Cattleyas* and the tall-growing *Lælias*, experience teaches that at the so-called period of rest, the short pseudo-bulbed species, of which *Cattleya citrina* and *Lælia majalis* may be taken as types, require less moisture at the root than at all other seasons, than the slender, tall-growing *C. bicolor*, *L. harpophylla*, &c.; and those which have pseudo-bulbs of an intermediate size, viz., *C. Mendeli*, *C. Mossiae*, and *C. labiata*, should be treated accordingly. The object is to induce the formation of roots, but not top-growth, and to do this, just sufficient water to keep the pseudo-bulbs and leaves from shrivelling much should be afforded the plants.

THE KITCHEN GARDEN.

By JOHN LAMBERT, *Gardener, Powis Castle, Welshpool.*

DWARF KIDNEY BEANS.—Successional sowings should be made at regular intervals of fourteen to twenty-one days, according to the demand. The soil should be of a loamy nature, and rendered porous by using road-grit, sand, or leaf-soil, in quantity to suit the kind of loam. Some gardeners sow six or eight seeds in a number of small 60's, and transfer these before the roots are pot-bound, into 10 inch pots. Ainery started for forcing will be a good place for the seeds in the first stage. Shelves suspended within 1½ feet of the glass are well adapted for French Beans. When the early batches of Beans have made considerable growth, some sort of support from twigs, or small sticks and bast, becomes necessary. When the soil needs water, let enough be afforded to reach every part, any stint in this matter causing loss of bloom and poor growth. As a variety worth growing, Veitch's New Runner French Bean should be tested especially at a later part of the winter, when hot-water pits may be used with good results in Bean culture, although there is little doubt that red-spider will be against this variety replacing the old dwarf ones for inside-work.

SPRING CABBAGES.—These Cabbages which were planted as previously advised, having now become sturdy established plants, and therefore likely to withstand severe weather without loss, should be examined, and any gaps found in the lines filled up with some of the best plants remaining in the seed-beds; the plants freed from decaying leaves, the land from weeds, and hoed rather shallow between the rows. Finally, afford the plantations a good dressing of fresh soot thrown broadcast over the plants as well as the land, and then mould them up, choosing a day for this job when the surface is dry.

WORK IN GENERAL.—Many small matters will now require attention, such as keeping up a supply of Lettuces for salads. If under glass, so much the better, but if these plants must remain out-of-doors, protecting materials should be at hand in case of hard frost. These may consist of mats thrown over hoops placed over the plants, or spare frame-lights, boards, &c.; these remarks apply also to Endive. Roots of *Dandelion* and *Chicory* may be placed in the Mushroom-house; and successional batches of *Seakale* should be put into heat, so as to keep up a regular supply. When small quantities of *Seakale* are required, the roots may be placed in large flower-pots with leaf-mould over them; of course, keeping the light away from it entirely. *Seakale* should not be hard forced, but brought on somewhat slowly, as it will be if the warmth does not exceed 60°. *Seakale* roots intended to be forced this winter, may now be lifted, and the small thongs for making sets selected, burying these in soil until time can be found on wet days for making them. The crowns for forcing purposes should be laid in, in moist soil, litter being

thrown over them in time of frost. *Asparagus* roots may be similarly lifted and laid-in, in some readily-accessible place. The old beds of Cabbages, if the plants were properly treated, will now be producing small compact heads and sprouts, tender and of good flavour. These Cabbage-beds should be cleared of decaying leaves, stripping these off the tall stems, and gathering them by hand or raking them out of the beds, thus affording air to circulate among the plants, and rendering the plantation less obnoxious as regards odour. Young Cabbage plants put out late in the summer will now be furnishing good heads. Coleworts will be plentiful and good at this season, so that there will be no scarcity of Cabbages and Greens for the table. Brussels Sprouts, the most highly prized of winter vegetables of the Cabbage tribe, should be cleared of decaying leaves, &c., but carefully avoiding breaking the fresh ones. The short-stemmed sturdy varieties are to be preferred, as they keep erect, are not so much acted on by wind as the tall ones, which fall about a good deal on rich land, thus rendering the sprouts liable to have the soil splashed on to them by the rain. Heaps of stable-dung, and litter, and fresh tree-leaves, should be mixed and got in readiness for making hot-beds and renewing the linings to pits and frames. The cold pits and frames containing Parsley, Cauliflower, Lettuce, &c., should have the lights removed during dry mild weather.

MUSHROOM BEDS.—Continue to collect and prepare manure for making new beds indoors; and if a bed be made at intervals of three weeks, a good supply of Mushrooms will be kept up. Fresh beds give the more delicate Mushrooms; still, those beds which have been in bearing for some time, will, if kept moist, and the house at the proper temperature, continue to bear for a considerable length of time. The water applied to a Mushroom-bed should not be of less warmth than 85° to 90°; and a bed if damped with the syringe occasionally, and kept covered up with bast, mats or litter, will not require heavier waterings, affording these being a mistaken practice. The coverings of Mushroom-beds out-of-doors, when very wet, should be removed and their place supplied with light dry materials.

FRUITS UNDER GLASS

By RICHARD PARKER, *Gardener, Goodwood, Chichester.*

THE LATE VINERY.—Owing to the favourable season, late Grapes finished well, and with care the bunches should keep in good condition throughout the winter months. The bunches should be left on the Vines till the foliage has fallen in a natural way. At present all the principal leaves are still perfect on our Vines, but they are changing to the usual beautiful tints of decay, but will not entirely drop for a fortnight. To remove these leaves would not improve the Grapes in any way, and there would be the danger of robbing the future fruit-buds of some accession of strength. It is, however, necessary that such sun-light as we have, and unimpeded circulation of air, should be afforded, and to obtain these, the shoots may be shortened to within two or three leaves of the bunch; all lateral growths should be removed. Ventilate freely during bright weather, and apply fire-heat when the temperature in the vinery is likely to fall below 45°, or during wet and foggy weather. The bunches of Grapes should be examined once a week, or oftener, and every berry showing the least sign of decay, removed; for to allow one decaying berry to remain is to risk the loss of the entire bunch, so quickly does decay spread. It is general for the roots of late Vines to have access to outside borders, and these require protecting from snow and rain during the winter, which is best done by covering the border with shutters, or failing these, with a thick layer of ripe bracken, letting the protecting materials remain till the Grapes are cut, but no longer, full exposure to the weather being then best for the Vines. These remarks apply to vineries entirely given up to the Vines; but where bedding plants and others are stored, it is better to cut the bunches of Grapes at this date with a good length of shoot attached, and keep them in bottles of water in the usual manner in a dry cool room.

STRAWBERRIES IN POTS.—Plants placed in cold pits or frames, and afforded full exposure, should have the frame-lights put over them, if falls of snow or sleet threaten; and it would be well after this date to protect the plants from heavy rains, for should severe frost follow these, they would suffer more from the soil being wet, but the lights should be again removed on favourable occasions.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

Letters for Publication.—All communications intended for publication, as well as specimens and plants for naming, should be addressed to the Editor, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

TUESDAY, DEC. 10. { Royal Horticultural Society Committees, at Drill Hall, Westminster.

SALES.

MONDAY, DEC. 9. { Dutch Bulbs, Azaleas, hardy Perennial Roses, &c., at Protheroe & Morris' Rooms.

THURSDAY, DEC. 12. { Great sale of Japanese Lilies, Roses, Herbaceous Plants, Dutch Bulbs, &c., at Protheroe & Morris' Rooms.

FRIDAY, DEC. 13. { Orchids from Messrs. F. Sander & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—40°.8.

LAST week we published the second Epping Forest report of the Commissioners appointed by the City Corporation to investigate into certain charges as to excessive thinning of the trees throughout the Forest generally. This report practically exonerates the Forest Conservators. In a large area of 5542 acres, tenanted largely by "gaunt pollard Hornbeams," which must be partly conserved and partly cleared for the young trees springing up, which must in time displace these said pollards, there is room for difference of opinion as how best to keep up the character of the wood as a "natural forest," in terms of the Act of 1878. There is not much occasion for wonderment at those lovers of trees and shrubs and under-growth of miscellaneous description, who live on the spot, protesting in the public prints. Unfortunately, the noisiest critics, however well-meaning, are often the least informed on the subject-matter in hand, as this Epping Forest question has fully illustrated. If the controversy were confined to the proper channels, where arboriculture is appreciated and understood, the wild ideas of irresponsible individuals would never be published. As it is, the conservators and their superintendent must be greatly strengthened in their labours by the unanimous finding of the experts.

In a forest of this kind, which has not been a natural one in the general acceptance of the term, at least since the days of wholesale lopping began, it is desirable to have as many and as varied features as possible. There are by far too many pollarded Hornbeams throughout the whole of Loughton Manor, and we cordially endorse the recommendation of the Commissioners to have much larger clearings than have hitherto been effected, so that eventually spear trees may grow up. It is not wisdom in such a large area to thin out so as to leave individual pollards; it is much better to have groups of these fantastic cripples, with the undergrowths of Brambles, the Dog-rose, the "May," and the Blackthorn clambering round and amongst them. It is delightful to see how those Thorns protect the seedling Oaks, Beeches, and Horn-

beams from the bite of cattle, and the progeny rearing its head above eye-level, will establish itself, and become one of the new features in time to come. Moreover, there are many hundred acres through which it is scarcely possible to crawl, so close are the tree-stems, and the canopy of leaves shuts out completely the light of heaven from the ground, stifling any attempt at herbaceous life rearing its head.

In certain portions of Monkwood, about which there has, in time past, been a good deal of heated controversy, many of the Beech trees are magnificent specimens, and possibly, in time past the thinning has been a little severe, more especially as no underwood will come up under the dense shade of the Beech, and the clearings have not been bold enough to ensure a young crop of seedling trees in the intervals. About Theydon Manor, especially the high wood, Beech is the feature, and it ought to be maintained. There is a pleasing sensation, almost equal to walking over a Turkey carpet, to tread upon a thick layer of Beech leaves.

The chief seat of the Oaks is in Bury, or Hawkwood, and there has been a unanimous expression of opinion as to the conservation of these trees; indeed, the report says, "We attach great importance to retaining the character of this portion of the Forest as an Oak wood, and we would recommend that nothing further be done here beyond the gradual clearing-out of the pollard Hornbeams." If Oaks are to attain large dimensions, it is surely in this low-lying quarter. What has been cut out has improved the character of the remainder. It is exceedingly desirable to show boles of Oaks as well as tops to the forest wanderer; and after the Hornbeams have been seen to, and proper provision made for the upgrowth of young Oaks through the encircling shelter of the underwood, room should be made by judicious thinning, even of the Oaks themselves, for the growth of fine trees, and the formation of picturesque groups. They do much better in this wood than in the adjoining paddock, opposite the Royal Forest Hotel in Chingford Earl's Manor. The Oaks here seem to be as aged as any specimens throughout the Forest, but they have neither attained bulk nor altitude, and seem to be in the downgoing period of their existence. Such fine examples of Oak pollards as are to be seen in Lord's Bushes, one of the offshoots in Hatch Manor, ought to be preserved. The underwood, especially the Hollies, is making fine headway, and the general vigour of herbaceous life at once shows the fertility of this spot.

The Birch is making headway wherever the forest fires have stamped out tree-life. There are some charming young trees of this, which, with a beautiful pendent habit and graceful foliage, well meriting the title of Lady of the Woods, have straight prominent silver-barked stems which lighten the sombre winter scenery. A few miscellaneous trees are springing up, such as Sycamore, and a stray Aspen or two, but these are not encouraged. On the other hand, the Common Crab (*Pyrus Malus*), is encouraged and has not been pollarded; it is beautiful with its abundance of flowers in spring, and its fruits which generally are plentiful, and which the herd of deer eat with great avidity.

The picturesque undulating ground on the one side of the New Road, comprising many salient spots both in Loughton Manor and in Theydon Bois Manor, admits of making many vistas which would greatly relieve the eye of the visitor, shut up for miles, so to speak, within living walls of trees, and so does the corresponding ground on the other side of the New Road, particularly in some parts of Sewardstone Manor and Waltham Holy

Cross Manor, in order to open up the nice bit of pastoral scenery beyond the river Lea. These rides and beaten irregular paths over the forest generally lead to scenery which is shut out from the eye and which is worth opening up, and thus enhancing the forest effects. It has hitherto been dealt with in far too gingerly a way, no doubt, because of the ceaseless agitation of a few busybodies. The best of the out-of-the-way features have arisen from conflagrations. Quantities of the common Brake have sprung up, which, now one mass of russety-brown, is grand after the summer greenery; and then the masses of Farze, and Ling, and Heath, doing battle together wherever there is headroom and light are simply charming—all the more so where there is breadth of space.

In such a large area as this, so near a great city, it would not be out of place, neither would it be entrenching upon the reading of the conditions of transfer from the Crown to the public, to clear an area free from Hornbeam Pollards to form an arboretum, and introduce some of the deciduous trees and shrubs, and coniferous trees of other countries for general gratification and study. They need not be distributed to alter the character of the forest, but a collection of them suitably arranged would form splendid object lessons for all who cared to profit by them. Although the Act says that the natural aspect of the forest is to be preserved at all times as far as possible, it also says that the forest is to be "kept as a place of recreation and enjoyment" to all. This, in our opinion, would be a place of enjoyment to many, as it would enable them to see the arboreal wealth of other countries, "no one daring to make them afraid."

BEGONIA INCOMPARABILIS X.—One of the most remarkable exhibits at the last meeting of the Royal Horticultural Society was a noble-looking winter-flowering *Begonia* (fig. 112, p. 681) exhibited under this name by J. T. BENNETT-POË, Esq., of Chesham. It originated in the south of Ireland, as we learn from its raiser, as a cross between *Begonia polypetala* and *B. Froebeli*. The foliage is very handsome, the leaves being nearly a foot across, and covered with a velvety pubescence of a pretty pink hue when young. The inflorescence is nearly 2 feet in height, standing well up above the foliage, and bears numerous scarlet flowers each about an inch in diameter. Before expansion, the flower-stalk is decurved, and the flattened flower-buds covered with dense whitish pubescence. We congratulate Mr. Poë on the acquisition of so remarkably fine a plant.

OUR ALMANACK.—Secretaries of Horticultural Societies and others, are earnestly requested to forward immediately, the dates of Show Fixtures and of Meetings of Botanical and Horticultural Societies of any kind for 1896, for insertion in the Almanack, to be published in our issue for January 4.

THE ROYAL HORTICULTURAL SOCIETY.—The next Fruit and Floral meetings of the Royal Horticultural Society will be held on Tuesday, December 10, in the Drill Hall, James Street, Victoria Street, Westminster. The committees will meet as usual at 12 o'clock. An election of new Fellows will take place at 3 P.M.

NATIONAL ROSE SOCIETY.—At the Society's Crystal Palace shows in 1896 and 1897, the following valuable prizes will be offered for Roses raised, or first distributed by Messrs. A. DICKSON & SONS, Newtownards, co. Down, Ireland. There will be a class for amateurs for six distinct varieties, and another for nurserymen for twelve varieties. In each case the first prize will be a handsome Silver Cup and £2, second prize £2, and the third prize £1. Each Silver Cup must be won twice (not necessarily two years in succession), before it becomes the property of the exhibitor. The above prizes are

presented by an amateur member of the Society, who wishes us to make these classes known now in order that intending exhibitors may be better prepared for them next year.

REDUCTION OF RATES FOR SMALL PARCELS ON THE G. E. R.—There are many conflicting

opinions as to the causes of the prevailing depression in the agricultural counties, but there has been something like unanimity upon one point—the question of railway rates. The experiment began on Monday last over the Great Eastern Railway system is, therefore, of great interest, and makes it possible for the farmer and market-gardener to get into direct communication with the consumer in London. Packages of dairy and garden produce may now

be sent to and delivered in the metropolis at rates for carriage varying from 4*d.* for 20 lb. to 1*s.* for 60 lb. This is very greatly less than any railway company has carried for before; and since the Great Eastern covers the districts where the depression has been most acute, the results that follow this departure will be noted with great interest. It will

hope to see other companies follow in its course, and thus prove that the popular is also the paying policy.

SOCIÉTÉ NATIONALE D'HORTICULTURE, PARIS.
—At the meeting of this society held in Paris on Thursday, November 28, M. PEETERS, of Brussels,



FIG 112.—*BEGONIA INCOMPARABILIS* × : FLOWERS, SCARLET. (SEE P. 680)

now be possible for the consumer to have his weekly parcel of butter, eggs, poultry, fruit, and vegetables direct from the producers without the intervention of the middleman. One or two things more seem to be needed, viz., a list of farmers, gardeners, and others, who are willing to supply customers under the new arrangement, and a system of payment on delivery. Should this venture turn out remunerative to the Great Eastern Railway, we may

showed some fine hybrids of *Cypripedium*: *C. Leyseianum* (*C. bellatulum* × *barbatum* Crossi), *C. Senatour Montefiore* (*marmorophyllum* × *Spicerianum*), *C. Niobe* (*Fairieannum* × *Spicerianum*), and *C. Chautini* × *Sallieri Hyeannum*, a splendid plant. From the same exhibitor came a grand plant of *Odontoglossum* (*Miltonia*) *Leopoldianum*, to which an award of a silver medal was made. Messrs. CAPPE ET FILS showed *Cypripedium mont-*

num, which is something in the way of *C. Sandersæ*. M. DORN showed a magnificent *Cymbidium Hookeri*; and some good plants came from M. LESUEUR, among them a good form of *Odontoglossum cuspidatum*. Mr. BEIT exhibited several good *Cattleyas*; Messrs. DUVAL ET FILS, Versailles, presented a plant of *Miltonia vexillaria superba*, and a fine lot of *Cypripedium Charlesworthii*.

DINNER TO EMPLOYEES AT RYECROFT NURSERY.—On Saturday evening, 30th ult., some thirty of the staff at Mr. JONES' nursery, were entertained by him at dinner, the latter being followed by a musical entertainment, in which both amateur and professional artists took part.

ROYAL HORTICULTURAL SOCIETY OF ABERDEEN.—The annual general meeting of the members of this society was held in the Music Hall Buildings, Aberdeen, on Saturday, the 30th ult. Mr. D. M. SMITH occupied the chair, and there was a capital attendance. The society held one exhibition during the season in the Duthie Park, which proved, from a horticultural point of view, most successful. The entries numbered 2021, this total being surpassed by only one society in Scotland. Mr. J. MENRO, nurseryman, Burnside, in criticising the report, thought they should look more to horticultural matters, and leave musical and "fire-eating" matters to take care of themselves.

THE GARDENS IN LINCOLN'S INN FIELDS.—The London County Council are having the grounds of Lincoln's Inn Fields thoroughly drained, the arrangements in that respect having been of the most primitive and inadequate character. The paths are being levelled and gravelled, and later on the beds and shrubberies will be overhauled, and in many instances replanted. The gardens have proved a great boon to the poorer inhabitants of the adjoining thickly-populated districts. There is a fine group of Pines in the centre, and little or nothing needs to be done in the way of altering the plan.

"THE JOURNAL OF BOTANY."—The steady increase in the number of papers which have been sent to the *Journal of Botany* for publication during the last year has forced upon the editor (Mr. JAMES BRITTEN) the consideration of means whereby to meet the demands upon its space. This increase is gratifying evidence that the *Journal* is recognized as a suitable medium of communication with the scientific world. The financial position of the *Journal* does not, however, warrant any additional expenditure. For the last few years it has not, as was at one time the case, involved any loss, but it does little—in some years nothing—more than pay its way. After discussing the position with various botanists, it is now proposed to enlarge the *Journal* by giving an extra sixteen pages monthly, and to raise the price of each number to 1s. 8d., and of the annual subscription to 16s. This means that the contents will be increased by one-half, while the charge will be raised by one-third, so that subscribers will be the gainers by the change. At times, of course, it may be desirable to substitute one or more plates for the additional pages, but the general result of the change will be that each number will contain forty-eight pages, instead of thirty-two as at present. It is suggested that the list of subscribers might easily be enlarged, if those who already subscribe would induce their friends to do so. There are many who, for the sake of encouraging science, would be willing to add the *Journal* to their list of periodicals, or who would present it to some reference library. The work of editing the *Journal* for sixteen years has been considerable, and financially unremunerative, and this gives the Editor a claim to the support of those interested in any branch of botany.

A FRENCH NATIONAL CHRYSANTHEMUM SOCIETY.—A new Society has been formed in France on the same lines as our own National Society. The subscription is fixed at 5 francs, and the Secretary is M. PHILIPPE RIVOIRE, 16, Rue d'Algérie, Lyon.

"JOURNAL OF THE ROYAL HORTICULTURAL SOCIETY."—With commendable promptitude, another number of the *Journal* of the society (vol. xix., part 2) has appeared. It contains, among other things, papers on Fruit Culture in France, by M. C. BALLET; a full account of the Crystal Palace Fruit Show, and the two Prizes Essays on the Commercial Aspect of Hardy Fruit Growing, by Mr. LEWIS CASTLE and by Mr. S. T. WRIGHT respectively.

HONOURS TO HORTICULTURISTS.—On the occasion of the Chrysanthemum exhibition in Paris, M. MARTINET, the editor of the *Jardin*, was made Officier d'académie in acknowledgment of his services to the exhibition of French fruit in St. Petersburg. M. ERNEST BERGMANN, on the same occasion, was made Officier du mérite agricole. The Emperor of RUSSIA has conferred on M. MAX COBNU the grand cross of the order of Stanislas. M. MARTINET is made commander of the same order. M. H. L. DE VILMORIN is made a Chevalier of the Order of St. Anne. These last appointments have been made in connection with the great fruit exhibition at St. Petersburg in 1894.

FROZEN FLOWERS FROM AUSTRALIA.—It is stated in the *Westminster Gazette* of November 23, that a fine collection of blue and white Water Lilies (*Nymphæa gigantea*) has been sent by a leading florist in Sydney, N.S.W., through Sir SAUL SAMUEL, the Agent-General, for presentation to her Majesty the QUEEN. The Lilies were frozen in ice, and received as long ago as August last by the Colonial Consignment and Distributing Company, Limited, being stored at Nelson's Wharf, until Wednesday, November 27, when they were delivered at Windsor. In spite of the length of time, the flowers were in perfect condition, and, seen through the transparent ice, were very attractive.

VEGETABLE FIBRES.—Dr. MORRIS' lectures on this subject before the Society of Arts have now been republished in a complete form, and may be had from the Society of Arts, Adelphi, London. They present within small compass a readable account of the nature, properties, and source of vegetable fibres generally. On looking through this excellent summary, the reader will be struck with the small number of species which have up to the present time been utilised. This is the more astonishing, as the great majority of plants yield "fibre" in some form or another. Is there not here an opportunity for our botanical stations to institute, on a far larger scale than they have hitherto done, comparative trials of various fibre-producing plants, in order to ascertain which are of the most commercial importance. In the mean time we commend the present publication to the notice of all concerned.

MR. BARRON'S RETIREMENT.—With the last meeting of the Fruit Committee for the year, which takes place on Tuesday, December 10, at the Drill Hall, will be terminated Mr. A. F. BARRON'S long connection with that body as secretary. That there will be a considerable attendance of members is probable, as such is usually the case on the last meeting of the year; but in view of this leave-taking, the attendance at this particular committee will doubtless be unusually large. The occasion is a fitting one for some formal proposition from the members, which should be recorded on the minutes of the committee's proceedings, and no doubt such proposition will be forthcoming. In the meantime, we have great satisfaction in announcing that at the last meeting of the Council of the Royal Horticultural Society it was resolved to elect Mr. BARRON as an Honorary Life Fellow of the Society. Mr. BARRON was also elected to serve on the Fruit Committee for the ensuing year.

COLOUR IN BUTTERFLIES.—The scales on the wings of the Pieridæ, to which the Cabbage butterflies belong, are shown by Mr. GOWLAND HOPKINS, of Guy's Hospital, to contain uric acid, to which substance, in fact, they owe their opaque milky-whiteness. The scales of allied yellow insects also

contain a substance similar to uric acid. Pigments of this character are not found in other butterflies, so that when the Pierid "mimics" an insect belonging to another group, the pigment in the two cases may easily be distinguished chemically. These curious observations show that there is a close association between pigments of a decorative character and substances of an excretory nature.

ROSARIAN'S YEAR-BOOK.—The Right Hon. Lord PENZANCE will, we understand, contribute a paper to the forthcoming issue of the *Rosarian's Year-Book* on the "Hybridisation of Roses," with special reference to his experiments on the Sweet Briar.

PROPOSED MEMORIAL TO THE LATE DR. WOODMAN.—We learn that Mr. E. J. JARMAN, seed merchant, Caard, Somersetshire, has kindly undertaken the duties of Hon. Treasurer to the Fund which has been started, with W. NAPPER, 489, King's Road, Chelsea, S.W., as Hon. Secretary. With such workers, the work cannot but be successfully carried out, and it is hoped that after erecting the suggested monument, a substantial balance will be left for the benefit of Mrs. Woodman.

CHRISTMAS NUMBERS.—The Christmas number of the *English Illustrated Magazine* (*Illustrated London News* Office, 198, Strand), contains many tales interesting to read and appropriate to the forthcoming season. *Yule Tide* (CASSELL & Co., La Balle Sauvage Yard, E.C.), is very good this year, and the coloured plate, entitled "Prisoners of War," is a refreshing change from the too plentiful pictures of kittens, puppies, and maidens usually seen at this season.

MR. BUYSMAN.—We have more than once taken occasion to praise the admirably dried specimens of plants, chiefly of economic species, prepared by Mr. BUYSMAN, of Middelburg. It is with regret, therefore, that we hear that the sight of this able preparer is seriously threatened, in consequence of over-application, and that some of his friends are desirous of giving him some assistance in the shape of clerical help in his work. Those who feel disposed to contribute in this laudable object, are requested to communicate direct to Mr. BUYSMAN, Middelburg, Holland. It is especially sad that a breakdown should occur, just when the initial difficulties of his enterprise seemed to have been fairly overcome.

POTATO SCAB.—Potato scab is caused by the attack of a minute vegetable parasite, as was first demonstrated at the Purdue Agricultural Station. It chiefly attacks the crop through infected seed material. The seed material may be disinfected by immersion in a bath of corrosive sublimate. As corrosive sublimate is a deadly poison* when swallowed by man or beast, great care must be exercised in handling it. The corrosive sublimate solution should be of the strength of one part mille (2 oz. to 15 gall. of water). The bath should be about an hour and a half long, although some variation in time is immaterial. Cutting and planting is done as usual. The result of the treatment is a crop essentially free from surface blemishes, and of greater market value. Sometimes a considerable increase in yield results from the treatment. The method is easily and cheaply applied, and is worthy of extended trial. (Abstract of paper published by J. C. ARTHUR in *Bulletin Purdue Agricultural Experiment Station*, August, 1895.)

"MESNY'S CHINESE MISCELLANY."—We have received the first number of this publication, published at Shanghai, and destined, as it appears, to be an encyclopædia of things in general concerning China and the Chinese. The author, having lived more than thirty years in various parts of China, one-half of the time entirely isolated from all foreigners, speaking nothing but Chinese, in constant communication with the highest officials, holding

* An antidote that is probably as good as can be had ready at hand is the white of egg. But no remedy can be of service unless administered without delay.

social intercourse with all classes of the people, travelling extensively by land and water throughout the whole of the eighteen provinces of China proper, note-book in hand, and keeping a journal of all his movements and experiences, has acquired an intimate knowledge of the manners and customs of this peculiar people, and accumulated a vast amount of the most useful and most interesting information, which will now for the first time be placed before English-reading people in the handiest form imaginable, and on the most reasonable terms." The first number, so far as it goes, certainly justifies the author's claims, but it also shows that the services of a competent editor are needed to digest, condense, arrange, and in some places to correct the vast mass

The Chinese name for this plant, it appears, is Anxious Desire, in reference to "the sorrow of some widow who wept under one of these trees [climbing shrub, rather] and died of her grief." Acacia concinna, the Mimosa saponaria of Roxburgh, is mentioned on account of its pods, which contain a detergent principle which enables them to be used in place of soap. A nemu is indicated as a sensitive plant, the bark of which is used for medicinal purposes.

THE ROYAL GARDENERS' ORPHAN FUND.—A meeting of the executive committee of the above took place at the Hotel Windsor on the 29th ult., Mr. WILLIAM MARSHALL in the chair. The following

£2 10s. It was resolved that the annual meeting and election of orphans to the Fund should take place on Friday, February 21 next. The usual vote of thanks was passed to the chairman for presiding.

IMPORTATION OF HORSE-RADISH.—Of all the garden and farm products unnecessarily imported into this country, there is none to our mind less warranted than that of Horse-radish, which comes into Covent Garden in huge barrels from Holland and Germany. The subject was incidentally referred to at the Drill Hall, on Tuesday week last, when Mr. MASON was speaking about Asparagus culture. That gentleman has grown Asparagus and Horse-radish for market during many years, but has always to combat this extraordinary prejudice in favour of Horse-radish from Holland. Is the imported root of better quality? Not a bit of it! The roots are admittedly larger, but they are correspondingly less effective, and Mr. MASON declared he could eat a quarter of a pound of it without it causing him to weep! English roots are smaller and very much better in quality, yet these may often be seen lying in Covent Garden lacking a purchaser, for the very reason that they are English. Surely the ways of the British public are incomprehensible. Can the moral be this: that British growers, if they desire the confidence of their countrymen, must give them Horse-radish that will not cause them to weep?

THE SURVEYORS' INSTITUTION.—The next ordinary general meeting will be held on Monday, December 9, when a paper will be read by Mr. F. PUNCHARD (Fellow), entitled "The Working of the Agricultural Holdings Act, 1883." The chair will be taken at eight o'clock.

PUBLICATIONS RECEIVED.—From the New York Experiment Station, *Bulletin*, No. 91, for August, 1895, including papers on "A New Strawberry; Strawberries, Raspberries, Blackberries, and Dewberries."—*Bulletin of the Botanical Department, Jamaica*, vol. ii., Part 9, the contents include papers upon "Essential Oil of Orange, Cultivation of Cocoa, Cultivation of the Coconut, Chemical Selection of Cane, and Synoptical List of Ferns."—*Report on Government Botanical Gardens, Saharanpur and Mussooree*, for year ending March 31, 1895. Satisfactory in spite of an unfavourable season as regards weather.—*Landbouwkundig Tijdschrift* (agricultural journal), onder redactie par Prof. Dr. J. Ritzema Bos, Mr. A. D. Van Assendelft de Coningb, Prof. Dr. Adolf Mayer en Dr. A. M. Prins, Ad. 6. Te Groningen Bij, J. B. Wolters.—*The Quiver*, for November. First part of a new volume, and quite up to the usual standard of excellence.—*Nature Notes*, for November, contains as usual many jottings interesting to lovers of natural history.

PLANT PORTRAITS.

ADIANTUM LINEATUM, *Illustration Horticole*, October 30. Segments of fronds broad, cuneate lanceolate undulate, dark green, veined with white.

ARETHUSA DULBOSA, *Meehans' Monthly*, August.

BEGONIA FAUREANA, *Illustration Horticole*, October 15. Leaves oblique deeply palmately lobed; lobes lanceolate, dark green, mottled with lighter green spots.

COREOPSIS GRANDIFLORA, *Meehans' Monthly*, November.

CYMBIDIUM EBURNEO-LOWIANUM, *Garden*, October 5.

CYPRIPEDIUM GESTRUDE HOLLINGTON (CILIOLORE X BELLATULUM), *Moniteur d'Horticulture*, October 10.

LYGODIUM PALMATUM, *Meehans' Monthly*, October.

PEAR ANDRÉ DESPORTES, *Bulletin d'Arboriculture*, October. Recommended by M. Burvenich as the earliest of Pears, ripening in the middle of July.

RHODODENDRON VIRGATUM, Hook. f., *Wiener Illust. Garten Zeitung*, t. iii., 1885.

SOLLYA PTEROPHYLLA, *Revue de l'Horticulture Belge*, November.

SYRINGA EMODI, Wall., var. *ROSEA*, Corau, *Garten Flora*, p. 500, 1895.

TRICHOSTEMMA DICHOTOMA, *Meehans' Monthly*, September.

CHRYSANTHEMUM M. CHENON DE LECHÉ.

This is one of the best and most attractive of the newer varieties of the Chrysanthemum. Its refined character will make it popular with everyone desirous of encouraging such a class of bloom to the exclusion of extra large flowers which combine with them a

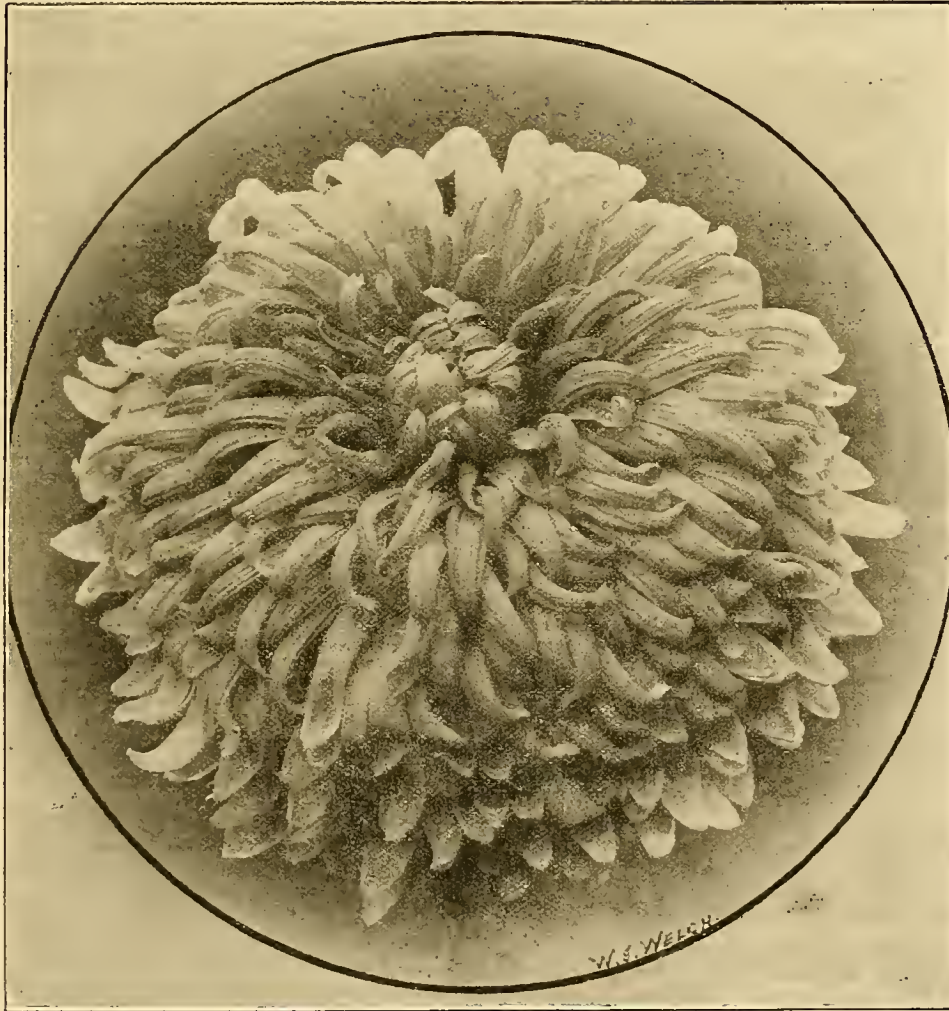


FIG. 113.—CHRYSANTHEMUM M. CHENON DE LECHÉ.

COLOURS: ROSY BUFF UPON A YELLOW GROUND, AND THE TIPS OF THE FLORETS, YELLOW.

of varied information collected by the author. A classified index at the end of the year will also be requisite. Mr. MERRY notes the singular accuracy of the narrative of MARCO POLO, in whose tracks he has in many cases travelled. The items of information presented to us in this first number are so numerous and so varied, that we have a difficulty in making any selection suitable for our readers, but in justification of our remark as to the need of an editor, we may mention that the seeds of *Abrus precatorius* are described as "barries." This statement is more than a mere technical error, as it leads to a statement that TATARINOF fell "into the popular error, and confounds this "berry" with a genuine species of Bean perfectly distinct." The seeds, which are perfectly well described by our author, are in reality very closely allied to Beans, and are contained like them in a pod or legume.

special receipts were announced: Rugby Chrysanthemum Society, sale of flowers, £5 2s. 6d.; Mr. F. Miller, Margate, £1 10s.; Mr. G. Harvey, Stanton in Peak, £1 5s.; Mr. Malcolm Dunn, £1 1s.; Mr. J. Miller, Ruxley Lodge, 10s.; Young Gardeners at Raxley Lodge, 10s.; Mr. H. A. Burberry, Birmingham, 15s.; and Mr. J. Lemmon, Elm House, Chichester, 5s. From boxes, the following sums were announced:—Par Mr. T. Turner, Royal Horticultural Society's Gardens, Chiswick, 16s. 1d.; Mr. G. T. Cole, Charters', Ascot, 16s.; Mr. J. McLeod, Roehampton, 15s.; Mr. R. Scott, Bradford, 14s. 2d.; Chislehurst Gardeners' Association, per Mr. J. Lyne, 10s.; Mr. A. D. Christie, Ragley, Alcester, 5s.; Croydon Chrysanthemum Society, per Mr. W. B. Beckett, 21s.; from boxes for viewing the collection of Chrysanthemums at The Grange, Wallington, per Mr. G. W. Cummins.

certain amount of roughness. A pure reflexed Japanese variety, the colour is a beautiful rosy-buff upon a yellow ground, the tips of the florets yellow, and the reverse of the same colour. There is a distinct and attractive appearance about the flower not easy to describe. The florets are very long, regular, and of average width. Mr. W. Wells, of Earlswood Nurseries, Redhill, to whom we are indebted for the photograph, informs us that the plant is an excellent doer, and grows only about 4 feet high. The bloom represented by fig. 113, is one of two that were produced by a plant in Mr. Wells' nursery that only arrived from the raiser (E. Calvat) in March last. One of these blooms was included in Mr. Wells' collection of forty-eight at the Aquarium, and the other one was shown in competition at the Hall exhibition. The larger bloom measured exactly 8 inches across, and was about 5½ inches in depth. The variety has been certificated during the present season by the National Chrysanthemum Society, and an Award of Merit has been conferred upon it by the Royal Horticultural Society. It may be useful to add that the variety does not exceed upon the "first crown" bud, and is in this particular dissimilar to the excellent *Boule d'Or '95*.

HOME CORRESPONDENCE.

DAPHNE INOICA RUBRA AT BERKELEY CASTLE.

—Amongst the many features of interest at Berkeley Castle is a perfect hedge of *Daphnes*, growing in one of the houses, planted out in a border. I consider them wonderful examples of cultivation, being the picture of healthy development, well furnished with branches down to the ground, with many hundreds of trusses of sweet-scented flowers, dispensing the fragrance around. These plants average 5 feet to 7 feet in height and breadth, and as much through. Mr. Shore informed me that the largest were struck from cuttings fourteen years ago; all of them are on their own roots (not grafted). He keeps propagating them in this way, and the plants of less than one year old are 1 foot in height, proving that on its own roots, when properly grown, *Daphne indica rubra* is a valuable plant for winter flowering. At Berkeley the plant is freer than any grafted plant I have ever observed. The Cyclamens, Primulas, Carnations, and Chrysanthemums are very attractive just now, all being well done. *Rusticus*.

CRABS AND APPLES IN PLEASURE GROUNDS.—

Your correspondent "D. T. F." does well to recommend the use of these plants in pleasure grounds, and more especially for arches. I can imagine that the effect would be very charming. I think it a great pity that Crabs and Apples are not planted more extensively in pleasure gardens; for if the trees were placed in suitable positions, the effect in the spring time would be very gratifying, and in the autumn a source of pleasure, especially where varieties fit for dessert would, &c., also planted were used. We have this autumn planted several good varieties of dessert Apples to form a background to beds of Lilac and Laburnum in the grounds here, but I should not advise Crabs for this purpose, especially *Pyrus Malus baccata* on account of its habit to run upwards. This variety is more suitable for woodland scenes or any place where its slender form would correspond with the immediate scenery. *George Burrows, Berwick Gardens, Shrewsbury.*

NATIONAL CHRYSANTHEMUM SOCIETY.—

In view of the Jubilee exhibition of this society next year, and whilst there is ample time for the consideration of the matter, is it not a very pertinent question to ask, whether a much more appropriate place cannot be found than the present quarters of the society for its annual display? It would be difficult to find a more unsuitable spot for the effective display of the flower, associated as it is with surroundings that (to take a very charitable view) are not conducive to the proper enjoyment and critical examination of the exhibits. The arrangements (perhaps in some respects unavoidable) were this season bad enough in all conscience. What will they be next year with an over-dow exhibition, necessarily incident on a greatly augmented schedule of prizes? I know I shall be met at the outset by upholders of the present arrangements with the

rejoinder, that the Aquarium is a central spot, and that, from the board of management, the National Chrysanthemum Society is treated with a liberality in respect of the all-important financial aspect of the case, that would not be possible elsewhere. But, surely, if the National Chrysanthemum Society can raise £1000 for prizes (is such a sum really needed?) next year as it proposes to do, it can, amongst its numerous—and, in many respects, wealthy—supporters, raise sufficient for the hire of a suitable hall in a central spot, minus the objectionable surroundings attaching to its present place of exhibition. I believe that, with a really earnest and determined effort to bring about this much-to-be-desired state of affairs, success would crown such endeavours, the jubilee exhibition would be a red-letter-day in its career, and the National Chrysanthemum Society would secure practical support from a not unimportant number who at present hold aloof from it by reason of present associations. What say your numerous readers who are interested in the cultivation and popularisation of the Golden Flower? and that it should have a worthy place of exhibition. *Mum.*

CARYOPTERIS MASTACANTHUS.—In the number for October 26, 1895, "W. W.," *apropos* of *Caryopteris Mastacanthus*, writes that probably that shrub will require to be well sheltered during the winter, save in any privileged parts of England. In the environs of Paris the plant resists well in *pleine terre* during the winter planted a little deeply. I have seen in the late spring some plants of that shrub that had been forgotten in a border at the preceding autumn come up strongly. The stems had quite decayed, but the roots had not suffered, notwithstanding a cold in Ghent of 17° Réaumur below zero. Consequently I consider the plant quite hardy. The plant is an excellent bee plant. During the season of flowering from July to the middle of October, I have seen every day thousands of honey-bees visit a group of *Caryopteris Mastacanthus*, and they gave a continual movement to the plants by their going to and fro. It is also an elegant plant for the ornament of the gardens, on account of its long period of flowering. *V. A. C., Ledeburg, Ghent.*

CHRYSANTHEMUM GOLDEN WEDDING.—My experience with this variety during the present season enables me to endorse the remarks made respecting it by Mr. W. H. Divers in your last issue. Like many other growers, until this season I failed to grow it satisfactorily, and felt inclined to discard it altogether; but by adopting a different course of treatment, I have this year produced some excellent blooms, measuring 8 inches across by 5 deep. The colour of this variety is very attractive, and for decorative purposes one of the best. Cuttings were inserted singly in thumb-pots on December 15 last, cool treatment being given from the commencement. The plants were stopped during the second week in April, two breaks only being reserved, crown buds being taken. Compost used in potting was of a light rich nature, very little artificial manure being given during the season. The final shift was to 8-inch pots. *H. Warren, Aston Clinton Gardens.*

A HEAVY CROP OF POTATOS.—I have been scanning the columns of the *Gardeners' Chronicle* during the past few weeks to find the weight of a Potato crop from a given area, which might enable me to form a comparison with the crop grown at this place, the varieties are Sutton's Satisfaction and Beauty of Hebron, planted side by side, and each occupying exactly 2 square rods of ground. The sets of Sutton's Satisfaction were planted 18 inches apart, and the rows were 4 feet apart, and the produce weighed 6 cwt. 7 lb., equal to 24 tons 5 cwt. per acre. The tubers were large and of good shape, many of them weighing 2 lb. 4 oz. each. Beauty of Hebron, planted on the same day, at 12 inches apart, and the rows 3 feet, yielded 4½ cwt., or 19 tons per acre. The tubers are of good shape, but not so large as those of Satisfaction, and the heaviest tuber weighed 1 lb. 10 oz. Ours is not considered a good district for the Potato, and this crop is looked upon as exceptional here, although in more favoured localities it may not be uncommon. I may add, that these Potatos were planted to illustrate in a small way the advantages gained by giving the plant plenty of space. *T. Leith, Herriard Park, Basingstoke, Hants.*

COX'S ORANGE PIPPIN.—I have four standard trees of this popular Apple, planted eighteen years ago, which this season produced twenty-seven bushels. They sold for 4s. 6d. per bushel, as they were neither

large nor well-coloured, and I was assured that plenty such could be bought for 3s. 6d. The nett returns for mine came to £1 per tree, but previously 5s. per tree would be about the amount. The fact is, commoner sorts have hitherto paid best. There is an old tree in my orchard which crops regularly in alternate years, and which has produced Apples to the value of £5 in one season. I believe they are Curtailes, a sort no one would plant now—an extra crop should be always rewarded with an extra allowance of manure. *Mid Kent.*

CYCLAMEN CULTURE.—Cyclamens, under ordinary good treatment, that is, with due regard to shading, the supply of moisture to the plants overhead during hot and drying days with a fine spraying-can, a free circulation of air, the avoidance of cold draughts, with abundance of water at the roots, aided by the favourable weather we had in the autumn, have grown into splendid specimens. The growth, which is always free during August and September, was this season quite exceptional, and not a few of the plants have required shifting from 5 inch into 7-inch flower-pots. Our plants have profited by an application or two of weak soot-water, and of the following mixture, viz., two parts Peruvian guano, one part nitrate of potash, one part sulphate of ammonia, and three parts mineral superphosphate. The above ingredients should be passed through a very fine-meshed sieve, in order to get them well mixed together. Half an ounce of this mixture put into 1 gallon of water will be sufficiently strong, and it may be afforded the plants once a week. It may also be applied as a top-dressing at the rate of 1 oz. to ten plants standing in 5 inch flower-pots; but the former is the safer method of using it. The Cyclamen has many valuable properties over and above the average of florist's flowers; it is free-blooming, has a compact habit of growth, handsomely-marked leaves—which in themselves ought to recommend it for house and table decoration—and the flowering-plant lasts so long in the sitting room, producing, as it will, a succession of bloom from October to November—enough good qualities to put it in the foremost rank. It was feared at one time, that as the flowers increased in size, there would be a decrease in the number of them; but the large-flowering varieties bloom just as profusely as the small ones, and many of the blooms have from five to nine petals, and these from 1½ to 2 inches in length, and 1 inch broad, with colours from very deep shades of purple and crimson, rose and pink, to the pure white. *A. E. N. George, The Vineries, Milton.*

ROSA RUGOSA FOR GAME COVERT.—Is not "H. J. C.," of Grimston, Tadcaster, slyly "poking fun," when he suggests *Rosa rugosa* for game covert. No doubt an acre or two of this beautiful flowering plant or shrub would have a fine effect, especially when in bloom, and the growth had attained some 5 to 6 feet in height, and would also provide shelter for some kinds of game; but how about the dogs and sportsmen that had to drive and get them out? I have a vivid recollection of pushing through furze-bushes when rabbit-shooting on the south Downs, and also remember the difficulty of getting the dogs to enter at all where the furze was thick; and the half-blinded state of some of them from the thorns driven into their flesh and eyes as they dashed after their game. But this, I take it, would be surpassed by the thorny barrier of *Rosa rugosa*; at least, I think so, and if each covert was at all high and dense, I for one would forego the pleasure of shooting among it, and not risk my dogs' eyes by turning in any that I cared for. Let any one try a few hours in a bramble covert, and then possibly they would get a small idea of what *Rosa rugosa* would be like—when it was *Rosa rugosa*, and nothing but *Rosa rugosa*. I have seen *Barberis aquifolia* employed with good effect, and the berries were useful as food for the birds; but the most beautiful covert, to my thinking, is that made by the *Rhododendron*. Some forty years ago, I saw one of about 4 acres at Lord Derby's in Knowsley Park. The shelter was good and dry under the rich dark green-coloured foliage, and then the wealth of bloom in varied colour was a sight once seen could never be forgotten. It was lovely; the pheasants covered beneath, and the rabbit scuttled here and there, with now and then a moorhen or a landrail, all added life to the scene, but even this would have been better had it been "broken up" by a few "rooting-trees," such as *Alies* or *Pines*. For my own part, I do not think any shrub so full of thorns as is the *Rosa rugosa*, or even our own beautiful Dog Rose or

Sweet Briar, does for, or would make a good enjoyable covert, by reason of their protective thorns, which are both numerous and sharp. *Harrison Weir*.

— In response to your correspondent's enquiries regarding the above plant as a suitable one for game coverts, I may say the experience gained here with it is not satisfactory, the rabbits eating the bark off to the height of about one foot, the branches thereby dying off to the ground level. They seem to prefer Laurel, Berberis, and Holly, but *Rosa rugosa* is not exempt from their attacks. If "H. J. C." will kindly give the names of a few plants he has found to be rabbit-proof, I should be greatly obliged. *L. Pope, Carlton Hall*.

— I fear "H. J. C." will be disappointed with the above-named *Rosa* for game covert. Three years ago I planted several hundreds, thinking it would be proof against the ravages of that troublesome little creature the rabbit, but no sooner had they been planted than the tips of the shoots were bitten off, and they have kept nibbling at them ever since, until only a few miserable stumps remain. A bed planted two years ago and protected with wire-netting, is now over 3 feet high. It commenced flowering early in June, and continued flowering until the first of the hews were quite red, and was admired by many. *G. Duncan, The Gardens, Letham Grange, Arbroath*.

A CODE OF JUDGING.—If Mr. Patterson will wait but a week or two, he will have an opportunity of obtaining a copy of the code of judging which the committee appointed by the Council of the Royal Horticultural Society for the purpose have prepared, and which is now in the printer's hands. Whether when published it may be found capable of satisfying all requirements, remains to be seen; but the committee have devoted many sittings and much time and labour to its preparation. Presumably, it will be issued in pamphlet form, and at a cheap rate. I trust everyone interested in the subject will secure a copy, and assist, so far as possible, to make the code recognised as the best exposition of exhibition law. *A. D.*

— The case mentioned by Mr. Patterson, p. 653, seems to have been due to the bad judgment of the committee in appointing a judge who did not know his duties. Codes of rules would be of no use to such a person; a good judge must have a practical acquaintance with his work, especially in the case of vegetables and fruit, and such persons are within reach of every horticultural society in the kingdom. When a man has grown things intelligently for a few years, he knows where to look for the weak points, and especially if he has been an exhibitor also. *W. H. Divers, Belvoir Castle Gardens, Grantham*.

EULALIA JAPONICA.—I should like to know if it is unusual for *Eulalia japonica* to flower? I have several large clumps which have been in my nursery for at least ten years, which have never flowered till this year. I am surprised this plant is not commonly cultivated, as it makes a very handsome clump, and more especially when carrying its long plumes of inflorescence. I find it to be much harder than the Pampas Grass, the severe frosts of last winter not affecting it in the least degree. *C. Cundy*.

THE COW PARSNIP (*Heracleum Sphondylium*).—I was much surprised a short time ago by seeing this plant cultivated by a friend of mine who has about one acre of it, and to hear of the large quantity of green food that it produced. My friend told me that he had two heavy crops last year, and after cutting it once this year, he was letting it run to seed. I read in the *Treasury of Botany* it is a plant that is best treated as a biennial. I should be glad to have the experience of some one who has cultivated this plant, and if it may be considered good food for cattle. My friend seems to think it an excellent food. If so, I wonder that it is not commonly cultivated as fodder. I know rabbits and pigs are partial to it. *C. Cundy*.

GAS-LIME AS A MANURE.—I note with some interest what Mr. John Lambert states in reference to the use of gas-lime as an antidote for club in Cabbages, and for the extirpation of wireworm. In lecturing to cottage and allotment-holders, many complaints are made as to the ravages of the wireworm, and the occurrence of clubbing in Cabbages and Cauliflowers. If I understand Mr. Lambert rightly,

he recommends the use of gas-lime in a crude state, just as it comes from the gasworks. It is true that he recommends its application in very small proportions, but I have met with allotment-holders who have applied it to their land just in the form in which it is received from the works, and then found it very difficult to grow anything on the land for a year or two. It is no doubt a useful agent, destructive to insect-life when used as recommended by Mr. Lambert; but my fear is, lest some might put too large a construction upon his words, and apply it unwisely, and with unfortunate effects. Mr. W. G. Watson, in his admirable paper on "Manures and their Uses," tells us that gas-lime "is a mixture of calcium hydrate and calcium carbonate, with sulphite of lime. The two latter compounds are in themselves poisonous to plant-life, but they are both converted into gypsum or sulphate of lime (a plant-food), by exposing the gas-lime to the action of the atmosphere." It may and, I fear, does happen, that when gas-lime is applied in a crude state as received from the gasworks, the two compounds, poisonous to plant-life, are present in undue proportions in the interests of safety, hence the unfortunate results which I have heard allotment-holders deplore. Mr. Watson further states:—"To prepare fresh gas-lime for use in the garden, it may be spread out on a layer of pond-mud, night-soil, or coarse vegetable refuse, and exposed to rain and air." This I hold to be sound and necessary advice. If put on cleared land in the autumn, it can be laid upon the surface at the rate of 40 lb. or so per rod, but it should lie on the surface for several weeks before being forked in, taking care that it is distributed equally through the soil. It is undoubtedly a powerful remedial agent in clearing land of insect-life, but needs to be applied with caution. *R. D.* [It is doubtless safest to use gas-lime after some weeks' exposure in the open for surface-dressing, or when applying it to land dug to one spit in depth; but in the case of dressing the bottom soil in trenching and incorporating with the top spit, which is usually thrown into the bottom of the trenches in the small quantities recommended by Mr. Lambert, no harm, but rather good, would result from the use of gas-lime in the fresh state. *Ed.*]

PACKING COMPETITION AT THE CRYSTAL PALACE.—Possibly no fresh light may be thrown now upon this subject, but I am disposed to agree with "One of the Judges" in his remarks on the same. If a practical gardener who has constantly to pack his produce is not capable of judging in such a case, I do not know who is. Some few years back at Chiswick the judging was done by the fruit committee and others there present as a body. That was certainly not so satisfactory as at the late show, from the simple fact that some of those called upon to adjudicate had no practical knowledge of packing fruit for transit as per schedule. Had it been otherwise the premier award would not have been made to one of two boxes entered for two classes, these being sent tied together. In this way the larger one, by reason of its size and weight, was a protection to the smaller and successful one. In this respect I cannot agree with Mr. Harris, who fails to see why disqualification should follow because the entries in two classes were sent tied together. Most assuredly it should do so, and the judges did quite right in thus using their powers to disqualify an exhibit. In packing for market, moss may be, and no doubt is, one of the best packing mediums, but it does not follow that it is so in every case. Personally, I consider wood-wool preferable, from its freedom from dust, and it certainly is more cleanly in appearance; whilst in regard to spotting being caused by its use, there need be no fear, if the fruit does not remain packed after arrival, which in private use would not be the case, although in market use it might do so. It is not the fault of the judges if the schedule be not sufficiently explicit for intending competitors. In giving their awards, they must interpret it to the best of their ability, and intending exhibitors should do likewise. I inspected the schedule before the late show was held, with the intention of entering in the class for Grapes; but upon consideration I decided not to do so, simply because the wording was, in my opinion, somewhat vague. It certainly afforded a loop-hole for those who were disposed to take advantage of it, of bringing the fruit themselves. This has been done I know, but it should not be allowed. In this respect I am at one with Mr. Grindrod. In my opinion there should be classes for market as well as for private packing in these competitions. *A Prize Packer*.

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

Nov. 26.—Present: Dr. M. T. Masters (in the chair); Mr. Michael, Professor Müller, Dr. Bonavia, Esq. W. Wilks, and Rev. G. Henslow, Hon. Sec.

Flies Attacked by Fungus.—With reference to the specimens exhibited by the Secretary at the last meeting, it was reported from Kew that "the fungus is *Empusa culicis*, A. Braun (*Alg. Unicell. gen., Nov.*, p. 105). It is common in various parts of Europe, also in the United States, but not previously recorded for Britain." The specimen was prepared by the late Professor J. S. Henslow in 1810.

Apple Diseased.—The black-coated Apple brought to the last meeting proved to be attacked by *Sclerotinia fructigena*, Rehm. (*Krypt. Flora, Discov.*, p. 67). The minute black lumps on the Apple are the sclerotia of the fungus, from which the asclegerous Peziza form grows. Negligence in spraying during the spring season, when the fungus is on the leaves only, accounts for its presence on the fruit.

Cocor Fruits.—The fruits exhibited at the last meeting proved on further investigation to be of *C. eriopatha*, and not of *C. australis*, as supposed.

Carnations Attacked by Grubs.—Professor Müller exhibited a number of weevil-like grubs which attacked the roots of *Dianthus celsialis*, completely destroying the stem, so that the upper part became detached. They were forwarded to Mr. McLachlan for examination, who has reported that they are probably those of *Hylemyia nigrescens*, of the group Anthomyiidae of dipterous insects.

Vine Stems, Malformed.—Dr. Masters exhibited portions of Vine stems with hypertrophous growths of a tumorous appearance. There did not appear to be any fungus, but they consisted of new cork and wood only. Similar appearances had been seen on Marechal Niel Roses. It was probably due to some injury, perhaps frost, with a subsequent effort to heal the wound.

Hybrid Abies.—Dr. Masters also showed a branch from a hybrid between *Abies Pinsapo* (female), and *A. cephalonica* (male). An intermediate character was seen in the position of the resin canal, in that while in *A. ceph.* it is situated adjoining the epidermis and in *A. Pins.* it is more deeply seated, in the hybrid there was one layer of cells between the canal and the epidermis. The general form and habit more nearly resembled *A. ceph.*, while the strong branches and thick leaf approximated *A. Pins.* The cones, however, with very visible bracts, were those of *A. ceph.*

EXETER GARDENERS' ASSOCIATION.

NOVEMBER 27.—The fortnightly meeting of this association was held in the Guildhall on the above date, when there was a good attendance. Mr. Hill, market gardener, Whiptoo, occupied the chair. The business of the meeting was a discussion on Judging at Flower Shows, Mr. Rowland, gr. to W. Brock, Esq., of Parker's Well, leading by a well-thought-out paper.

Mr. Rowland, in the course of his remarks, alluded to the difficulties that could not well be avoided. When a judge began his duties, he then, perhaps for the first time, got the schedule put into his hands, but unless he had carefully considered it before beginning his work, he was liable to fall into errors arising out of the special conditions of competition in the various classes being sometimes carelessly expressed. The occasional necessity, according to the wording of the schedule, of disqualifying an exhibitor, led to dissatisfaction, and the malcontents airing their supposed grievances, made things pretty unpleasant for the judge. In the necessarily limited time allowed for making the awards, points, apparently trivial, but really important, were overlooked, and, ignoring the hampering surroundings, the critics pounced upon any small discrepancy, and railed against the judges. He, therefore, thought there ought to be one or two referees to follow and check any oversight on the part of those who were responsible for making the awards, so that the error might be there and then corrected. As regards *Chrysanthemums*, it was difficult to compare a large showy bloom with a more refined and equally meritorious flower, though the latter might suffer in comparison as regards size or outward attractiveness. To remedy this, he suggested that in a class of, say, thirty-six blooms, twenty should be named in the schedule, then flower for flower of the same variety could be compared and adjudicated upon.

A long discussion followed, taken part in by Messrs. Protheroe (Beaufort House), Weeks (Stoke House), Lansdale (amateur), Carlyle, Hope, and others.

The society settled the arrangement of their schedule for their spring show, to be held on March 18, and also agreed to the annual supper of the society being held on the first Friday in January.

A vote of thanks to the chairman, and to Mr. Rowland for introducing the discussion, was passed.

Mr. Outram, who has travelled in the horticultural interest for over twenty years in the United States, promised to give a paper in the spring on "The Progress of Horticulture in America." The paper for the next fortnightly meeting was announced, being one by the Dowager Countess of Morley's gardener, the subject "Wild Gardening, and the Laying-out of Pleasure Grounds."

CHESTER PAXTON SOCIETY.

NOVEMBER 19, 20.—The annual Fruit and Chrysanthemum exhibition was held in the Town Hall, under the auspices of the above society. This is the fifth exhibition which the society has held, and the entries each year have been better than those of preceding shows; on the present occasion, they were twice as many as last year.

Over 1,200 dishes of fruit were exhibited, consisting of Apples and Pears, whose superior quality was apparent at a glance; and the excellence was quite general.

The competition was very keen in the classes for Ribston, Cox's Orange, and King of the Pippins; and for kitchen varieties, it was even more so. Peasgood's Nonsuch, Alfriston, Mare de Ménsage, Blenheim Orange Pippin, Warner's King, and Wareham Russet were extensively shown, some fruits of the first-named variety being very fine.

The exhibition has, from its commencement, found much favour in Cheshire and North Wales; and competent judges now say that it is one of the largest exhibitions of hardy fruits held in provincial towns.

Pears were largely shown, and splendid examples of Louise Bonne of Jersey, Marie Louise, Pitmaston Duchess, and Doyenné du Comice, were noted.

Although this was the second occasion when the society has offered prizes for Chrysanthemums, the entries were fairly good, there being six competitors for decorative groups. Most of the classes for cut blooms were well contested, and the majority of the Japanese blooms were excellent. A notable feature was the keen competition in the class for the best-arranged box of cut blooms of single-flowered Chrysanthemums. In the gardeners' class for fruit, the chief prizes were carried off by Mr. E. SEVERN, gr., Combermere Abbey; Mr. J. SAUNDERSON, gr., Bodnant Hall, Denbighshire; Mr. WORKER, gr., Mollington Hall; Mr. JOHN TAYLOR, gr., Hoole Hall; and Mr. THOMAS WEAVER, gr., Christleton Hall.

A very fine collection of Apples and Pears, not for competition, was sent by Mr. BARNES, gr., Eaton Hall; and Messrs. DICKSONS had also a tastefully arranged stand of hardy fruits, Orchids, Ferns, &c. The Duke of WESTMINSTER in declaring the exhibition open, threw out the hint that a very good summer show might be established at Chester; and offered to help and supplement any effort that might be made in this direction. The whole of the arrangements were ably carried out by the Committee, with Mr. G. P. MILN as Secretary.

NATIONAL CHRYSANTHEMUM.

DECEMBER 3, 4, 5.—The last show of the year by the National Chrysanthemum Society at the Royal Aquarium formed a fitting finale to a very successful season. Rarely has the quality of the exhibitions been so high as during 1895. Commencing with the early autumn show, the blooms exhibited on that occasion were remarkable, and we wondered if better ones would be seen in November. In due time the excellence of the great annual show was acknowledged by all, and on the present occasion the Society may well be proud of the display made, for never has there been a finer collection of blooms shown in December than the 1st prize exhibit of twenty-four Japanese in eighteen varieties, from Mr. A. HAGGART. There was no class for groups at this late show, but the enterprise of the large growers was manifest in large miscellaneous collections of plants and flowers, very creditable to them. Cyclamens and Primulas added a little variety, and made the show more interesting. As the whole of the floor space had been appropriated to the ladies' bicycle races! the entire exhibition was held in the galleries.

CUT BLOOMS.

As we have already stated, the 1st prize in the principal class for cut blooms of Chrysanthemums was taken by Mr. A. Haggart, gr. to Mrs. JOHNSTON FOSTER, Moor Park, Ludlow, who secured other valuable classes also. It may be interesting to give the varieties he staged in this class. They were Etoile de Lyon, Ed. Molyneux, Niveau, Duke of York, Golden Gate, Mrs. Harman Payne, Mdlle. M. Hoste, M. Pancoucke, Lord Brooke, G. C. Schwabe, Madame A. Moulin, Mrs. W. H. Lees, Le P. du Bois, Vivand Morel, Beauty of Castlewood, Internationale, Robert Owen, and Mdlle. T. Rey. The 2nd place was taken by Mr. Henry Perkins, gr. to W. H. SMITH, Esq., Greenlands, Henley-on-Thames, in whose stand were good blooms of Madame Carnot, Golden Wedding, and Primrose League. 3rd, Mr. W. Mease, gr. to A. TATE, Esq., Downside, Leatherhead. There were eight exhibits.

Mr. PERKINS occupied the best position in the following class, which was for twenty-four bunches of Chrysanthemum blooms, of any varieties; 2nd, Mr. Jno. Aplin, gr. to W. M. BAKER, Esq., Hasfield Court, Gloucester; 3rd, Mr. C. J. Waite, gr. to the Hon. W. P. TALBOT, Glenhurst, Esher. The whole of the exhibits in this class had not the tasteful appearance the conditions were intended to encourage. In most cases the stems should have been left longer, and varieties selected with good stout stems and erect flowers. The blooms as they appeared in receptacles similar to blacking-bottles, had fallen, and were huddled together in anything but an elegant manner, and were object lessons in how "not to arrange a vase."

The best exhibitor among ten of twelve Japanese blooms, distinct, was Mr. HAGGART, Sunflower and Golden Gate were noticeable in his collection; 2nd, Mr. W. Messenger, gr. to C. H. BERNERS, Esq., Woolverstone Park, Ipswich; and 3rd,

Mr. JNO. APLIN, Mr. HAGGART won again in the class for six blooms, among ten or more exhibitors.

The principal class for incurved blooms, was one for twelve blooms, in not fewer than six varieties, and the quality of the exhibit was decidedly better than we had expected would have been the case—1st, Mr. W. NEVILLE, gr. to F. W. FLIGHT, Esq., Cornstiles, Twyford, Winchester. The best blooms were Lord Alcester, Mrs. R. O. Kingston, Chas. H. Curtis, and a seedling; 2nd, Mr. A. HAGGART; and 3rd, Mr. JNO. APLIN.

In the class for six blooms (incurved), Mr. H. PERKINS was the best exhibitor; and Mr. W. NEVILLE followed.

Another class for bunches of blooms was arranged for twelve bunches of Japanese blooms, in not fewer than six varieties. None of these classes was satisfactory, although some of the blooms were of good quality, 1st, Mr. R. C. NOTCUT, Broughton Road Nursery, Ipswich; 2nd, Mr. H. Alderman, gr. to GILLIAT HATFIELD, Esq., Morden Hall, Surrey; 3rd, Mr. S. J. Cook, gr. to T. H. HARRIDGE, Esq., Holmewood, Hendon. A similar class for six bunches was won by Mr. W. Slogrove, gr. to Mrs. CRAWFORD, Gaton Park, Reigate.

The single-flowered classes were pretty. The best collection of twelve bunches of large-flowered varieties was from Mr. G. W. Forbes, gr. to D. NICOLS, Esq., Regent's House, Surbiton, and Mr. W. C. Pogram, gr. to J. COURTENAY, Esq., The Whim, Weybridge. Mr. A. Felgate, gr. to Her Grace the Duchess of WELLINGTON, Burhill, Walton-on-Thames, had the best collection of twelve bunches of small-flowered single varieties.

Mr. T. TULLETT won in the class for six bunches of small-flowered single varieties, and the one for six bunches of larger-flowered ones.

Amateurs.—The amateur showing best collection of six Japanese blooms distinct, was Mr. H. LOVE, 1, Melville Terrace, Sandown, Isle of Wight. The best exhibit of a vase of Chrysanthemum blooms was made by Mr. D. B. CRANE, 4, Woodview Terrace, Archway Road, Highgate, whose arrangement of moderate-sized blooms, including some single ones, was praiseworthy. Mrs. W. GREEN, jr., Harold Wood, Essex, was 2nd.

Miscellaneous Plants.—The best collection of Cyclamens in pots was from the St. George's Nursery Company, Hsnwell, who had a very large table filled with plants, among which were interspersed a few foliage plants. 2nd, Mr. J. F. McLeod, gr. to J. P. MORGAN, Esq., Dover House, Bechampton. In the centre of Mr. McLeod's group was a panel formed of Adiantum Ferns, with a few pretty plants of Crotons and Dracænas. The best collection of twelve plants of Cyclamens was from Mr. McLEOD; 2nd, Mr. W. Ropley, gr. to H. GRINLING, Esq., Harrow Weald House, Stanmore, whose plants were all white-flowered ones.

The best collection of Primula sinensis, plants in flower, was shown by Mr. A. Newell, gr. to Sir EDWIN SAUNDERS, Wimbledon Common, and mixed with foliage plants the effect was pretty; 2nd, Mr. J. P. McGregor, gr. to Dowager Lady HAY, North House, Putney Hill. Mr. A. NEWELL had the best twelve Primula plants; 2nd, Mr. T. F. McGregor; and the best dozen double Primula sinensis were from Mr. W. Mease, gr. to A. TATE, Esq., Downside, Leatherhead. A very pretty collection of flowering, berried, and foliage plants arranged on a table, space 9 feet by 6 feet, was shown by Mr. W. Howe, gr. to H. TATE, Esq., Park Hill, Streatham Common, S.W.

Non-competitive exhibits.—The most important of these was a large group of Chrysanthemums arranged in a bold manner, with supplementary plants with decorative foliage, by Mr. H. J. JONES, Ryecroft Nursery, Lewisham. Mr. W. WELLS, Earlswood Nurseries, Redhill, had a group novel in arrangement, the background being composed of a cork-clad wall with pockets for Ferns, intertwined Ivy, and such things. In front of this there were between the mounds mossy spaces with trailing Ivy, suspended shower bouquets, &c. A large collection of cut blooms ran from the group on either side, and the whole was backed with white cloth. The arrangement would have been more effective if it had been more boldly carried out.

Messrs. G. PRICKETT & SONS, nurserymen, Tottenham, had a group of plants in flower of the variety L. Canning, a well-known white one suitable for late decorative work. Mr. NORMAN DAVIS, Camberwell; Mr. W. J. GODFREY, Exmouth; and Mr. BOB OWEN, Maidenhead, had each a good representation of novelties, and of the newer but known kinds. Mr. J. R. CHARD, Stoke Newington, exhibited his floral arches, &c.; and Messrs. CUTBUSH & SON, Highgate Nurseries, had a collection of flowering and foliage plants. Mr. A. MERRIDEN had arranged a dinner-table; and Mr. C. J. WAITE exhibited vegetables in a satisfactory manner.

Messrs. SANKEY & SONS, Bulwell Pottery, near Nottingham, had a large exhibit, representing different varieties of garden pottery; and Mr. W. COLCHESTER, Ipswich, had a displayed exhibit of Ichthemic Guano.

Floral Committee.

DECEMBER 3.—A goodly number of novelties was submitted to the Floral Committee, though but few awards were made. A First-class Certificate was gained by Mrs. Charles E. Shea, a delicate sulphur-white variety, raised by Mr. C. E. Shea, a fine and full deep incurving flower of high merit, from Mr. A. HAGGART, The Gardens, Moor Park, Ludlow. To decorative Golden Dart, as shown, a small sized deep yellow Japanese, full of promise for cutting purposes, and especially for market work, from Mr. E. H. JENKINS, Hampton Hill; and to decorative King of Plumes, a small yellow variety with feathered petals, very free and attractive, from Mr. R. OWEN.

Other promising flowers which, though falling upon this occasion to obtain awards, are yet of decided promise, are:—Decorative Janette Sheahan, a buff and gold sport from the

blush-coloured Princess Blanche, a large, well-flowered bush-plant being staged, from Mr. D. Sheahan, nurseryman, Wimbledon; a sport from the incurved Jeanne d'Arc, of which the committee approved, but which they requested to see again in better condition, from Mr. J. TAIT, Lynehow, Carlisle; Mrs. Flight, a seedling white incurved, from T. W. FLIGHT, Esq., Twyford, Hants, which the committee also wished to see again; Japanese Pearl Beauty, a very fine blush-coloured, broad-petalled incurved Japanese, solid, and full, from Mr. KING, Holmwood; Japanese J. W. McHattie, a very fine and full bright crimson flower, with an amber and gold reverse, which the committee wished to see again; this, with other novelties, come from Mr. R. OWEN, Maidenhead; and incurved Egyptian, from Mr. W. J. GODFREY, which the committee regarded as an incurved Japanese, chestnut-purple, with amber reverse.

A new design in flower-pots for large specimen plants of Chrysanthemums, from Messrs. R. SANKEY & SON, Bulwell, Notts, was commended by the committee.

The National Chrysanthemum Society enjoyed its annual dinner on the 27th ult., when it was celebrated with considerable enthusiasm at Anderton's Hotel, Fleet Street, one of the homes of the Society. Sir Edwin Saunders (President) occupied the chair, and there were present the officers of the Society, and a good number of Fellows. More interesting than the toast list (which was duly observed) was the presentation of the Medals and special prizes awarded at the recent great shows, which included the handing over of the two Holmes Memorial Cup to Mr. W. H. Lees. The Chairman, in proposing "The National Chrysanthemum Society," gave an interesting description of some of the political and social features of China, as the country to which we owe the introduction of the Chrysanthemum.

READING AND DISTRICT GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.

DECEMBER 2.—The fortnightly meeting of the above association was held in the Club Room at the British Workman on Monday evening last, Mr. WOOLFORD presiding over the largest gathering of members present at any of the meetings this season.

After the usual business had been disposed of, and a few introductory remarks from the chairmen, Mr. E. J. DEAL, of Messrs. SUTTON & SON's gave a highly interesting lecture on "The Garden Pea and its Varieties." The lecture was made doubly interesting and instructive by the many excellent diagrams prepared by Mr. DEAL, setting forth the peculiarities and variations of the shape of pods of the various types of Peas.

A very interesting discussion took place, in which Messrs. WOOLFORD, LEES, HINTON, BURTON, TURTON, DEARLOVE, BOWIE, TUGRALL, and ALEXANDER took part. Many questions were asked by members present, which the Lecturer ably answered. On the proposition of Mr. LEES, seconded by Mr. NEVE, a hearty vote of thanks was passed to Mr. DEAL, and the wish expressed that as the subject was of much interest, he would again take it up on a future occasion.

TREATMENT OF TREES RECEIVED DURING FROST.

I was speaking recently to a friend on the above subject, who pointedly remarked that "those who know their business send their orders early, and are not troubled about receiving frozen trees." Well, most of us are familiar with the advantages to be derived by sending early orders. Nevertheless, for reasons over which we have no control, we sometimes receive trees that are frozen, and then the question arises, what is best to be done with them? Several instances have come to my knowledge of trees, &c., received in this condition, being treated in a way (and that too by men commanding good positions as gardeners) which, when described, may appear incredible. A case referred to was that of some Peach trees, which on arriving at their destination, were found to have their branches and roots frozen through. They were at once unpacked, had their branches considerably shortened, and their roots trimmed, and then planted in two houses, where borders had been prepared for them; moreover, to make matters worse, the pipes were warmed in order to thaw the trees! I saw these trees the following autumn, and noticed they were very much gummed, and that their branches had died back to the stems, from which, however, young sappy wood was made—how these trees ultimately succeeded I had no opportunity of ascertaining. A second case refers to some Apple trees, which, when received in a similar state, were unpacked and laid in a south border, where they were thawed by the sun. They were subsequently planted, but some of them cankered, and none

did well—in fact, they became an eye-sore and were burned. Another case was that of some hundreds of Yew trees, which in transit by rail were much frozen. These, on reaching their destination, were thawed by warm water, and the following spring, after they were planted, nearly half of them were dead.

The following are particulars of a case that occurred here last winter, and refers to some dozens of Apples, Plums, Gooseberries, and Currants, which were ordered late for some new cottage gardens. These left a nursery on January 25 (the day the severe frost set in), and through an oversight, did not reach here for several days, when they were severely frozen. They were in bundles, surrounded with straw, which was not removed.

The above remarks on various modes of treatment may be at least a guide to the uninitiated how to treat and how not to treat trees, &c., when received in a frozen condition. They prove that artificial thawing is disastrous, and that the only safe course to take is to leave the plants in their packages, keep them from air in the dark, and safe from further frost, until they are naturally thawed, when, as the first opportunity offers, they should be planted.

named. There is, however, a singular variety of colour, as also in picturesque character, in the varying forms of chilensis; and besides, these latter are earlier to bloom, and have their own special value on this account. J.

Obituary.

LADY LAWES.—It is with deep regret that we record the death, at the age of 73 years, of Lady Caroline Lawes, the wife of Sir John Bennett Lawes, Bart., of Rothamsted, who expired on Friday afternoon of last week (the 29th ult.), after a comparatively short illness, at their Scottish seat, Ardchallan Priory, Lock Etive, Argyllshire. The body of the deceased lady was conveyed to Harpenden, and interred in the parish churchyard on Tuesday last.

TRADE NOTICE.

FAILURE OF A SHROPSHIRE SEEDSMAN AND FLORIST.

THE failure is announced of Mr. Robert Porter, seedsman and florist, of The Cross, Oswestry, and of the Rose Hill, Whittington, and Fron Selattyn Nurseries. The statement of affairs shows the gross liabilities to be £3736 5s. 9d., expected to rank £1700 15s. 9d., and assets £2633 12s. 1d., leaving a surplus of assets of £932 16s. 4d. The debtor alleges as the cause of failure, ill-health for the last four years, general depression in trade, keener competition, and difficulty of collecting accounts.

Messrs. MESSENGER & Co., horticultural builders and hot-water engineers, have removed their business operations to extensive new premises recently erected, close to the London & North-Western railway station at Loughboro'. The new buildings occupy a site 2 acres in extent.

MARKETS.

COVENT GARDEN, December 5.

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

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

Table listing prices for various plants in pots such as Adiantum, Aspidistra, Chrysanthemums, Cyperus, Dracena, Ericas, Evergreen Shrubs, Ferns, and various foliage plants.

FRUIT.—AVERAGE WHOLESALE PRICES.

Table listing prices for various fruits including Apples, Grapes, and Pine-apples.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

Table listing prices for cut flowers such as Arums, Azalea, Bouvardias, Carnations, and various orchids.

VEGETABLES.—AVERAGE WHOLESALE PRICES.

Table listing prices for vegetables such as Cauliflowers, Mushrooms, Cucumbers, Onions, and Tomatoes.

POTATOS.

Trade slow supplies heavy. Snowdrops, 70s. to 90s.; Hebrons, 75s. to 85s.; Bruces, 45s. to 60s.; Black lands, 30s. to 45s. J. B. Thomas.

SEEDS.

LONDON: December 4.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., state that the seed market to-day presented no new or striking feature. A few occasional sales of Clover seed, &c., are taking place, but as yet no general country trade has sprung up.

FRUITS AND VEGETABLES.

BOROUGH: Dec. 3.—Quotations:—Cabbages, 2s. to 3s. per tally; Savoy, 3s. 6d. to 5s. do.; Carrots and Turnips, 2s. to 2s. 6d. per dozen bunches; Onions, 2s. 6d. to 3s. 6d. per bag; Horseradish, 1s. to 1s. 6d. per bundle; Apples, 3s. to 6s. per bushel; Chestnuts, 6s. to 6s. 6d. per bag; Walnuts, 4s. to 4s. 6d. do.

SPITALFIELDS: Dec. 3.—Quotations:—Cabbages, 4s. to 5s. per tally; Collards, 1s. 6d. to 2s. 6d. do.; Leeks, 1s. to 1s. 6d. per dozen; bunch Greens, 1s. 3d. to 1s. 6d. per dozen; Savoy, 3s. to 5s. per tally; Cauliflowers, 5s. to 6s. do.; Sprouts, 1s. 3d. to 1s. 6d. per half-sieve; do., 2s. 3d. to 3s. 6d. per bushel; Beetroot, 1s. to 1s. 3d. per bushel; Parsnips, 6d. to 9d. per score; Carrots, 7s. to 8s. per dozen; Horseradish, 1s. to 1s. 2d. per bundle; Apples, cooking, 3s. 6d. to 4s. per bushel; do. dessert, 4s. 6d. to 5s. per bushel; —Cookers are Queens and Northern Greenings; dessert, Blenheim and King Pippin.

STRATFORD, Dec. 3.—There has been a plentiful supply of all kinds, and a fair trade done, except in Potatoes, which is a slow trade. Collards, 1s. 3d. to 1s. 9d. per tally; Savoy, 3s. 6d. to 4s. 6d. do.; Greens, 1s. to 1s. 3d. per dozen bunches; Cauliflowers, 1s. to 1s. 3d. per dozen; do., 4s. 6d. to 6s. per tally; Scotch Kale, 9d. to 1s. per sieve; Turnips, 1s. 6d. to 1s. 9d. per dozen bunches; do., 30s. to 40s. per ton; Carrots, household, 24s. to 28s. do.; do., cattle-feeding, 18s. to 24s. do.; Parsnips, 40s. to 45s. do.; Mangels, 11s. to 12s. do.; Swedes, 14s. to 17s. do.; Onions, English, 80s. to 90s. do.; do., Dutch, 2s. 9d. to 3s. per bag; do., Ports, 4s. to 5s. per case; Apples, English, cookers, 2s. 6d. to 3s. 6d. per bushel; do., dessert, 2s. 6d. to 3s. 6d. per sieve; do., Nova Scotian, 12s. to 14s. per barrel; Pears, English, 2s. 6d. to 3s. 6d. per sieve; Beet-root, 2s. to 2s. 6d. per bag; Horseradish, 1s. to 1s. 3d. per bundle; Parsley, 1s. 6d. to 2s. per dozen bundles; Brussels Sprouts, 1s. 3d. to 1s. 6d. per half-sieve; do., 2s. 3d. to 2s. 6d. per flat.

FARRINGDON, Dec. 3.—Quotations:—Cabbages (Collards), 3s. per tally; Savoy, 4s. 8d. do.; Cauliflowers, 5s. do.; Sprouts, 1s. 4d. per half-sieve; Parsnips, 3s. per sack; Turnips, 2s. per dozen bunches; Carrots, 1s. 6d. per sack; Beets, 1s. 6d. per bushel; Leeks, 2s. per dozen; Celery, 1s. per roll; 12s. per dozen do.; Apples, Blenheims, 4s. 6d. per bushel; Wellingtons, 4s. 6d. do.; Canadian Ribstoes, 18s. per barrel; do. Newtowns, 18s. do.; do. Baldwin, 18s. do.; Greenings 16s. do.; Tomatoes, 7s. per 12 lb.; Grapes, English, 1s. per lb.

HAY.

Averages.—The following are the averages of the prices at the metropolitan markets during the past week:—Clover, prime, 80s. to 100s.; do., inferior, 50s. to 70s.; hay, best, 80s. to 90s.; do., inferior, 35s. to 60s.; mixture, 70s. to 85s.; and straw, 20s. to 42s. per load.

THE HERBACEOUS BORDER.

ALSTREMERIAS.

THE present is a good time to plant any of the hardy varieties of these useful plants. They are serviceable as cut flowers, embracing some very striking shades of colour, that the flowers are always welcome, and not the least point in their favour is that a foot or more in length of stem is readily obtainable when such is needed. Of some importance in their successful culture is the selection of a suitable position, where there is no fear that the plants will be disturbed. A south or south-west border suits them, but they may be planted in other positions. It is not advisable to mix them with the usual occupants of the herbaceous border, for they are apt to travel about by means of underground stems. An important matter is to plant them at a safe depth below ground, so as to be safe from injury by frost. For this reason they should be fully 6 inches or 8 inches below the surface. At the latter depth they are perfectly safe, even in our most severe winters. At planting-time remove this depth of top-soil from the bed, then add a liberal dressing of rotten manure, and dig it into the sub-soil. Roughly level this off, adding a layer of sharp river sand, then lay the tubers on this bed at a few inches apart. In this way a large number of roots may be grown in quite a small space, and a good display of flowers result. The varieties best suited for this are aurantiaca, the forms of chilensis, and peitacina. For its intrinsic worth none perhaps is nearly so valuable in the outer garden as the first-

POTATOS.

BOROUGH: December 3.—Quotations ranged between 40s. and 50s. per ton.

SPITALFIELDS: December 3.—Quotations:—Main Crop Kidneys, 50s. to 70s.; Snowdrops 60s. to 80s.; Bruces, 40s. to 60s.; Reading Giant, 40s. to 60s.; Hebrons, 55s. to 70s.; Imperators, 45s. to 60s.; Sutton's Abundance, 50s. to 70s. per ton.

FARRINGDON: December 5.—Quotations: Dunbars, 90s. to 100s.; Snowdrops, 60s. to 90s.; Hebrons, 60s. to 90s.; Sutton's Abundance, 55s. to 65s.; Puritans, 50s. to 55s.; Early Rose, 50s. to 55s.; Mignums, 40s. to 50s.; Imperators, 40s. to 50s. per ton.

STRAFORD: December 3.—Quotations:—Bruces, dark soil, 30s. to 40s.; do., light, 40s. to 60s.; Reading Giants, 45s. to 50s.; Sutton's Abundance, 60s. to 65s. per ton.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending November 30, and for the corresponding period in the previous year:—1895: Wheat, 25s. 2d.; Barley, 21s. 7d.; Oats, 14s. 3d. 1894: Wheat, 26s. 7d.; Barley, 22s.; Oats, 14s. 3d.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 49° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.					RAINFALL.		BRIGHT SUN.			
	ACCUMULATED.					Total Fall, since Jan. 1, 1895.	Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1895.	Ins.		
	Above (+) or below (-) the Mean for the week ending November 30.	Above 45° for the Week.	Below 49° for the Week.	Above 49° difference from Mean since January 1, 1895.	Below 49° difference from Mean since January 1, 1895.						
0	1	8	23	+ 257	+ 312	9	—	217	44.2	21	28
1	2	6	17	+ 9	+ 454	4	—	177	35.4	1	35
2	3	15	4	+ 248	+ 281	1	—	174	26.4	3	34
3	3	20	6	+ 201	+ 273	9	aver	181	22.9	3	41
4	3	15	8	+ 208	+ 361	2	+	147	23.0	6	37
5	3	25	3	+ 185	+ 325	1	+	143	22.9	4	40
6	2	17	8	+ 189	+ 390	8	—	180	34.0	20	33
7	1	17	6	+ 224	+ 368	5	—	165	29.5	10	35
8	2	12	0	+ 174	+ 381	3	—	155	32.2	15	43
9	1	12	11	+ 59	+ 257	6	—	196	32.1	33	32
10	1	25	6	— 16	+ 214	4	—	170	33.7	30	35
*	2	45	0	+ 262	+ 249	5	—	175	27.5	29	50

The districts indicated by number in the first column are the following:—
 0, Scotland, N. Principal Wheat-producing Districts—
 1, Scotland, E.; 2, England, N.E.; 3, England, E.;
 4, Midland Counties; 5, England, including London, S.
 Principal Grazing, &c., Districts—6, Scotland, W.;
 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.;
 10, Ireland, S. * Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending November 30, is furnished from the Meteorological Office:—

"The weather was almost continuously dull over England and the east of Scotland, with a great deal of mist; over Ireland and the west and north of Scotland the sky was frequently clear—especially during the earlier half of the period. Very little rain fell in any part of the Kingdom until the middle of the week, but from that time the falls were frequent, and in some places rather considerable.

"The temperature was rather low during the earlier part of the period, but subsequently rose, and gradually became high for the time of year. The average values for the week were consequently again above the normal, the excess ranging from 1° in most of the western and north-western districts, to 3° in the north-east, east, and south. The highest of the maxima were recorded towards the end of the week, and varied from 58° in the 'Channel Islands,' and 57° in 'England,

S.W. and Ireland, S.," to 49° in 'England, N.E.' The lowest of the minima occurred either on the 24th or 25th, when they ranged from 23° to 30° in Scotland, from 25° to 27° in Ireland, and from 29° to 33° over England. In the 'Channel Islands,' the lowest reading was 37°.

"The rainfall exceeded the mean in 'England, S. and the Midland Counties,' and just equalled it in 'England, E.' In all other districts there was a deficit; that in 'Scotland, N. and W.' being considerable.

"The bright sunshine was very deficient over England and the east of Scotland, but exceeded the mean in Ireland and the north and west of Scotland. The percentage of the possible duration ranged from 33 in 'Ireland, N.,' and 30 in 'Ireland, S.,' and from 21 in 'Scotland, N.,' and 20 in 'Scotland, W. and the Channel Islands,' to between 10 and 3 over the greater part of England, and to 1 in 'Scotland, E.'"

VARIORUM.

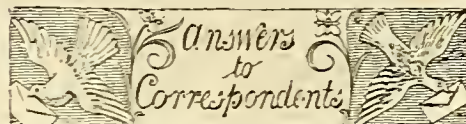
CHRYSANTHEMUMS GRAFTED ON ANTHEMIS.

—I have lately noticed, at the Château of M. Jean Everaerts, Mortael, Antwerp, four Chrysanthemums grafted upon Anthemis stock; and the following are the dimensions of these plants, and the number of the flowers:—

Flowers.	Height of Plant.	Diameter of Plant.
Etoile de Lyon, 300	5 feet	8½ feet
Précoce blanc, 500	6½ "	9½ "
Val d'Andorre, 200	5 "	6½ "
Avalanche, 200	5½ "	8 "

Ch. De B.

EVOLUTION IN THE CHRYSANTHEMUM.—Mr. Martin White's suggestion to the gardeners to study evolution in the Chrysanthemum is one which they ought to find particularly easy and pleasant to follow. Nobody knows with absolute certainty the natural species from which the vast number of forms of the flower at present known to horticulture have sprung. The Japanese stock on which we have worked was already modified into shapes and hues correspondent with the dainty taste of that people when we began operations upon it. But nothing is more certain than that in the Chrysanthemum the gardener possesses a flower of unequalled mobility, whether he attempts its modification by means of hybridisation, or by the better, if slower, means of selection. Nor is it to be supposed that the scientific interest in the process is exhausted by the fact that countless varieties of blooms have already been produced. It is a remarkable thing that hitherto variation has followed taste with what might almost be called docility. In Japan taste is prim and neat, or nothing—the Japanese Chrysanthemum is prim and neat. The elimination of the unprim has been, of course, a prime element in the process. In this country the taste is for variety, and even extravagance—and the docile Chrysanthemum is most varied, and as extravagant as could be wished. But in both countries taste, concerned entirely with the bloom, has ignored the calyx, and under the most fantastic of flowers the observer may still see the unchanged calyx of the natural plant, hardly differing, save slightly in the morphological regards demanded by the increased weight of the floral structure, from the calyx of the wild Chrysanthemum common to the Scottish fields. Will any gardener, to whom experiment is dear, try his hand at the modification of the calyx? And, by the way, has any gardener ever tried to "improve" the wild British variety referred to? *Dundee Advertiser*, November 21, 1895.



AMERICAN PLANTS: A. J. B. Naturally, you should apply to the address given in the advertisement, viz.:—Harland P. Kelsey, Highland's Nursery, Kewana, Mitchell County, North Carolina, U.S.A.

BOOKS: *C. W. S. My Gardener* will give you just the kind of information required.—*T. G. H. Cultivated Plants*, by F. W. Barbridge, published by Blackwood, London; an excellent book, now met with only at second-hand book-shops.—*J. D. B. My Gardener*, by H. W. Ward, published by Eyre & Spottiswoode, East Harding Street, E.C.; *Vines and Vine-culture*, by A. F. Barron, published at 171, Fleet Street, E.C.

CENERARIAS, &c., WITH DROPS OF WATER ON THE LEAF-EDGE: J. A. The result of exudation from the leaves in the case of plants standing in recently-watered soil. There is some amount of absorption of moisture by plants not in a gorged condition, but not by others.

CORRECTION: *Re* obituary notice of Richard Gilbert. —We are requested to state that the late gardener at Barghley House was not the tenant of the garden, as stated in our notice of his life, but continued to be head gardener to the last.

CROTON LEAVES INJURED: M. R. Morgan. The damage to the Croton leaves may arise from the ill-effects of steam from the hot-water pipes; or if the pipes have been re-blacked, from the stuff used in colouring the pipes. Some are unwise enough to use gas-tar for this purpose, and the results of this may be witnessed for years afterwards. Sometimes an untrapped drain in the house will cause similar damage. In fact, there are numbers of ways in which the mischief might arise, and which would be easily determinable if we were on the spot, but not easy for an absentee to point out.

DRESSING FOR VINES: C. S. If you carefully read our "Fruits under Glass" Calendar in *Gardeners' Chronicle* for November 30, you will find just the sort of information that you require.

FLORA OF DUMFRIESSHIRE: J. K. You should advertise in our columns; or enquire of some Scots bookseller.

FRUITS, SEEDLING: Jno. Barnett. Your seedling Apple is fairly good, but not superior to many others in cultivation. The Pear seems to be distinct, and well worth cultivation. We can find no trace of the name "Auguste Mignaud." Your photograph shows that an excellent crop has been borne by the tree, and it has been very skilfully cultivated.

IVY: L. P. We do not suppose that Ivy or any plant is benefited by having its leaves cut off, but tidy gardeners cut the Ivy that covers their walls close to the wall almost, so that the foliage shall have a neat fresh green appearance, and not, owing to its weight, pull the entire plant to the ground, as it otherwise might do.

KEW: F. W. If you will enquire of the Director, you will be furnished with full particulars regarding necessary acquirements, &c.

MARKET ANNUALS: W. & S. These are far too numerous for us to give a list in this place, but we will mention a few. Dwarf Nasturtiums in good distinct colour, *Coreopsis* vars., *Chrysanthemum Barridgeanum*, *C. carinatum*, *C. tricolor*, *Gysophila paniculata*, *Roseda odorata* (Mignonette), Ten-week and East Lothian Stocks, *Petunias*, *Verbenas*, *Zinnias*, *Asters*, *Sweet Sultan*, various *Globe Amaranth*, *Balsams*, &c.

MANURE FOR LIGHT DRY LAND: J. L. A. Whatever manure is applied should be well-decayed and rich, cow and pig-dung answering better than that from the stables alone. If you could pen some sheep on the land, say, from forty to sixty animals, on half-acre patches at a time, feeding them with oil-cake, and Swedes, or Turnips, they would consolidate as well as enrich it. The drainage-water from the dung-yard should be saved and distributed over the land in the winter. The land should not be ploughed or dug before it is required to be planted, as much of the fertile properties of the manure is soon lost in very light land; it may, indeed, be advisable to distribute the manure in the furrows when planting the tubers. The crop would be improved by dressings of potash and lime, or superphosphate of lime.

MUSCAT GRAPES: Muscat. We do not know of any variety that is more musky than Muscat of Alexandria. There are Mrs. Pince, a black Grape, with a good Muscat flavour, and Chasselas Musqué. Muscat Dr. Hogg inquired about is a fine white Frontignan, raised by Mr. Pearson, Chilwell.

NAMES OF FRUITS: *P.* Specimens not sufficiently good to determine.—*A. G. F.* 1, Bourré Diel; 2, Cellini; 3, Egg or White Paradise; 4, Mank's Codlin.—*C. W. Strickland.* Pear, Nouveau Poiteau; Apples not quite sure of, resembles Annie Elizabeth.—*Geo. Abbey.* 1, Bourré Clairgean; 2, Bourré Diel; 3, Knight's Monarch.—*A. J. B.* 1 and 2, Bourré Diel; 3, Vicar of Winkfield; 4, Marie Louise.—*Wheeler.* 1, Bourré Diel; 2, Cnaumontelle.—*W. Houghton* 1, Bourré Diel.—*J. Rogers.* 1, Dutch Codun; 2, Court Pendu Plat; 3, Cellini; 4, Hoary Morning; 5, Tibbet's Pearmain.—*W. S. H.* 1 and 2, not recognised; 3, Grange's Pearmain; 4, Alfriston; 5, London Pippin; 6 Emperor Alexander (fruit shrivelled).—*J. K. & Son.* Apple, 1, Waltham Abbey Seedling; 2, Golden Spire; 3, Warner's King; 4, Alfriston; 5, Cockpit, Pears, 1, Uvadale's St. Germain; 2, Colmar d'Arenberg; 3, Huyshe's Victoria; 4, too small.—*C. C.* Cydonia vulgaris, Quince.

NAMES OF PLANTS: Correspondents not answered in this issue are requested to consult the next number.—*Constant Reader.* 1, not found; 2, Retinozpora plumosa variegata of gardens; 3, Eucynurus radicans; 4, Cupressus nntkaensis, the Thuioipis borealis of gardens; 5, Thuia orientalis; 6, Cupressus Lawsoniana.—*Subscriber.* 1, Thuioipis dolabrata of gardens; 2, Thuia orientalis (Biota); 3, Retinozpora filifera of gardens; 4, Libocedrus chilensis; 5, Thuia occidentalis, variety Vervaneana; 6, Thuia gigantea.—*T. W. B.* Abies grandis.—*H. D.* A very fine variety of Odontoglossum odoratum, so far as we can judge by the dried flower received.—*Masters.* 1 and 2 seem to be both small barren fronds of Cyrtomium carvotidem; 3, Hoffmannia (Higginsia) Ghiesbreghtii variegata, fruit next week.—*J. M.* Aganisia cornuta, Rchb. f., published in the *Gardeners' Chronicle*, June 5, 1886, p. 720. It is the Acacallis cornuta of Lindley, and it has never been common in gardens. The brown marks on the leaf sent are not caused by disease; such appearances often develop after condensed moisture has settled on the leaf, sometimes while yet in its young state by the moisture collecting in the centre. The damage may not be visible till long after that which has caused it has taken place.—*J. O.* Fota Island, Palm, 1, Trachycarpus excelsus (Chamærops Fortune); 2, an abnormal condition of the same, in which the three carpels are equally developed.

RASPBERRIES: *F. J. F.* Distance to plant if self-supporting, 3 feet by 4 feet. This distance will do for Fastolf, Carter's Prolific, Red Antwerp, and Norwich Wonder. Semper fidelis, and Superlative want more space.

SAXIFRAGA PYRAMIDALIS: *Anxious.* This is now called *S. cotyledon*. The plant is of easy culture in loam and broken sandstone, with good drainage if in pots. Keep in a cool greenhouse in winter near the glass, and afford it but little water till growth recommences. Potting and division in the spring.

COMMUNICATIONS RECEIVED.—*E. Mawley.*—*C. H.*—*G. W.*—*W. P.*—*D. B. C.*—*Harrison Weir.*—*M. Rivoire.* Lyon.—*Ernest Rose.* Paris.—*H. de V.*, Paris.—*Professor Penzig.* Genoa.—*A. E. P.*—*J. Batters.*—*Royal Institution.*—*G. H. H.* (next week).—*Fota.*—*H. P. M.*—*T. M. P.*—*Bonnatt & Roxby.*—*M. R. M.*—*D. E.*—*Dr. Dammer.* Berlin.—*A. H. S.*—*R. T.*—*S. P. D.*—*E. J.*—*R. M.*—*Masters.*—*W. J. W.*—*W. S.*—*E. Lott.*—*L. G.*—*J. P.*—*R. H.*—*Pomona.*—*Karr & Soos.*—*C. E.*—*A. F.*—*Sutton & Sons.*—*J. W.*—*H. M.*—*J. S.*—*H. Alnwick.*—*J. D.*—*J. J. W.*—*H. W.*—*A. W. C.*

PHOTOGRAPHS, SPECIMENS, &c., RECEIVED WITH THANKS.—*J. Hudson.*—*W. H. W.*—*H. Headland.*

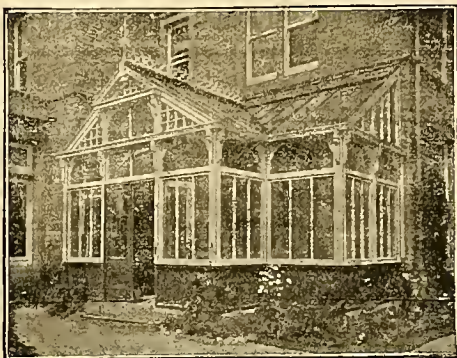
DIED.—*Mrs. AGNES SMYTHE*, on November 26, 1895, suddenly, the wife of our esteemed correspondent, *Mr. Wm. Smythe*, gardener at Basing Park, Alton, Hampshire.

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper, increased to the extent of more than 80 per cent., and that it continues to increase weekly.

Advertisers are reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN, AND ALL CLASSES OF GARDENERS AND GARDEN-LOVERS at home, that it has a specially large FOREIGN AND COLONIAL CIRCULATION, and that it is preserved for reference in all the principal Libraries.

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THE GARDENERS' CHRONICLE

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11 " ..	0 6 6	22 " ..	0 12 0
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Telegrams—"CONSERVATORIES, LONDON."

Telephone, No. 8246.

NOTICE TO BUILDERS, SEEDSMEN, NURSERYMEN, MARKET GARDENERS, HOT-WATER FITTERS, TIMBER MERCHANTS, and the Trade Generally.

Wm. Cooper, Ltd., Ninth Annual Clearance Sale.

OFFICE:—

WORKS:—

RELIABLE
BARGAINS.

755, OLD KENT ROAD, LONDON, S.E.

747 to 755, OLD KENT ROAD, LONDON, S.E.

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SECOND-HAND
GOODS.

(The Largest Steam Horticultural Works in the World.)

SHOW GROUND: DEVONSHIRE GROVE (adjoining).

NURSERIES (the most complete in the kingdom): FELTHAM and HANWORTH.

BEING at the end of the Season, we are again induced to offer our Stock on hand at ridiculously Low Prices, to make room for our SPRING STOCK, for SIX WEEKS ONLY, COMMENCING DECEMBER 9. LAST DAY OF SALE, JANUARY 18, 1896. CONDITIONS OF SALE.—Goods are offered subject to being on hand on receipt of reply. Cash to accompany all orders, and prices to be strictly net. All orders will be executed in rotation, and carefully packed and put on rail, except those otherwise stated.

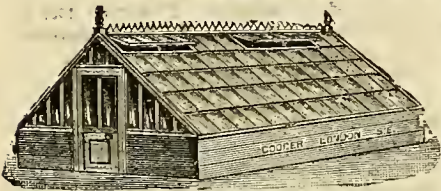
P.O.O. payable at 794, Old Kent Road; Cheques crossed "L. and S. W. Bank."

GREENHOUSE DEPARTMENT.

SPAN-ROOF AND LEAN-TO FORCING-HOUSES.

THE AMATEUR FORCING-HOUSE.

TENANT'S FIXTURE (SPAN-ROOF).



These Houses are offered at an exceedingly low rate, and should be approved by both amateur and professional gardeners, as brickwork, which is very expensive to a small house, is entirely dispensed with. The utility of such a house for forcing or cultivating Cucumbers, Tomatoes, Melons, &c., will be perceived at a glance, it being a structure constantly in request, but almost hitherto unknown.

Specification.—Framework substantially constructed of red deal; the whole of sides, and 2ft. 6 in. of ends, boarded with well-seasoned tongued and grooved matchboards. Half-glass door, complete with rim-lock and brass fittings, in one end; glass 18 oz. throughout, English cut. Ventilators supplied according to size of House, and stays necessary for opening same; stages for plants each side of House; all woodwork painted one coat of good oil paint, and the whole structure securely packed and placed on rail.

Lot.	Length.	Width.	Height.	Usual Price.	Usual Price.	Sale Price.
				Packed on rail.	Packed on rail.	Packed on rail.
1 to 3	7ft.	5ft.	7ft.	£2 10 0	...	£2 0 0
4 to 7	8ft.	5ft.	7ft.	3 0 0	...	2 5 0
8 to 11	9ft.	6ft.	7ft. 3in.	3 10 0	...	2 10 0
12 to 18	10ft.	7ft.	7ft. 6in.	4 10 0	...	3 10 0
19 to 21	12ft.	8ft.	8ft.	5 10 0	...	3 15 0
22 to 27	15ft.	10ft.	8ft. 6in.	7 15 0	...	5 10 0
28 to 31	20ft.	10ft.	9ft.	10 15 0	...	7 10 0
32 to 37	25ft.	10ft.	9ft.	15 5 0	...	10 0 0
38 to 45	50ft.	10ft.	9ft.	27 0 0	...	20 0 0
46 to 50	100ft.	10ft.	9ft.	45 0 0	...	25 0 0

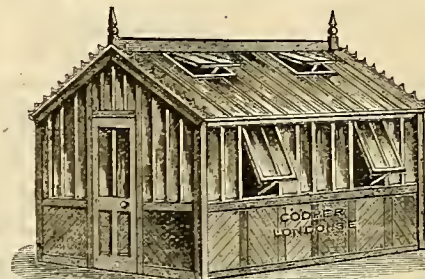
21-oz. glass for roof 5 per cent. extra.

All practical minds will be convinced of the importance and utility of this class of house for Gentlemen, Nurserymen, Market Gardeners, and all those who require a cheap, strong House for forcing, or growing Cucumbers, Tomatoes, Melons, &c.

Specification.—Built for brickwork 3ft. high, of thoroughly well-seasoned red deal; roof ventilation according to size; door at one end, all 21-oz. glass; painted one coat. Carefully packed on rail.

Lot	Span-roof	feet.	Usual Price.	Sale Price.
245 to 251	20 by 9	...	£9 0 0	£3 0 0
252 to 260	20 by 12	...	11 0 0	8 0 0
261 to 273	20 by 14	...	14 10 0	11 0 0
274 to 279	40 by 9	...	17 0 0	12 0 0
280 to 287	40 by 12	...	21 0 0	16 0 0
288 to 293	40 by 14	...	25 0 0	20 0 0
294 to 301	100 by 9	...	40 0 0	25 0 0
302 to 307	100 by 12	...	48 0 0	33 0 0
308 to 314	100 by 14	...	55 0 0	40 0 0
315 to 363	Ventilating boxes for Side Walls	...	4 9	2 3
364 to 368	Lean-to 20 by 9	...	7 10 0	5 0 0
369 to 373	20 by 12	...	9 10 0	6 10 0
374 to 379	20 by 14	...	12 10 0	9 10 0
380 to 385	40 by 9	...	14 0 0	11 0 0
386 to 387	40 by 12	...	18 0 0	13 0 0
388 to 391	40 by 14	...	21 10 0	16 0 0
392 to 393	100 by 9	...	33 0 0	23 0 0
394	100 by 12	...	40 0 0	28 0 0
395	100 by 14	...	47 0 0	32 0 0

SPAN-ROOF VILLA CONSERVATORIES.



Adaptable for the lawn of a villa residence, being well and substantially built, constructed of the best materials, and artistically finished, with diagonal panels and barga-boards. The frame work is composed of 2in. by 3 1/2 in. red deal, the lower part doubly-lined with tongued and grooved matchboards, and the roof properly fitted with eashes, which facilitates fixing or removing of same without disturbing glass.

The houses are fitted with a half-glass door, complete with rim-lock, brass fittings, and key, and is supplied with lattice etaging for each side, foot-path the entire length; gutters, down pipes, suitable ventilators, and necessary ironwork for opening same.

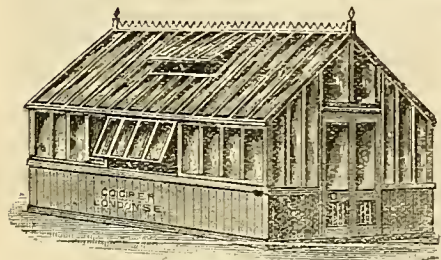
All woodwork painted two coats of good oil-paint, glass cut, and all parts securely packed on rail. Prices:—

Lot	Long.	Wide.	High.	To Eaves.	Usual Price.	Sale Price.
					Packed on rail.	Packed on rail.
396 to 405	9ft.	6ft.	7ft.	4ft. 6in.	£7 10 0	£5 10 0
406 to 420	12ft.	8ft.	8ft.	5ft. 6in.	10 0 0	7 0 0
421 to 429	15ft.	8ft.	8ft. 6in.	5ft. 6in.	12 0 0	8 10 0
430 to 437	20ft.	9ft.	9ft.	6ft.	16 16 0	12 0 0
438 to 444	25ft.	9ft.	9ft.	6ft.	21 0 0	15 0 0
445 to 446	50ft.	9ft.	9ft.	6ft.	40 0 0	23 0 0

21-oz. glass for roof 5 per cent. extra.

"AMATEUR" SPAN-ROOF AND LEAN-TO GREENHOUSES.

TENANT'S FIXTURES.



Made especially for Amateurs at a nominal figure, thereby coming within reach of those who require a strong but inexpensive structure, and being constructed in complete sections, are erectable by any handy-man or gardener in a few hours. Framework is substantially constructed of red deal, the lower part being filled in with well-seasoned, tongued and grooved matchboards. The house is fitted with door complete, with rim lock and brass furniture, painted one coat of good oil colour, supplied with all necessary ironwork and stages for each side, and good 18 oz. glass throughout. All parts securely packed and put on rail. Prices:—

Lot	Long.	Wide.	High.	To Eaves.	Usual Price.	Sale Price.
					Packed on rail.	Packed on rail.
51 to 59	Span-roof 7ft.	5ft.	7ft.	4ft.	£2 16 0	£2 5 0
60 to 65	8ft.	5ft.	7ft.	4ft.	3 10 0	2 15 0
66 to 78	9ft.	6ft.	7ft. 3in.	4ft.	4 0 0	3 0 0
79 to 85	10ft.	7ft.	7ft. 6in.	4ft. 6in.	5 0 0	4 0 0
86 to 119	12ft.	8ft.	8ft.	5ft.	6 0 0	4 10 0
120 to 135	15ft.	10ft.	8ft. 6in.	5ft.	8 10 0	6 10 0
136 to 142	20ft.	10ft.	9ft.	5ft. 6in.	12 0 0	9 0 0
143 to 151	25ft.	10ft.	9ft.	5ft. 6in.	17 0 0	12 0 0
152 to 158	50ft.	10ft.	9ft.	5ft. 6in.	20 0 0	23 0 0
159 to 173	100ft.	10ft.	9ft.	5ft. 6in.	50 0 0	33 0 0
164 to 173	30ft.	10ft.	8ft. 6in.	5ft.	10 0 0	14 0 0
174 to 190	Lean-to 7ft.	5ft.	7ft.	4ft.	2 8 0	2 0 0
191 to 200	9ft.	6ft.	7ft. 3in.	4ft.	3 10 0	2 15 0
201 to 218	12ft.	8ft.	8ft.	5ft.	5 10 0	4 0 0
219 to 226	15ft.	10ft.	8ft. 6in.	5ft.	8 0 0	5 15 0
227 to 234	20ft.	10ft.	8ft. 6in.	5ft.	11 10 0	8 10 0
235 to 239	25ft.	10ft.	8ft. 6in.	5ft.	16 10 0	12 0 0
240 to 243	50ft.	10ft.	8ft. 6in.	5ft.	28 0 0	20 0 0
244	100ft.	10ft.	8ft. 6in.	5ft.	45 0 0	32 0 0

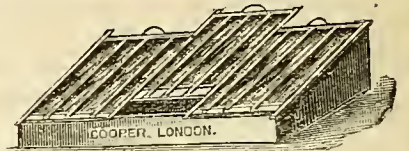
21 oz. glass for roof 5 per cent. extra.

MELON AND CUCUMBER FRAMES.

These are a very useful Frame, being suitable for the storage of plants in winter, and well adapted for the cultivation of Melons, Cucumbers, &c., in summer. (The illustration shows a Three Light Frame, 12ft. long by 8ft. wide, height at front, 11in., and height at back, 22in.)

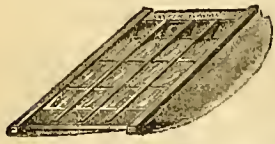
They are composed of 1 1/2 in. thoroughly well-seasoned tongued and grooved boards, have necessary Parting Pieces, and runners for the lights, which are 2in. thick, and are glazed with good 16-oz. glass, nailed and bedded in oiled-putty, and fitted with an iron handle. All parts painted three coats of good oil-paint, and securely packed and put on rail at the following prices:—

Lot	Description	Usual Price.	Sale Price.
447 to 482	1-Light Frame, 4ft. by 3ft.	£9 18 0	£9 14 0
483 to 511	2 " " 6ft. by 4ft.	1 12 0	1 2 0
512 to 520	1 " " 8ft. by 4ft.	1 10 0	1 0 0
521 to 528	2 " " 8ft. by 6ft.	2 14 0	1 18 0
529 to 532	3 " " 12ft. by 6ft.	3 15 0	2 5 0
533	4-Light Forcing Pit for Brickwork, with Glazed Lights complete, 18ft. by 6ft.	5 0 0	3 0 0
574-12	" " 46ft. by 6ft.	12 0 0	8 0 0



W. COOPER, Ltd., NINTH ANNUAL CLEARANCE SALE—continued.

Garden Lights.



These lights are well mortised jointed together, and made in a good workman-like manner, and are well worthy of inspection. Framework made of 2 in. by 2 in. stiles, and properly rabbeted for the glass, with good 2 in. sash-bars. The Glazed Lights are sealed and bedded in good oily putty.

Table with columns: Usual Price, Sale Price, LOT, and descriptions of garden lights with dimensions and prices.

Garden Hand-Frames.

These Frames will be found to be very useful for protecting plants, seeds, slips, and cuttings, during the spring, which, if left uncovered, would probably fall victims to the extreme cold so prevalent in this country during that season.

Table with columns: Usual Price, Sale Price, LOT, and descriptions of garden hand-frames.

Odd Greenhouses.

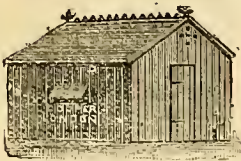
ALL HOUSES ARE COMPLETE AS LIST.

Table with columns: Usual Price, Sale Price, LOT, and descriptions of various odd greenhouses.

POULTRY APPLIANCE DEPARTMENT.

Movable Poultry Houses.

(SPAN-ROOF.)



These houses are pretty in appearance. They are substantially constructed in sections (in complete readiness for fixing together with facility) of well-seasoned, tongued and grooved match-boards; supplied with door, complete with lock, ventilator slide, and painted outside one coat of good oil paint.

Table with columns: Usual Price, Sale Price, LOT, and descriptions of movable poultry houses.

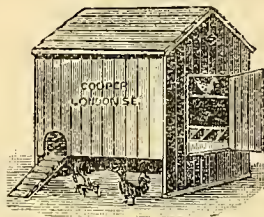
Span-Roof Poultry Houses.



Made in sections, complete, with door inside and window at end, a flap at back for access to nest boxes, a raised floor about 2 feet from ground, so as to form dry run underneath; nest, perch, ladder, &c.; painted one coat outside.

Table with columns: Length, Width, Height of Ridge, Usual Price, Sale Price, and LOT.

Span-Roof Improved Poultry-House.



These Houses are very roomy and well ventilated, and are specially constructed so that they may easily be taken to pieces or erected. They have a door and window at the ends, a flap at the back for easy access to nest-boxes, are raised from the ground 2 feet, so as to form a dry run underneath, are made of red deal, painted one coat outside, and are roofed with weather-boarding.

Table with columns: Usual Price, Sale Price, LOT, and descriptions of span-roof improved poultry houses.

Nest Boxes.

LOTS 1228 to 1600.

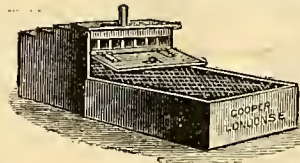
This is the popular method of sitting hens, and should be universally adopted. The bottom is of wire netting, made concave, so that no eggs are left uncovered by the hen; it is also a protection against rats burrowing into the nest.



These boxes are constructed of thoroughly well seasoned, tongued, and grooved matchboards, painted outside one coat of good oil paint, complete with handle, size, 1 ft. 8 in. high, 1 ft. 4 in. wide, 1 ft. 3 in. deep. Securely packed and put on rail at the following respective prices:— Usual price, 4s. each. Sale price, 3s. each. 6 for 16s. 6d., 12 for 30s., 36 for £3 15s.

LOT 1600A.—150 Sacks Suedewet, fresh and clean. Should be used in all Poultry Houses and Dog Kennels. Usual price, 1s. 3d. Sale price 8d., bags included.

Safety Chicken Coop.



These Coops are constructed upon the most improved principle, and are very neat in appearance. They are made of good, sound, well-seasoned, tongued and grooved match-boards, are fitted with a shutter as a protection against winds, sun, and vermin at night, and are painted outside one coat of oil colour.

Securely packed on rail, at the following prices:— Size—2 ft. wide, 1 ft. 10 in. deep, 1 ft. 10. high at front, 1 ft. high at back. Lot. 1601 to 1750... Usual price, 5s. 6d. each. Sale price, 4s. each; 6 for 23s.; 12 for 40s.; 36 for £5 5s. 1751 to 1770... 3 ft. movable wire run, usual price, 4s. each extra. Sale price, 2s. each.

Roofing Felt.

Patent Asphaltic, Rolls 25 yards, 32 in. wide.

Table with columns: Usual price, Sale price, LOT, and descriptions of roofing felt.

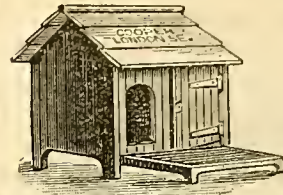
Galvanized Corrugated Iron Roofing.



LOT 1931. Best Quality, Perfect S'abs, 27 in. wide.

Table with columns: Usual Price, Sale Price, and descriptions of galvanized corrugated iron roofing.

Special Quotations for 2 Ton lots.



Portable Dog Kennel.

WITH PLATFORM.

Securely packed and put on rail at the following respective prices:—

Table with columns: Lgth, Wth, Hght, Usual Price, Sale Price, and LOT. Descriptions of various portable dog kennels.

HEATING APPARATUS DEPARTMENT.

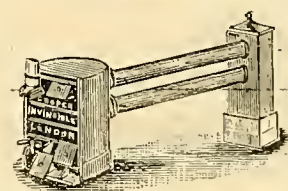
Hygienic Heater.



Burning Paraffin or Gas without smoke or smell. These Heaters are constructed as a means of Heating by Hot Air without the use of hot-water or fires. Its peculiar construction economises the heat generated, so that there is no waste of heat or fuel. There being perfect combustion in this stove, and nothing whatever injurious to plants, but actually everything conducive to their health, it should be observed that plants may be had in full bloom throughout the severest winter. This cannot be obtained in stoves of other systems. See list for full description.

Table with columns: Usual Price, Sale Price, LOT, and descriptions of hygienic heaters.

"Invincible" Hot Water Apparatus.



MOST EFFICIENT, AND CHEAPEST IN EXISTENCE. Requires no sunk stove-hole and no brick setting. Will last all night without attention. Burea house cinders; therefore costs next to nothing for fuel. Anyone can fix it. A child can stoke it. Success guaranteed. No. 1 Boilers only, capable of heating 75 ft. 4-inch piping.

Lot 2246 to 2317. Usual price, £2 15s. Sale price, £2. Sale prices for complete apparatus:— Cost of complete apparatus for Greenhouses with 4-in. pipe, flow and return along one side, cut and fitted, so that if the internal measurement of the Greenhouse is given, the apparatus will be sent completely ready for fixing, an advantage which will be appreciated by all. Securely and carefully racked on rail at the following respective prices:— 7 ft. by 5 ft., £3 12s. 6d.; 9 ft. by 6 ft., £3 17s. 6d.; 10 ft. by 7 ft., £3; 12 ft. by 8 ft., £3; 15 ft. by 10 ft., £4; 20 ft. by 10 ft., £5; 25 ft. by 10 ft., £6.

Table with columns: Usual Price, Sale Price, LOT, and descriptions of hot water apparatus.

The Amateur's Assistant.

2363 to 2368.

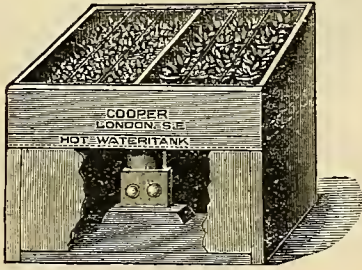
Considering the number of small Greenhouses that do not require much more than sufficient heat to keep out the frost, and the numerous applications constantly received from Amateurs for a cheap and strong stove applicable to the purpose, we are induced to place before the public an entirely original Hot Water Apparatus that will raise the temperature from 15° to 45° above that outside, requires no attention, except to see that the oil vessel is kept supplied. No skilled labour is required for fixing, only to slip the rings over pipes, push into sockets, and fill up with either Plaster of Paris, fire-clay, or any cement. Securely packed on rail as follows:— No. 4, complete with 24 ft. 3 in. piping. Will heat 60 ft. Usual price, £3. Sale price, £2 5s 0d.

(CONTINUED ON NEXT PAGE.)

W. COOPER, Ltd., NINTH ANNUAL CLEARANCE SALE—continued.

The Rapid Propagator.

THE ONLY PERFECT PROPAGATOR FOR RAISING PLANTS FROM SEEDS, SLIPS, OR CUTTINGS.



This Propagator is the best and cheapest now before the public, and will be found especially serviceable to Amateurs and Gardeners who require to strike cuttings and raise seeds in a short space of time.

One of the Propagators will raise large quantities of plants in the spring, thus—to a great extent—dispensing with the necessity of striking cuttings in the autumn; it being well known that many cuttings fall victims to the frost and damp atmosphere so prevalent in this country. This method of propagation saves the trouble and annoyance resulting from the loss of so many plants in the winter time, and also makes it unnecessary to occupy so much space in storing a large number of cuttings.

These Propagators are composed of an outside casing, with movable sheets of glass on top. The bed or bottom is formed of a tank, in which a constant circulation of Hot Water is kept up by the Heater (see illustration), the pots being plunged in a bed of cocoanut-fibre refuse, which should be kept moist. It is heated by oil, one pint of which will burn at least 30 hours. Securely packed (no charge for packing) and put on rails complete at the following sizes and prices:—

Table with 4 columns: Lot, Usual Price, Sale Price. Rows include sizes like 2369 to 2383 (1 ft. 8 in. by 1 ft. 6 in.) and 2393 to 2411 (4 ft. by 2 ft.).

TIMBER DEPARTMENT.

SPECIFICATION.

Materials required for Span-roof 100 feet by 12 feet Cucumber-house.

Lot 2412 to 2431. Best red deal, all planed, rabbetted, &c., ready for use. Door and Ventilators made.

- 105 feet 1 1/2 by 6 Ridge,
105 feet 1 1/2 by 4 Capping,
230 feet 3 by 2 1/4 Plate,
210 feet 3/4 by 3 Drip,
4-8 feet 2 1/2 by 3 End Bafflers,
120-8 feet 1 1/2 by 3 Bars,
15 Ventilators about 4 feet by 2 feet,
15 Ventilators, Seats about 60 feet,
1 Door and Frame, 8 ft. by 2 ft. 6 in.

Packed free on rail. Usual price, £9 10s. Sale price, £3 10s.

Table with 4 columns: Lot, Usual Price, Sale Price. Rows include items like 2432-98,000 ft. run No. 1 Sashbar per 100 ft. run, 2433-137,000 ft. run No. 2 Sashbar, etc.

£10,000 worth of other prepared Timber, as per Separate List, 25 per cent. off to clear.

Table with 4 columns: Lot, Usual Price, Sale Price. Rows include items like 2436-375 Top and Side Ventilators, 2437-270 Marginal Light Doors, etc.

Special Offer to Builders, Timber Merchants, &c., &c.

Table with 4 columns: Lot, Usual Price, Sale Price. Rows include items like 2444-200 Standard's 3 ft. by 9 in., 2445-25 Standard's 3 ft. by 11 in., etc.

Planed Extended Trellis.

MADE OF BEST YELLOW DEAL.

Table with 5 columns: Lot, Open, Usual Price, Sale Price. Rows include items like 2450 to 2462 (12ft. by 1 1/2 ft.), 2463 to 2471 (12ft. by 2 ft.), etc.

All Timber consigned at the Cheap Timber Rate to all parts of the country.

SUNDRIES DEPARTMENT.

Table with 5 columns: Lot, Usual Price, Sale Price. Rows include items like 2546A-Galvanised Pea Guards, 2546B-Galvanised Wire Arches, etc.

Loam-Surrey.

2547-Splendid Quality, full of Yellow Fibre: Usual price, 2s. 6d. per sack; 5 for 12s.; 10 for 20s. Sale price, 1s. 6d. per sack; 5 for 7s.; 10 for 13s. 6d. In Truck Loads, F.O.R., Usual Price, 16s. per ton; Sale price, 8s. per ton.

William Cooper's General Potting Compost.

Lot 2548-Specially Prepared, Usual price, 2s. 6d. per sack; 8 for 13s.; 10 for 20s. Sale price, 1s. 6d. per sack; 8 for 8s. 6d.; 10 for 13s. 6d.

William Cooper's Celebrated Chrysanthemum Compost.

Lot 2549-Usual price, 3s. per bushel. Sale price, 1s. 6d. per bushel.

William Cooper's Prepared Compost for Potting Ferns.

Lot 2550-SPECIALLY PREPARED. Usual price, 2s. 6d. per sack; 6 for 13s.; 10 for 20s. Sale price, 1s. 6d. per sack; 6 for 8s. 6d.; 10 for 13s. 6d.

William Cooper's Prepared Compost for Potting Bulbs.

Lot 2551-SPECIALLY PREPARED. Usual price, 2s. 6d. per sack; 6 for 13s.; 10 for 20s. Sale price, 1s. 6d. per sack; 6 for 8s. 6d.; 10 for 13s. 6d.

Lot 2552-Usual price, 2s. 6d. per sack; 6 for 13s.; 10 for 20s. Sale price, 1s. 6d. per sack; 6 for 8s. 6d.; 10 for 13s. 6d.

The Original Celebrated Orchid Peat.

Lot 2553. ALU RICH BROWN PURE BRACKEN FIBRE. SELECTED TURVES, with Dust and Roots taken out. Usual price, 6s. per sack; 5 for 25s.; 10 for 45s. Sale price, 3s. per sack; 5 for 13s.; 10 for 25s.

Best Brown Fibrous Peat.

Lot 2554. FOR HARDWOOD AND STOVE PLANTS. Usual price, 2s. 6d. per sack; 6 for 13s.; 10 for 20s. Sale price, 1s. 6d. per sack; 6 for 8s. 6d.; 10 for 13s. 6d. Special quotations for truck-loads, F.O.R.

Good General Peat.

Lot 2555. FOR FERNS, &c. Usual price, 2s. per sack; 6 for 10s.; 10 for 15s. Sale price, 1s. 6d. per sack; 6 for 8s. 6d.; 10 for 13s. 6d. Special quotations for truck loads, F.O.R.

Rhododendron Peat.

Lot 2556. Usual price, 2s. per sack; 6 for 10s.; 10 for 15s. Sale price, 1s. 6d. per sack; 6 for 8s. 6d.; 10 for 13s. 6d.

Special Offer of Rich Brown Loose Peat.

Of the very best quality. All waste extracted. Ready for use. Usual price, 2s. per sack; 6 for 10s.; 10 for 15s. Sale price, 1s. 6d. per sack; 6 for 8s. 6d.; 10 for 13s. 6d. Special quotations for truck loads, F.O.R.

William Cooper's Sunshade.

SUPERSEDES ALL OTHER PREPARATIONS OF THE KIND. Lot 2558. The cheapest, most efficient, and convenient preparation for Shading Greenhouses, Conservatories, Glass Roofs, and Windows of all descriptions. Is applied cold—an enormous advantage over preparations requiring to be used while hot. May be used either inside or outside, and produces a pleasing effect. Is not washed off by rain, but can be instantly removed when desired by rubbing over with a brush whilst it is wet. Made in various colours—White, Pale Blue, and Pale Green. Usual Price, in tins, 1 lb. 1s.; 2 lb. 2s.; 7 lb. 5s. Sale price, do. 1 lb. 4d.; 2 lb. 8d.; 7 lb. 2s.

William Cooper's General Fertiliser.

FOR FLORISTS, GARDENERS, AND AMATEURS.

Lot 2559. This high-class manure is strongly recommended for all kinds of Flowers, Fruit Trees, and Vegetables, and will be found invaluable, both for importing and increasing the produce. Suitable for all crops: Potatoes, Kitchen Garden Produce, Vine, Fruit Trees, Pot Plants, &c., &c. Usual price—tins, 4d.; 7 lb. bags, 1s.; 14 lb. bags, 2s.; 28 lb. 4s.; 1/2 cwt., 7s.; 1 cwt., 13s. Sale price—tins, 3d.; 7 lb. bags, 9d.; 14 lb. bags, 1s. 6d.; 28 lb., 3s.; 1/2 cwt., 6s.; 1 cwt., 10s.

Silver Sand.

Lot 2560-2 cwt. sacks. Usual price, 3s. 3d. Sale price, 2s. 3d. Special offer—4-ton truck on rail, at pit loose, 20s.

Best Cocoa-Nut Fibre Refuse.

Lot 2561-9d. per sack; 10 sacks, 7s.; 15 sacks, 1 s.; 20 sacks, 12s. 6d.; 30 sacks, 18s.; sacks included. Truck, loose, free on rail over 2 tons, 3s. Moistens in heat. Holds heat in winter. Invaluable for potting, planting, forcing, decorating, and used on Strawberry-beds is preferable to straw, keeping the fruit clear from grit, and at the same nourishing the plants. For lightening heavy soils it is particularly useful, and when the soil is light and dry it is of great advantage as a mulch. All slugs and insects are destroyed by its use.

Lot 2577-300 Taganrog mats, nearly new; usual price, 2s. each; sale price, 1s. each.

RUSTIC DEPARTMENT.

Handsome Rustic Summer-house.

Lot 2578-Made for Exhibition purposes, about 10 ft. square, and 10 feet high, complete, with Seats, Table, Curtains, &c.; erected in our Snow-ground, Usual price, £100. Sale price, £30.

Two Pieces of Rustic Fence.

Lot 2572-Three pieces Rustic Fence, 1, 8ft. by 3ft.; 1, 8ft. by 3ft. 3in.; 1, 8ft. by 2ft. Usual price, £4. Sale price, £1.

Rustic Summer House.

Lot 2580. (As No. 116 in List). 6ft. by 5ft. 6in. Usual price, £7. Sale price, £5.

Rustic Summer House.

Lot 2581. (As No. 117 in List). 6ft. by 5ft. 6in. Usual price, £9. Sale price, £3 10s.

Rustic Summer House.

Lot 2582. (As No. 120 in List). 12ft. by 5ft. Usual price, £22. Sale price, £14.

Rustic Summer House.

Lot 2583. (As No. 121 in List). 5ft. by 3ft. 6in. Usual price, £4 5s. Sale price, £3.

Steps and Ladders.

Table with 5 columns: Lot, Usual Price, Sale Price. Rows include items like 2584-9 pairs Steps, 4 Treads, 2585-7, 2586-20, etc.

Wrought Welded Saddle Bolders.

SOCKETS, 6s. 6d. EACH EXTRA.

Table with 5 columns: Lot, Usual Price, Sale Price. Rows include items like 2597-2, 2598-3, 2599-2, etc.

Iron Buildings.

Wooden framework covered with Corrugated Iron, suitable for Storeroom or Workshop. Made in Sections.

Table with 5 columns: Lot, Usual Price, Sale Price. Rows include items like 2603-10 ft. by 8 ft. complete, 2604-14 ft., 2605-15 ft., etc.

(CONTINUED ON NEXT PAGE.)

W. COOPER, Ltd., NINTH ANNUAL CLEARANCE SALE—continued.

Mission School, Entertainment, or Billiard Room.

Table with columns: LOT, Usual Price, Sale Price. Lists various sizes of wood framework covered with corrugated iron.

Cricket Pavilion.

Table with columns: LOT, Usual Price, Sale Price. Lists various sizes of wood framework covered with corrugated iron.

Portable Iron Stable, Coach House, and Harness Room Combined.

Table with columns: LOT, Usual Price, Sale Price. Lists various sizes of wood framework covered with corrugated iron.

Piggeries.

Constructed of Galvanized Corrugated Iron, with timber uprights. Cheap, durable, and easily removed.

Chapel or Mission Hall.

A Handsome Building with Organ Chamber, Vestry and Porch complete; neat in design, and cheap.

Iron Bicycle or Tricycle Houses.

Advertisement for iron bicycle or tricycle houses, including an illustration of a house and a person with a bicycle.

GLASS DEPARTMENT.

Table with columns: LOT, Usual Price, Sale Price. Lists various sizes of glass cases and boxes.

NURSERY AND SEED DEPARTMENT.

THE FOLLOWING GOODS WILL BE CAREFULLY PACKED AND PUT ON RAIL FREE AT OUR NURSERIES.

Roses! Roses! Roses!

Lot 2642—52,000 DWARF ROSES, blooming from June to November, plant from October to February.

Table with columns: Usual price, Sale price. Lists prices for various quantities of roses.

Lot 2613—MARÉCHAL NIELS.—Holding an exceptionally large healthy well-grown stock of these, specially suitable for walls, roofs of greenhouses, &c., we offer at half value.

Table with columns: Usual Price, Sale Price. Lists prices for extra strong plants 9 to 12 ft.

Vines.

Table with columns: Usual Price, Sale Price. Lists prices for selected canes and planting canes.

Our Sale Line in Creepers.

Table with columns: Usual Price, Sale Price. Lists prices for various creeper plants like Ampelopsis Veitchii and Passiflora grandiflora.

Ornamental Flower and Foliage Plants.

Table with columns: Usual Price, Sale Price. Lists prices for various ornamental plants like Ivy-leaf Geraniums and Arum Lilies.

Ferns in Great Variety.

Table with columns: Usual Price, Sale Price. Lists prices for various ferns like Pteris Serrulata and Adiantum.

Small Ferns.

Table with columns: Usual Price, Sale Price. Lists prices for small ferns in 2 1/2 inch pots.

Hardy Plants for Immediate Planting.

Table with columns: Usual Price, Sale Price. Lists prices for various hardy plants like Old Crimson Clove and Carnations.

Table with columns: Usual Price, Sale Price. Lists prices for various flowers and plants like Achillea, Hemerocallis, and Papaver.

Fruit Trees! Fruit Trees!!

Many acres of Fruit Trees in an exceptionally fine and healthy condition, in great variety, must be cleared this sale.

APPLES, PEARS, PLUMS, AND CHERRIES, ALL VARIETIES.

Table with columns: Usual Price, Sale Price. Lists prices for various fruit tree varieties.

APRICOTS, PEACHES, AND NECTARINES.

Table with columns: Usual Price, Sale Price. Lists prices for various apricot, peach, and nectarine varieties.

Ornamental Shrubs, &c.

Table with columns: Usual Price, Sale Price. Lists prices for various ornamental shrubs like Alders, Lilacs, and Ribes.

Seeds for Present Sowing.

Table with columns: Usual Price, Sale Price. Lists prices for various seeds like Early Peas, Little Gem, and Sharpe's Early Pagon.

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(Trade supplied on best terms).

A large stock of the finest quality ORCHID PEAT. Also for Stove and Greenhouse Plants, Ferns, Rhododendrons, &c. By the sack, cubic yard, ton, or truck-load. Can be seen in bulk at London Wharf. Immediate despatch by any Rail or Steamer. Prompt and Special Quotations for delivery to any Station.
G. H. RICHARDS, Old Shot Tower Wharf, Lambeth, London, S.E.; Peat Grounds and Depôts, Ringwood and Wareham. Address all letters to London Wharf.

To Nurserymen, Seed Merchants, and Florists.
J. BLACKBURN AND SONS are offering ARCHANGEL MATS lower than any other house in the Trade; also Petersburg Mats and Mat Bags, Raffia Fibre, Tobacco Paper, and Shading.
Prices free.
4 and 5, Wormwood Street, E.C.

ESTABLISHED 1851.

BIRKBECK BANK,

SOUTHAMPTON BUILDINGS, CHANCERY LANE, W.C.
TWO-AND-A-HALF per Cent. INTEREST allowed on DEPOSITS, repayable on demand.
TWO per Cent. on CURRENT ACCOUNTS, on the minimum monthly balances, when not drawn below £100.
STOCKS and SHARES purchased and sold.
SAVINGS DEPARTMENT.
For the encouragement of Thrift the Bank receives small sums on deposit, and allows interest at the rate of TWO-AND-A-HALF PER CENT. per annum on each completed £1.

BIRKBECK BUILDING SOCIETY.
HOW TO PURCHASE A HOUSE FOR TWO GUINEAS PER MONTH.

BIRKBECK FREEHOLD LAND SOCIETY.
HOW TO PURCHASE A PLOT OF GROUND FOR FIVE SHILLINGS PER MONTH.
The BIRKBECK ALMANACK, with full particulars, post-free.
FRANCIS RAVENSCROFT, Manager.

GARDENING APPOINTMENTS.

- Mr. W. CHITTY, late Gardener at West Hill House, Dartford, Kent, as Gardener to CHARLES VAN BAALTE, Esq., Aldenham Abbey, Watford, Herts.
- Mr. A. CRYER as Gardener to Lieut.-Col. KIDD, J.P., West Hill House, Dartford, Kent.
- Mr. ARTHUR PECK, for the last three years General Foreman, Woolverstone Park Gardens, as Gardener to W. F. PAWL, Esq., Orwell Lodge, Ipswich.
- Mr. THOMAS ELLAM, late Foreman in the gardens, Derwent Bank, Derby, as Head Gardener to GEORGE FOSBERY LYSTER, Esq., Plas Isaf, Ruthin, North Wales.
- Mr. STEPHEN OILBERT, late Foreman at Treat Park, under Mr. LEES, as Head Gardener to Mrs. LLEWELLYN, Raglan Hall, Briton Ferry, South Wales.
- Mr. JOHN McDONALD, formerly Gardener at Brooke House, Fleet, Hants, as Head Gardener to Lieut.-Col. COURTENAY BRUCE, at the same place.
- Mr. A. E. PEACH, for the past four years Foreman in the gardens of Sir H. F. DE TRAFFORD, Bart., Trafford Park, Manchester, succeeds Mr. J. ADSHEAD as Head in the above gardens.
- Mr. JAS. N. DRUMMOND, as Gardener to J. BURT MASHALL, Esq., Luncarty House, Perth, N.B.

CATALOGUES RECEIVED.

- J. W. WIMSETT & SON, Royal Ashburnham Nursery, Chelsea, S.W.—Wedding, Ball, Opera, and other Bouquets, &c.
- FRED. ROEMER, Quedlinburg, Germany—Trade List of Seeds.
- WM. FEEL & CO., Hexham, Northumberland—Forest and other Trees, Fruit Trees, Roses, Rhododendrons, Stove, Greenhouse, and Alpine Plants.
- JAS. VITCH & SONS, Royal Exotic Nursery, King's Road, Chelsea—Hardy Florist's Flowers.
- THOS. S. WARE, Hale Farm Nurseries, near Tottenham—Roses, Clematis, Azaleas, Bulbs, Tubers, Carnations, Begonias, &c.

ORCHID CULTIVATION.

THE AMATEUR ORCHID CULTIVATOR'S GUIDE BOOK, 2nd. edition, by H. A. BURBERRY, Orchid grower to the Rt. Hon. Joseph Chamberlain, M.P. 41 Coloured Orchids and other beautiful illustrations. The Gardener's Magazine—"A work at once inexpensive and thoroughly trustworthy." Price 5/-; post free, 5/6. From the publishers, Blake & Mackenzie, Liverpool, or the author, Ethel House, King's Heath, Birmingham.

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Price 5s.; post free, 5s. 6d.
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GRATEFUL-COMFORTING.
C O C O A
BOILING WATER OR MILK.

School Board for London.
EVENING CONTINUATION SCHOOLS.
THE BOARD REQUIRE an ASSISTANT TEACHER, with a Practical knowledge of BOTANY, for the Heber Road, East Dulwich, S.E. (Male), Evening Continuation School. Salary according to the scale of the Board. Application to be made on S.M. (E.C.S.), Form 40, and forwarded to A. B. HEAD, Esq., 163, Camberwell Road, S.E. Copies of S.M. (E.C.S.), Form 40, can be obtained from the Clerk of the Board, or from A. B. Head, Esq., as above. If a written application be made for a form, it must be accompanied by a stamped and addressed envelope or wrapper, and should be marked outside "Application for S.M. (E.C.S.), Form 40." Canvassing for this post, either by letter or personally, will be considered a disqualification.

PARTNER WANTED, for a London Seed Business, with £1000, in a well-established concern; Sleeping or Active. Every investigation courted.—X. Y. Z., 41, Wellington Street, Strand, W.C.

PARTNERSHIP.—WANTED by a Gentleman's Son, Partnership in small Market Nursery, or succession to same, chiefly glass.—ANNITSTEAD, Barklye, Heathfield, Sussex.

PARTNERSHIP.—Advertiser, with some capital, and extensive practical knowledge of all details of Nursery Business, is open to treat for PARTNERSHIP, or Option of Purchase, or Manager.—Apply, M., 41, Wellington Street, Strand, W.C.

AN OPPORTUNITY occurs for a smart and energetic young Man (only) to SHARE ESTABLISHED BUSINESS in a London Nursery. Capital, from £200.—W., 41, Wellington Street, Strand, W.C.

THE CORPORATION OF SOUTHPORT REQUIRE the services of a HEAD GARDENER, to take charge of their Park, Gardens and Recreation Grounds. Salary, £150, house, &c., free.—Printed particulars on application to the TOWN CLERK, Southport.

WANTED, at once, a HEAD GARDENER.—Well up in the management of Orchids, Fruit, and Grapes.—J. T. HOLMES, Beechen Cliff, Bath.

WANTED, December 28, a SINGLE-HANDED GARDENER, wages £52 per annum and a good house; must understand Glass.—Apply to MAJOR LANG, The Gables, Lewes.

WANTED.—A Gentleman residing on South-Eastern Line, near London, requires a good SINGLE-HANDED GARDENER. About 1 acre, with Greenhouse, Conservatory, &c. Must be quite competent, thoroughly reliable, and steady, and be married. State age, previous situation, references, and wages required; dwelling-rooms provided.—Address W., Box 415, Willing's Advertisement Offices, 125, Strand, W.C.

WANTED, for a small place in the Country, MAN and WIFE, without encumbrance. Man as GARDENER (one accustomed to Market-work preferred); wife to do work of a small cottage.—Address, L. D., 41, Wellington Street, Strand, W.C.

WANTED, an experienced GROWER of TEA ROSES. Must be able to produce Early and Late Cut Blooms in quantity.
H. DICKINSON, Shardlow, near Derby.

WANTED, UNDER FOREMAN or SECOND MAN for Outside Nursery department. Full particulars to—WILLIAM TROUGHTON, Nurseryman, Preston.

TRAVELLER WANTED immediately for JOHN WATERER & SONS, Limited, Bugshot. Must be a first-class man with good connection amongst gardeners, the trade, and architects. Reply by letter to The Nurseries, giving full details as to experience, references, and terms.

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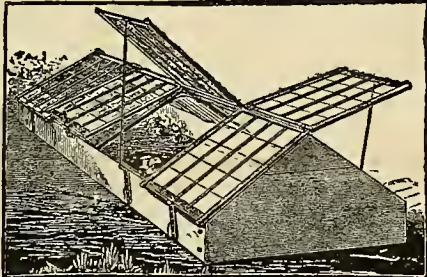
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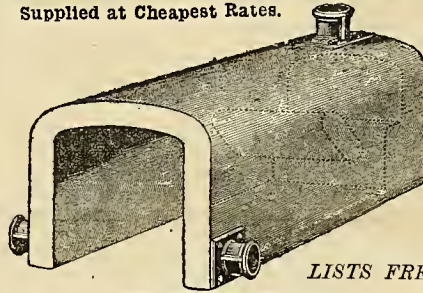
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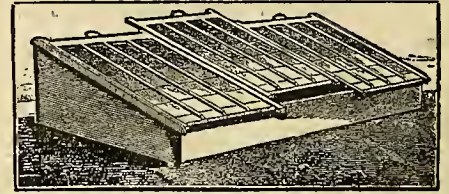
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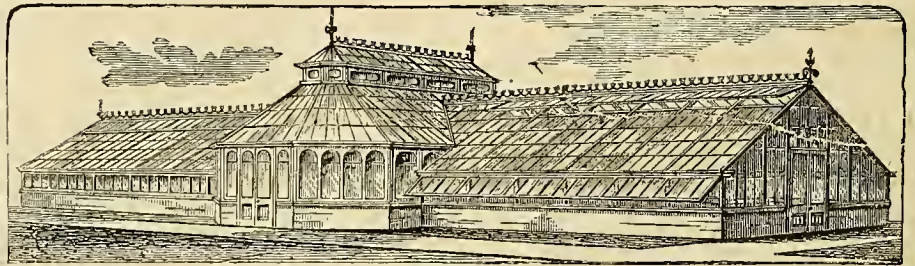
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The GARDENERS' CHRONICLE

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 See Illustrations, back page, *Gard. Chron.*, Sept. 7, 1895. GENERAL BULB CATALOGUE, free on application. ENGLISH DAFFODIL CATALOGUE, free on application. ENGLISH AMATEUR TULIP CATALOGUE on application. CATALOGUE of HARDY HERBACEOUS PERENNIALS.
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ASPARAGUS, for Forcing.—Five years old, splendid roots, 12s. 6d. per 100; extra fine, 6 years old, 15s. per 100. On rail, cash with order. My Asparagus always makes top price at Covent Garden.
 J. J. CLARK, Market Gardener, Goldstone, Brighton.

OWEN'S ROYAL CHRYSANTHEMUMS.
 —The best, cheapest, and most complete collection in the Kingdom. All the latest and best varieties. Awarded 25 Medals and 275 First-class Certificates for New Varieties. Every variety of merit supplied. Catalogue, Penny Stamp.
 R. OWEN, F.R.H.S., Floral Nursery, Maidenhead.

CELOGYNE CRISTATA, a fine, well-grown variety, very cheap.
 Good plants, 1s.; 15 bulbs, one or two spikes, 2s. 6d.; stronger, 6s. bulbs, 6 spikes, 5s.; 100 to 150 bulbs, 8 to 16 spikes, 7s. 6d. to 12s. 6d. each.
 TBUSTRES, late J. STEVENSON, Timperley, Cheshire.

ASH, 3 to 4 ft., 20s. per 1000. ELM (Wyoh), 2 to 2½ ft., 16s. SPRUCE FIR, 9 to 10 in., 10s.; 12 to 18 in., 14s. LARCH, 1½ to 2 ft., 2s. SCOTCH FIR, 1 yr., 2 yrs. transplanted, 12s.; do., 2 to 2½ ft., twice transplanted, 23s. THORNS, 3 ft., 2s.; 4 to 5 ft., extra strong, 30s.
 GARLIES MITCHELL, Nurseryman, Straarar.

Important to Mushroom Growers.
CUTHBERT'S SPECIALITÉ MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 5s.
 R. AND G. CUTHBERT, Seed, Bulb, and Plant Merchants, Southgate, N. Established 1797.

Herbaceous Calceolarias.—James' Superb Strain.
JOHN FRASER, The Nurseries, South Woodford, Essex, has a beautiful lot of the above to offer. The plants are strong and healthy; they are in 60's, ready for potting into 48's or 32's. Price 20s. per 100, packing included. Usual trade allowance.

FOR ORCHIDS of every description at Reasonable Prices, and efficient men to cultivate them, apply to—
 W. L. LEWIS AND CO., Southgate, London, N.
 PRICE LIST free.

SMILAX, MYRSIPHYLLUM ASPARAGOIDES, nice young Stuff in thumb-pots ready to pot on, 16s. per 100, free on rail.—WILLIAM WHITELEY, The Nurseries, Hillingdon Heath, Uxbridge.

CANON HALL MUSCAT, and other VINES, Fruiting and Planting Canes. CORDON APPLES and PEARS.—Well-spurred trees, 5 to 6 feet, with fibrous roots. PEACHES and NECTARINES.—Standard and Dwarf-trained fruiting trees. ELTON CHERRIES.—Clean, straight Standards. WILL TAYLER, Osborn Nursery, Hampton, Middlesex.

MILLER'S GORGEOUS PARROT TULIPS.
 —Enchantingly beautiful, choicest mixed sorts, 4s. 6d. per 100. 40s. per 1000; Scarlet Duc Van Thol Tulip, vivid scarlet and early-flowering, 2s. 6d. per 100. 21s. per 1000; Late Single Amateur Florists' Tulips, mixed colours, refined and beautiful varieties, 4s. 6d. per 100, 40s. per 1000. Orders above 10s. carriage paid.
 F. MILLER AND CO., 267, Fulham Road, London, S.W.

ROYAL SOVEREIGN STRAWBERRY.—Strong well-rooted runners. Also Sir Joseph Paxton, and other leading varieties. RASPBERRY CANES.—Carter's Prolific, Semper Fidelis, Norwich Wonder, &c. Special quotations for large quantities. Apply, JOHN CHIVERS, Histon, Cambridge.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.B.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentes of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W. Telegraph Address, "Hortulanus, London." Telephone, No. 8723.

SALES BY AUCTION.**GREAT CLEARANCE SALE OF
122,000 FRUIT TREES & BUSHES**

IS FIXED FOR WEDNESDAY, DEC. 18,

at half-past 11 o'clock punctual, at Perry Hill, Cliffe, near Rochester, adjoining Cliffe Station, S.E.R. (the last for the season), by order of Mr. W. Horne, consisting of 1,200 Standard Apples and Pears, 500 Standard Victorias, and 300 Standard Jefferson's Gage, 20,000 Half-standard Apples and Pears, Victoria and Rivers' Plum; 16,000 two and three-year's Baldwins, Black Currants, 2,001 Red, 12,000 Gooseberries, Crown Bobs, Lancashire Lads, Golden Rough White Eagle, Whitesmith and Whinham's Industry; 5,000 Carter's Raspberries, 35,000 Fastiffs, 35,000 Norwich Wonder, 2,000 Semper Fidelis, 50,000 Sir Joseph Paxton and Noble, 15,000 Royal Sovereign, 15,000 Asparagus, 100,000 Myatt's Offenham Cabbage, 100,000 Drumhead, 50,000 Red Pickling, 100,000 Balloon Cos Lettuce, 2,500 Brambling, and 10,000 East Kent Petham Golding Hop Sets. Mr. Horne will lift and put on rail all lots after the sale, free of charge.

Catalogues can be had of

MESSRS. PROTHEROE AND MORRIS, 67, Cheapside, London. The Auctioneers desire to call special attention to this important Clearance Sale. It is seldom an opportunity offers itself in meeting with such new kinds, and in such large quantities for Market Growing. All are well-grown and clean. Growers and others interested, are invited to inspect the Stock and attend the Sale.

Chesterfield.

SALE OF THE LEASE OF THE NURSERY AND GLASS ERECTIONS, in one lot as a going concern, and the STOCK IN TRADE by AUCTION in lots.

MESSRS. PROTHEROE AND MORRIS, in conjunction with Messrs. BYRON and RAMSLEY, are instructed by the Chesterfield Nurseries Company, Limited, to sell by AUCTION, on the Premises, The Westfield Nurseries, Aghate Road, Chesterfield, on WEDNESDAY and THURSDAY NEXT, Dec. 18 & 19, at 11 o'clock precisely each day, the INTEREST IN THE PROPERTY known as THE WESTFIELD NURSERIES, comprising 1½ Acres of Land, 18 Greenhouses, Heating Apparatus, 12 Brick Pits with Lights, Stabling, &c. Immediately following will be offered in suitable lots the extensive Stock in Trade, consisting of 5000 Ferns in variety; 10,000 Geraniums, 500 Asparagus plumosus and tenuissimus; 300 choice Cinerarias; 5000 Tuberosus Begonias, 200 Azaleas and Camellias, 600 Canas, several thousands of Herbaceous Plants, a special feature at these Nurseries, and including a fine collection of Paeonies; 4000 Carnations, best varieties; Dahlias, &c.; a large quantity of Forest Trees, Conifers, 30,000 Fruit Trees, Apples, Pears, Plums, Cherries, and Raspberries, several hundreds of Dwarf Roses, Myrobella Plums, and other Stock.

May now be viewed. Catalogues may be had on the Premises; of Messrs. BYRON and RAMSLEY, 5, Low Pavement, Chesterfield; of Messrs. SEPTIMUS SHORT & CO., 19, Saltergate, Chesterfield; of the principal Hotels in the neighbourhood; and of Messrs. PROTHEROE and MORRIS, 67 and 68, Cheapside, London, E.C.

Thursday Next.

220 AZALEA MOLLI, 100 A. INDICA, 50 CAMELLIAS, 40 RHODODENDRONS, and 250 SPIREAE JAPONICA, from Belgium; 620 Standard, Half-Standard, and Dwarf ROSES; 300 lots of DUTCH BULBS. CARNATIONS, BEGONIAS, choice PERENNIALS, CALCEOLARI, Hardy CLIMBERS in variety, HERBACEOUS PLANTS, English-grown LILIES, &c.

MESSRS. PROTHEROE AND MORRIS will sell the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY NEXT, December 19, at 12 o'clock.

On view morning of Sale, and Catalogues had.

Friday Next.

BY ORDER OF MR. P. MCARTHUR.

An Importation of the extremely rare

CATTLEYA MOSSIE, VARIETY CUYAENSIS. This was found on cool high mountains at an altitude of 1950 feet. Every plant was collected, and is now offered; it is the finest type ever introduced into Europe. See Catalogue for description.

Together with some marvellous plants of

ONCIDIUM PAPILO MAJUS, perfect specimens.

Also—

BY ORDER OF MESSRS. W. L. LEWIS AND CO.,

SOPHRONITIS GRANDIFLORA, in magnificent order.
ONCIDIUM CRISPUM GRANDIFLORUM, in extra fine masses.

LÆLIA AUTUMNALIS ALBA, specially selected varieties from the private gardens of a Mexican gentleman. Bulbs and flower-spikes of enormous size. Dried flowers will be shown.

ONCIDIUM MARSHALLIANUM, a grand lot, in magnificent order, of this scarce and charming species.

SOPHRONITIS × LÆLIA HYBRIDS (supposed), 15 plants, supposed to be natural Hybrids.

Together with 200 lots of IMPORTED and ESTABLISHED ORCHIDS (another property), ORCHIDS in FLOWER and BUD, &c.

MESSRS. PROTHEROE AND MORRIS will sell the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, December 20, at half-past 12 o'clock.

On view morning of Sale, and Catalogues had.

Bulb Sales during the Current Week.

MR. J. C. STEVENS will sell by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on MONDAY, TUESDAY, WEDNESDAY, THURSDAY, and SATURDAY NEXT, December 16, 17, 18, 19, and 21, at half-past 12 o'clock precisely each day, enormous importations of HYACINTHS, TULIPS, CROCUSES, NARCISSUS, LILIIUMS, GLADIOLI, and other BULBS from Holland, also a great variety of BORDER PLANTS.

On view mornings of Sale, and Catalogues had.

WEDNESDAY NEXT.

Choice named Standard Roses, including many popular kinds.

A further portion of a Surplus Stock of well-grown ORNAMENTAL TREES and SHRUBS, from an English Nursery.

Pyramid and Dwarf-trained Fruit Trees, to name.

40,000 Best Berlin Lilly of the Valley Crowns, in cases as received; LILIIUM AURATUM, from Japan; LILIIUM HARRISII.

5,000 Spiræa of Sorts, Dielytras, Iris Kæmpferi.

A Collection of well-grown Border Plants, including Choice CARNATIONS, PINKS, PICOTEES, IRIS, HOLLYHOCKS, PYRETHRUMS, &c.

MR. J. C. STEVENS will sell the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, December 18, at half-past 12 o'clock precisely.

On view morning of Sale and Catalogues had.

Thursday Next.

BY ORDER OF MESSRS. LINDEN, BRUSSELS.

GREAT SALE OF**NEW, RARE, and POPULAR ORCHIDS,**

ESTABLISHED PLANTS, IN THE FINEST CONDITION,

Including—

Bulbophyllum reticulatum	Catasetum splendens albo-
" disciferum	maculatum
" anceps	" aureo-maculatum
" congoense	" aurantiacum
Cirrhopetalum Mastersianum	" aureum
" Meduse	" chrysoxum
" pulchrum	" deliciosum
" vaginatum	" luteo-purpureum
" Lichtensteini	" citrosium punctatum
Catasetum barbatum	Mormodes Cogniauxi
" spicatum	" Rolfeana
" Oerstedti	Nanodes Mantini
" punctatum	" Mathewei
" Clossianum	Lo-kharditia lucifera
" collaris	Galeandra Claeisaca
" comosum	Cattleya Rex
" cornutum	" Mossie ignea
" tenebrosum	" juvenilis
" stupendum	" anisum
Catasetum splendens Lindeni	" tessellata, &c., &c.

MR. J. C. STEVENS will sell the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, December 19, at half-past 12 o'clock precisely.

On view morning of Sale, and Catalogues had.

Thursday Next.

By order of Messrs. W. L. Lewis & Co., Southgate, N. SOPHRONITIS GRANDIFLORA, including some fine masses, all well leaved, and in grand order.

ONCIDIUM CRISPUM GRANDIFLORUM, in splendid condition.

ONCIDIUM MARSHALLIANUM, now very scarce in its native habitat. The plants offered are unusually fine.

MESSRS. J. C. STEVENS will include the above in his SALE by Auction, at his Great Rooms, 38, King Street, Covent Garden, on THURSDAY NEXT, December 19.

On view morning of Sale, and Catalogues had.

Johnstone, near Glasgow.

TO HORTICULTURISTS.

FOR SALE BY PUBLIC AUCTION, within the "Black Bull" Inn, Johnstone, on SATURDAY, December 21, 1895, at 2 o'clock p.m. (if not previously sold privately). ROSEBANK HOUSE and GROUND.

This property is fitted for the Cultivation of Fruits and Flowers, and is worthy the attention of practical men with some capital. It is within a few miles, by rail, of Glasgow and Paisley. There are large and valuable Greenhouses, Vineries, and Tomato-houses, recently erected, by Boyd, of Paisley. The ground extends to 1 acre, 2 rods, 23 poles, or thereby, and is held in perpetual feu for an annual feu-duty of £8 11s. 6d., or thereby. The house is very commodious, and has a bathroom, W.C., and other conveniences, with stable, coach-house, byre, &c., &c.

Upset price of house and ground £1300. In addition to the price the Purchaser would have to take over and pay for the Greenhouses, Vineries, and Tomato-houses, Heating Apparatus and appurtenances therein, and the gates, gasaliers, and venetian blinds in the house and offices, at a price to be ascertained by arbitration.

For further particulars apply to THOMAS KIRKHOPE, Solicitor, Ardrossan, N.B.

WANTED, to Rent, or Purchase, a SMALL NURSERY and FLORISTS' BUSINESS, in a London suburb.—Address, stating full particulars, SUBUBBAN, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, SMALL NURSERY, with one or two Glass-houses, in or near London.—State price and particulars to HERBERT, 4, Adde St., Wood Street, E.C.

FOR DISPOSAL, capital compact NURSERY. Good seed, Jobbing, and Sundry trade. Good reason for disposal. All in going order. Five Houses, Pits, Stable, and Cottages.—H., 41, Wellington Street, Strand, W.C.

NURSERY GROUND with GREENHOUSES &c., TO BE LET at £20 per annum; or 1½ years' lease at £11 ground rent, for SALE, price £50. Apply on the premises, late Hillier's Nursery, Reservoir Road, Enfield Road, Southgate, N.; or, Mr. DAVIS, 63, St. Martin's Lane, Charing Cross, S.W.

EXHIBITION.**SECOND INTERNATIONAL HORTICULTURAL EXHIBITION, DRESDEN.**

From May 2 to 10, 1896.

Under the high protection of His Majesty the King of Saxony. For particulars, Schedules, &c., write to the Secretariat der Zweiten Internationalen Gartenbau-Ausstellung zu Dresden.

O. LAMMERHIRT, 7, Glacisstrasse, Dresden, N. Die Commission: G. KRAUSE, I. VORS.; T. J. SEIDEL, II. VORS.

TO BE SOLD.—A small FREEHOLD NURSERY, LEAN-TO VINERY, and 4 GREENHOUSES. Stands on about half an acre.

ENSOM, Avenue Road, Southgate.

YORKSHIRE.—IMPORTANT NURSERY BUSINESS for DISPOSAL, in a fashionable inland watering place. The Property is equal to freehold, and contains an area of about 2½ Acres, and comprising an excellent Dwelling-house, substantially built and well-appointed, with extensive ranges of twenty-nine Greenhouses, Bothy, Workshops, Offices, Stabling, &c. In addition to the Nursery is a large and admirably fitted Seedshop, centrally situate in the town, and which the purchaser would have the option of taking. Arrangements may be made, if desired, for the Stock-in-Trade (which is of an attractive description) to be Sold by Auction, or the purchaser may, if desired, take it by valuation in the usual way.

For further particulars and price, apply to MESSRS. PROTHEROE and MORRIS, Horticultural Auctioneers, 67 and 68, Cheapside, London, E.C.

TREE-TOPPING.—Dangerous Trees Lopped and Topped by experienced men. Distance no object.—Apply, CARNE, Timber Merchant, Tooting, S.W.

MUSHROOM SPAWN, 2s. per Bushel (16 Cakes), with instructions for use. **ELPHICK and ALLEN, 29, Beaconsfield Road, Willesden, N.W.**

SPECIAL OFFER OF SEEDS for Spring Sowing.—All the best sorts at remarkably low prices. Send for List at once, post free. Best quality only. **BONNET and ROXBY, Seedsmen, Heathfield, Sussex.**

FOR SALE.—Splendid PALM, height 5 feet 6 inches, well-foliaged. Grown too large for owner. £1 5s.—Apply, GARDENER, Brinscombe, Cann, Shaftesbury.

FOR SALE.—Large flowering plants of EUGHARIS AMAZONICA, in 14-inch pots.—Apply GARDENER, Broomhill, Spratton, Northampton.

HENRY RIDES, SALESMAN, Central Avenue, Covent Garden, W.O. Highest Market Prices. Prompt cash.

CUCUMBER SEED, Cross between Rochford's Improved and Rollinson's Telegraph, most excellent cropper and shape. 4s. per 100. Cash with order. **BEAGLEY, Grower, Berrymede Road, Acton Green.**

PALMS, CORYPHAS and LATANIAS from Stores, 10s. per 100. Cash or exchange for Carnations, Pelargonium Cuttings, or Bedding Geraniums. **F. ROSS & CO., Marsham, Surrey.**

50,000 BUONYMUS, Green and Golden, all splendid bushy plants.—GREEN: 12 in. to 15 in., at 30s. per 100; 15 in. to 18 in., at 40s. per 100; 18 in. to 21 in., at 55s. per 100; 21 in. to 24 in., at 75s. per 100; 25 in. to 49 in. at special prices. GOLDEN: 5 in. to 12 in., at 3s. to 8s. per dozen. Cash with order. **J. J. CLARK, Goldstone, Brighton.**

CHRYSANTHEMUM CUTTINGS.—Best sorts for Market Cutting. Lady Lawrence Canning, Yellow Selborne, Sources d'Or, Lincoln, Eda Prass, and many others. List sent from plants planted out in houses. SMILAX ASPARAGOIDES, tubers, 1s. 3d. per doz.; 50, 3s. 6d.; 100, 6s., free.—H. HILLIER, F.R.H.S., Buriton Nursery, Petersfield, Hants.

To Nurserymen, Builders, Local Boards, Vestries, AND OTHERS WHO INTEND PLANTING TREES and SHRUBS THIS SEASON.

ROBERT NEAL, The Nurseries, Trinity Road, Wandsworth, S.W., begs to offer an extensive stock of FOREST and ORNAMENTAL TREES, SHRUBS, ROSES, GRAPE VINES, FRUIT TREES, CLIMBING PLANTS, &c., which being grown in the neighbourhood of London are especially suitable for Town Planting. Also a large stock of extra fine SEAKALE and RHUBARB, for forcing. CATALOGUES free on application.

TO CLEAR.—TEA ROSES.—Best market sorts, Niphotos, Clothilda, Catherine Mermet, Maréchal Niel, at the following extraordinary low prices:—In 32-size pots, 50s. per 100; out of pots, 40s. per 100, free on rail for cash with order. **J. HUBERT GOGAN and CO., Railway Nurseries, Wurthing.**

ROSA RUGOSA.

THE VERY BEST PLANT FOR GAME COVERT, At 20s., 25s., 30s. per 100. Cheaper by the 1000.

WM. WOOD & SON, Nurseries, Mararsfield, Uckfield, Sussex.

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

PLUM and APPLE STOCKS.—Splendid roots, trimmed, ready for quartering. Sample and prices had.

WILL TAYLER, Osborn Nursery, Hampton, Middlesex.

CHRYSANTHEMUMS. Best Exhibition Sorts.

Strong cuttings, now ready, from 2s. per dozen, 12s. per 100. Catalogue, one stamp, of—

W. ETHERINGTON, Swanscombe, Kent.

COVERT.—Broom, common yellow, 1-year seedlings, 3s. per 1000; do., 2 years, 5s. per 1000; do., 3 to 4 feet, extra transplanted, 10s. per 100. White or Gorse, 2-year seedlings, 5s. per 1000; do., 1 to 2 feet, 15s. per 1000.

SAMUEL SMITH, Slaghills Nursery, near Matlock.

Plants Shipped to all Parts.

WATSON and SCULL, 90, Lower Thames Street, London, E.C., give special attention to the reception and forwarding of Plants and Botanical Specimens to and from all parts of the World. Be particular, and have them consigned to our Care, and save Expense and Delay.

Dealers in Virgin Cork, Raffia, Bamboo Canes, Garden Sticks, Palm Seeds, &c.

FERNS AND DECORATIVE PLANTS!—

(TRADE).—Ferns, in 2 1/2-inch pots, Stove and Greenhouse, 30 best selling sorts, 12s. 100; ditto large, in 4 1/2 in. best selling sorts, 8s. doz.; strong seedlings, 8s. 100, 50s. 1000; Adiantum obovatum, in 4 1/2 in. for cutting, 6s. and 8s. doz.; ditto, for making large plants quickly, 16s. and 20s. 100; Aralias, 10s. 100; Cyperus, Aralias, Grevillea, Solanum, in 4 1/2 in. 6s. doz.; Marguerites, Solanum, Erica gracilis, in bloom, in 4 1/2 in. 9s. doz.; Ficus, Palms, Dracaenas, Crotons, Bouvardias, Erica hyemalis, and Cyclamea, in bloom, 12s. doz. Lists free. Packed free. Cash with order.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.

SEEDLING and BEDDED SHRUBS, &c.—

Abies Douglasii, 8 to 10 in., 60s. per 1000; nobilis, 1-yr., 5s. per 100; Virginian Creeper, 2-yr., 6s. per 100; Box Tree, Green, 8 in., 40s. per 1000; Cup. macrocarpa, 8 to 9 in., 50s. per 1000; C. erecta viridis, 4 to 6 in., 30s. per 1000; do., 8 in., 40s.; C. Moosina, 6 to 7 in., 6s. per 100; gracilis, 6 in., 6s. per 100; Cotoneaster mic., 1 ft., 3s. 6d. per 100; Simonsii, 10 in., 4s.; Cedrus atlantica, 2-yr., 4s. 6d.; E. macrantha, 10 in., 10s. per 100; Euonymus japonica, 6 in., 6s. per 100; Gueldre Rose, 9 in., 6s. per 100; Honeysuckle, Common, strong, 8s.; H. japonica, 12s. per 100; Ivy, Irish, 15 in., 6s. per 100; P. strobilus, 2-yr., 6s.; P. excelsa, 2-yr. tr., 8s. per 100; R. squarrosa, 6 in., 40s. per 1000; R. plumosa, 8 in., 7s. 6d.; Rhod. ponticum, 3-yr., 28s. per 1000; Thuja Lobbi, 12 to 15 in., 25s.; 15 to 18 in., 30s. per 1000; Thujaopsis dolabrata, 9 in., 8s. per 100; Yucca gloriosa, 10s. per 100.

GARLIES MITCHELL, Nurseryman, Strauraer.

NATIONAL TESTIMONIAL

TO MR. A. F. BARRON.

FOURTH LIST OF SUBSCRIPTIONS.

Treasurer: H. J. VEITCH, Esq., 544, King's Road, Chelsea, S.W.

It is especially requested that subscriptions and communications relating to this matter may be addressed to Mr. B. Wynne, 1, Danes Inn, Strand, London, W.C.

Table with 2 columns: Name and Amount (£ s. d.). Includes entries like Wm. Cuthush & Son, Highgate, N., and Charles Noble, Bagshot.

The list will be closed on December 31.

Cheap Offer of Bulbs.

HYACINTHS, finest named sorts, 3s. per dozen, 12s. per 100. TULIPS, Single, Artus, 5d. per dozen, 2s. 6d. per 100; Brutus, 5d. per dozen, 2s. 6d. per 100; Belle Alliance, 8d. per dozen, 4s. per 100; Coleus ponceau, 4d. per dozen, 2s. per 100; Cottage Maid, 1s. per dozen, 7s. 6d. per 100; Joost van Vondel, 8d. per dozen 4s. 6d. per 100; Proserpine, 1s. 2d. per dozen, 9s. per 100; Rose Gris de Ciri, 1s. 3d. per dozen, 6s. 8d. per 100; Standard Royal Silver, 9d. per dozen, 4s. 6d. per 100; Gold do., 1s. 2d. per dozen, 8s. per 100; Thomas Moore, 1s. per dozen, 7s. 6d. per 100; Keizer Kroon, 9d. per dozen, 4s. 6d. per 100; DOUBLE TULIPS, Rex rubrorum, 10d. per dozen, 6s. per 100; Imperator rubrorum, 10d. per dozen, 5s. 2d. per 100; La Candeur, 6d. per dozen, 3s. per 100; Tournesol, 1s. per dozen, 7s. 6d. per 100. CROCUS, first size, in mixed varieties, 1s. 3d. per 100. Subject to being unsold. Cash with order to— HARWOOD BRGS., Balham Nursery, Balham, S.W.

PAUL & SON'S STANDARD APPLES

THE OLD NURSERIES, CHESHUNT, HERTS.

AFTER EXECUTING ALL ORDERS

HAVE 20,000 MAGNIFICENT TREES STILL TO OFFER.

These are not the ordinary Nursery Standards, but Fine Trees with 5 1/2 to 6 feet stems and good heads, making a show at once in the Orchard.

PRICES:— } Very good trees, £9 per 100. } For our Special Quality, £12 per 100, in the 60 leading sorts.

GENTLEMEN RENOVATING ORCHARDS should see this STOCK.

DESCRIPTIVE PRICED CATALOGUE ON APPLICATION.

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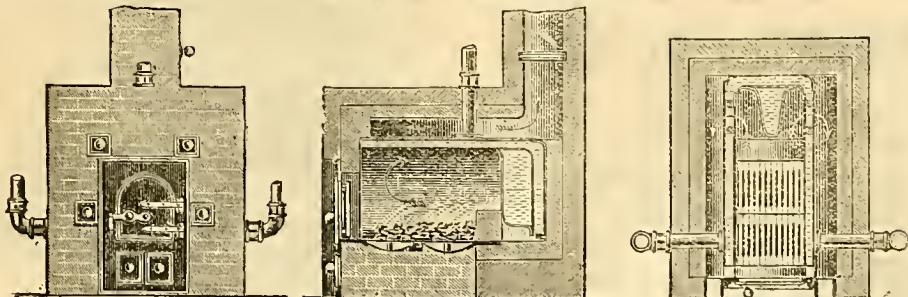
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GOLD MEDAL CHRYSANTHEMUMS.

My Novelties for 1895 helped materially to win for me during the past season THREE GOLD MEDALS, and the PRESIDENT'S PRIZE of the N.C.S. These, together with the varieties raised by Mr. C. E. SHEA, Mr. H. BRISCOE-IRONSIDE, and other raisers, which I shall distribute, will be the finest set ever introduced in one season.

My SUPPLEMENTARY LIST, containing a full description of the above, and other Novelties of the Season, is now in the press, and can be had post free on application. Customers will receive a copy of this when it is ready.

My CHRYSANTHEMUM GUIDE—The most complete work on culture. Post free, Eight stamps.

ALSO IN PREPARATION, THE

CHRYSANTHEMUM ALBUM.

By H. J. JONES,

Containing THIRTY-SIX ILLUSTRATIONS of NEW CHRYSANTHEMUMS from photographs. Every grower should possess a copy, as this will enable him to select varieties from the actual representation of the flowers. This valuable work will be produced at great cost, and can be obtained of the Author, post free, 2s. 6d. each.

H. J. JONES, Ryecroft Nursery, LEWISHAM, S.E.

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FRUIT TREES**

That will bear regularly, purchase Apples worked upon our Paradise Stock.

We have 70,000 to select from, and shall be pleased to show them to visitors.

TRAINED TREES A SPECIALTY.
CATALOGUE FREE UPON APPLICATION.

J. R. PEARSON & SONS,
CHILWELL NURSERIES, NOTTS.

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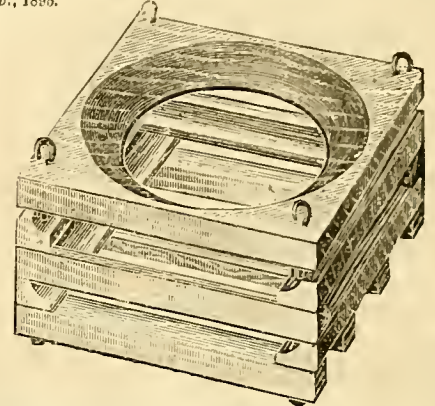
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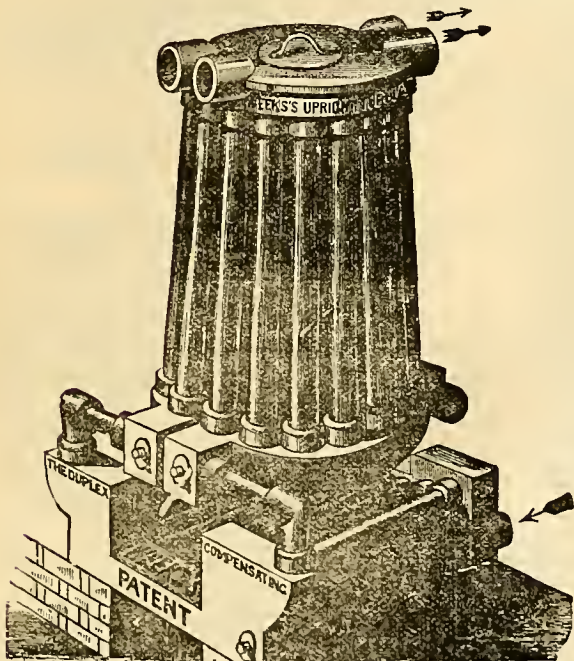
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ARONA (Briscoe-Ironside), in size and form similar to Col. Smith, but richer, and the blooms are of much better substance. First-class in every respect. Plants 7s. 6d.

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These do not by any means exhaust W. J. G.'s list of sterling Novelties for 1896, but all are fully described, together with the very best of last year's introductions in the general Catalogue, which will be issued in a few days.

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WALLFLOWER RUBY GEM.

This grand Novelty is certainly the most brilliant and effective variety of single Wallflower hitherto sent out.

The colour is a beautiful clear shade of Ruby-Violet, with a bluish satin-like sheen (quite unlike the old purple Wallflower, which is more dark and dull in colour) and when seen in a mass the effect produced is very striking. It has the habit of the ordinary dark Blood Wallflower of medium height, and the flowers are extra large and of good substance.

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We call special attention to the new dwarf SWEET PEA CUPID, a most unique Novelty of American origin, for which we have been appointed by the Vendors, MESSRS. ATLEE, BURPEE, AND CO., PHILADELPHIA, Sole Agents for the distribution to the Trade in Great Britain, the Australian Colonies, and India.

A brief Description of Cupid (the only dwarf Sweet Pea ever known).—The foliage is very dark green; blossoms pure waxy-white, of unequalled substance, and fully as large as "Emily Henderson." The plant does not grow over 5 inches high, and never more than 12 to 15 inches in diameter. The stems are about 4 inches long, bearing two or three blossoms, all very near the end of the stem. It is a wonderfully free bloomer, and begins to flower as early as May and continues until November. The seed is white, and of usual size.

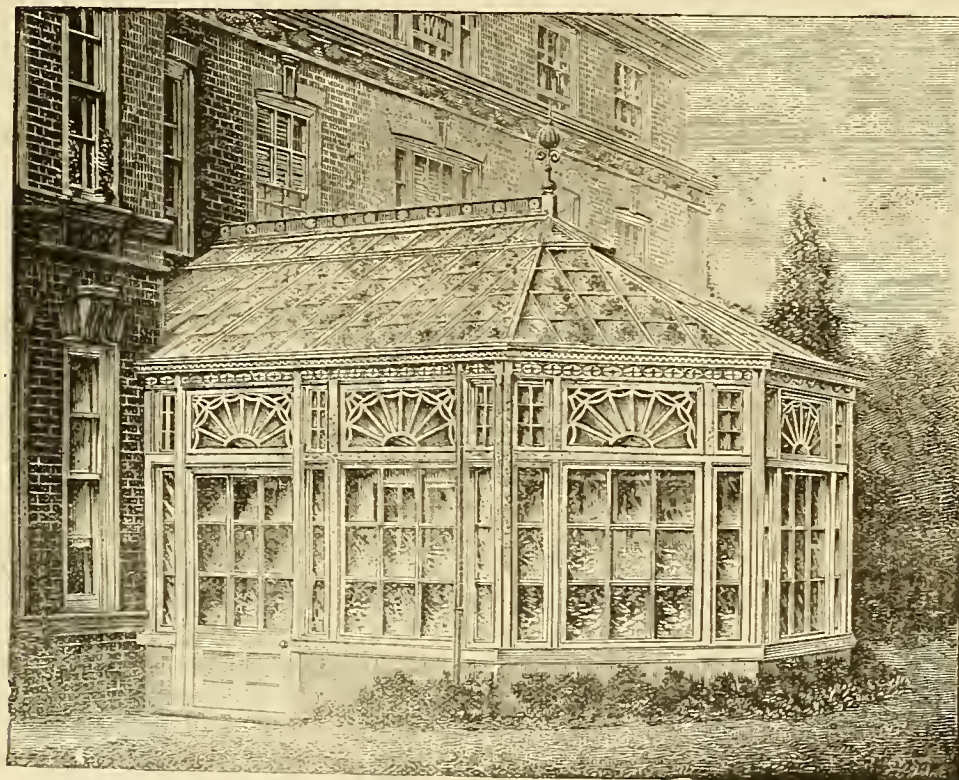
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- " CLAESIANUM
- " COLARE
- " COMOSUM
- " CORNUTUM
- " TENEBROSUM
- " STUPENDUM
- " SPLENDENS LINDENI
- " ALBO-MACULATUM
- " AUREO-MACULATUM
- " AURANTIACUM
- " AUREUM
- " CHRYSOTOXUM
- " DELICIOSUM
- " LUTEO-PURPUREUM
- " CITROSUM PUNCTATUM
- MORMODES COGNAUXI
- " ROLFEANA
- NANODES MANTINI
- " MATHEWSI
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On View Morning of Sale, and Catalogues had.



THE

Gardeners' Chronicle.

SATURDAY, DECEMBER 14, 1895.

ITALIAN CANNAS.

THE group of Cannas called in France "floriferous," is already very rich in plants of medium height, with numerous large flowers, and in colouring as brilliant as varied. We have witnessed the introductions of these fine plants since 1859, when M. Année first obtained crosses at Paasy. Before that time Cannas were hardly known for summer bedding, except in botanic gardens. At the Muséum, there was planted every year a series of the following species:—Canna discolor, edulis, glauca, indica, gigantea, flaccida, and Warscewiczii. Then came the sorts which Bouché described in the Berlin Botanic Garden; those which Roscoe had figured in his *Scitamineous Plants*, and certain others which Loddiges had depicted in the *Botanical Cabinet*, and which were hardly seen save in some English amateur collections.

To M. Année, then, may be attributed the first important results in the artificial fertilisation of Cannas. The flowers which he obtained were varied, but the plants were often too large. Soon the principal object of the growers, among whom were M. Lierval, M. Bihorel and other nurserymen, was to develop plants with large highly-coloured foliage. Seedlings raised by M. Crozy, of Lyons, some time after, proved quite a revelation. He produced a race of Cannas with large and fine flowers; among these the variety Madame Crozy was for some time the most beautiful known. Subsequently other raisers, foremost among whom were MM. Vilmorin at Antibes, obtained some very handsome varieties.

But the class of which we wish now to speak, and which we may call Italian Cannas, are a great advance upon any others yet obtained. It is to MM. Dammann et Cie., nurserymen, of San Giovanni à Teduccio, near Naples, that we owe these splendid plants. One of the partners in this firm, M. Sprenger, said that by always working on the same lines, and always interbreeding the large-flowered varieties, nothing would be obtained more remarkable than the varieties already in existence. He, therefore, sought to infuse new blood into these hybrids, and this was introduced by employing Canna flaccida. This species, originating in the southern United States, is of medium height, 3 to 4½ feet, and bears large flowers, one petal in which is especially developed.

The first trials made by M. Sprenger were unsuccessful. But in 1892-93 he obtained by fertilising Canna Madame Crozy with the pollen of a fine variety of C. flaccida, a splendid plant, which he named Italia (fig. 114). Apart from the unusual size of the flowers and their beautiful golden-vermilion colour, the plant has this peculiarity, that the general

form of it is flattened, resembling an expanded Cattleya [Or a Japanese Iris. Ed.]

The similarity to Cattleya is increased by one of the petals being horn-shaped, like a lip. Here is the description of *Canna Italia* (see fig. 114), taken from living specimens:—

Plant vigorous, tufted, robust, very floriferous, height from 1.50 to 2 mètres (4½ to 6½ feet), to the summit of the spikes, stems dark green, strong, erect, leaves uniform dark bluish-green, erect or a little spreading, in texture very firm and vellum-like, the petiole deeply channelled, amplexicaul prolonged into a very stout and rounded midrib, blade oval, pointed at the summit, decurrent at the base, in length 0 m. 60 by 0.25 m. (2 feet), in width 10 inches; deeply channelled in the middle, veins acutangular, slightly raised and paler in colour, trusses 1 m. (3¼ feet) in height, often rather angular, triquetrous at the top, standing erect in the middle of smaller floral leaves and very long convolute sheaths; spike erect, a foot or more high, floral fascicles distant, sessile, biflorous, having at the base one common bract, very broad, short, obtuse, membranous violet-brown; the two bracts of each flower longer. 0 m. 015 (half an inch), oval, spoon-shaped, obtuse, erect, violet. Ovary oblong, wrinkled, green and violet, with three rounded corners surmounted by a calyx with three erect concave sepals, separated as far as the base, equitant, oblong-oval, obtuse, in colouring red-brown, rather plum-coloured, in length 0 m. 020 (three-quarters of an inch), and 0 m. 010 (three-eighths of an inch) in width. Perianth very large, erect, very widely expanded, two of the outer divisions lanceolate, pointed, spoon-shaped, in length 0 m. 06 m, to 0 m. 08 (a fifth of an inch), in breadth 0 m. 20 to 0 m. 025 (three-tenths of an inch), in colour dull yellowish-red, streaked with much darker brownish-red lines. The third division narrower, 0 m. 014 to 0 m. 015 (half an inch to five-ninths of an inch), more pointed, and yellower at the tip; interior lobes nearly equal, obovate, obtuse, entire, 10 to 14 cent. (3¾ to 5½ inches) long; in width 0 m. 045 to 0 m. 060 (three-twentieths of an inch to a quarter of an inch); two are folded one over the other, and opposed to the third. The surface of all three is flat, and the upper part widely expanded, so that it somewhat resembles a Cattleya flower.* The ground colour is a beautiful orange-red, heightened with vermilion over three-fourths of the surface, and prolonged into oval streaks and spots on a wide golden-yellow margin. The fourth lobe is elliptic, of the same width, twisted, the edges approximate as in the lip of a Cattleya, deeply bilobed at the top, waved, sometimes somewhat lacinate, of a beautiful orange-vermilion colour, bordered with gold, with a large central and basilar channel, shaded with purple on a dark ground; stamiferous lobe, a little smaller, hatchet-shaped, dark vermilion, the edge gilded and streaked with red, stamen linear, arched, inserted laterally towards the middle of the right side, yellow at the base, 0 m. 015 (half an inch) long, pistillary lobe narrow, flattened, at the summit obliquely flattened into a scimitar-like form, the colour golden-yellow and dark vermilion-red.

It was in the summer of 1893 that among a thousand seedlings, this variety, *Italia*, flowered with another bearing yellow flowers shaded with purple, and named *Austria*. This latter variety may be likened to a large Tulip or yellow Lily placed on the top of trusses which emerge from beautiful green foliage. M. Sprenger continued to raise seedlings, and the results will not be long in appearing. For example, in the summer of 1894, he succeeded in flowering some splendid varieties, among which we note the following:—

Atalanta.—Leaves green, bordered with red, very large clear scarlet flowers, or blood-coloured with flame-red centres.

Amarica.—Leaves dull red, streaked with greenish bronze, quite distinct, very brilliant, very large carmine-red flowers, partly streaked with pale yellow. A splendid plant.

Burgundia.—Leaves glaucous, small, with brown margins, large golden-yellow flowers, interior petals scarlet, the others red, spotted.

Allemaniana.—Leaves very large, like those of a *Musa*. Flowers, the largest of the class, carmine-red, with a wide golden-yellow border, spotted with scarlet beneath.

Twelve other varieties raised from seed in 1894 to 1895 gave still other new varieties and colours not hitherto seen. They are not yet named. We are glad to give our readers these descriptions thus early, with illustrations taken from photographs of a plant of *Canna Italia* which I flowered this year at Lacroix, and which are exact as to appearance and dimensions. Ed. André. [We are indebted to the publisher of the *Revue Horticole* for the use of the woodcuts illustrating this article by the accomplished Editor of that journal.]



FIG. 114.—CANNA ITALIA: TO SHOW HABIT.
(One-twentieth of the natural size.)

A SUMMARY OF THE WEATHER OF THE NATURAL YEAR.

THE following observations were commenced at the autumnal equinox in 1894, and brought to an end with the similar event in 1895, the locality being Bradford. The weather during the latter part of September and all October in 1894 was unremarkable. The trees shed their leaves naturally through decay, and not from violence of the weather. The first frost occurred October 22. On November 12 the barometer was very low, but as the weather at Bradford scarcely corresponded to so low a reading, one naturally looked for the cause somewhat further away. In South Wales and the south-west of England the rain fell in torrents, causing the rivers rapidly to rise, and flood the adjacent country. Much damage to property and some loss of life was the consequence. For some days after, storms and shipwreck furnished the newspapers with sensational matter. The next event was the great wind-storm

of December 22. The havoc it wrought about Bradford will cause it to be remembered a long time. Mr. Charles Harding, in a paper describing the phenomenon, said the storm was one of exceptional severity, especially over the northern portions of England and Ireland, and in the south of Scotland. The greatest violence of the wind occurred at Fleetwood at about 9 A.M., and for four hours the velocity exceeded that of any wind recorded in the British Isles. The Board of Trade Returns show that 167 lives were lost during the gale, and the destruction of property was enormous. Within a day or two of the close of the year 1894, temperature for the preceding three months had been much above average, and farmers profited by the mildness, for the after-grass was plentiful, and the cattle could be turned out almost every day. But after that, right away into March, more than two months, the tem-

perature was much below average. Perhaps the weather of January, 1895, would only be rightly described in saying it was about the worst and most trying to man and beast that ever was. There were heavy falls of snow, which were drifted and piled up in all sorts of objectionable places, making it necessary for much labour with the shovel, in order that passengers could get about at all. During the daytime it frequently thawed and rained, and so the roads became slushy and wet. Frost as frequently followed at night, when the roads became as slippery as glass, and very dangerous to travel. With all this, and the intense cold, besides hardly any sunshine, and much mist, it will be seen what has been said about January can scarcely be regarded as too bad. The first two weeks of February were even colder, and as the severity of the weather had been prolonged, the suffering amongst the people became acute. On February 8, temperature fell to about zero all round Bradford. From the middle of February there was a condition of things somewhat

* For this reason in Italy the name of Orchid-flowered *Canna* is given to these plants.

more bearable, but to the second week of March Nature was bound hard and fast with frost. On Wednesday night, March 13, there was a fine display of streamers. The phenomenon was seen at the same time by different persons in localities right across the country, from Scarborough to the Isle of Man. Afterwards the temperature was decidedly warmer, but it would be difficult to prove that one circumstance had anything to do with the other.

Sunday, March 17, was the first spring day. On Sunday, March 24, it was very rough, rain and wind keeping everyone within doors. In the midlands,

winter to summer. The remainder of May and all June was generally suitable for vegetation; notwithstanding, scarcely any bloom was borne by the Thorn, Beech, Sycamore, Oak, or other forest trees. On June 14, the hay-harvest commenced. The crop was light, but of good quality. The fore part of July was marked with frequent thunder-storms, the lightning at times being particularly vivid, and almost continuous. The latter part of July, all August, and the beginning of September might be described as growing weather, for generally it was warm and humid, with rather frequent thunder-

eighteen of them have increased more than they did in 1894, eight of them less, whilst nine of them have grown alike in both years. The increase of all the thirty-five trees this year is 354 fractions of an inch; last year it was 326 (the fractions are sixteenths).

The Apple crop has been exceptionally good. The cereal crops are estimated to be under average in quantity, but in quality they compare favourably with those of other years. *John Clayton, Bradford, November, 1895.*

ORCHID NOTES AND GLEANINGS.

A CURIOUS CATTLEYA.

MESSES. SANDER send us one of the most remarkable semi-double Cattleyas we have yet met with. The parts of the flower are fifteen in number, viz., three sepals, three outer petals, three inner petals, a column of three stamens, and an ovary with three compartments. The arrangement of the parts is even more curious, the outermost row of three sepals is normal in position and form, the succeeding row of three petals is not alternate with the sepals, but superposed to them (radial choria). These three petals have the form of the ordinary lateral petals. The inner row of petals likewise is superposed to the preceding row; one of them, the posterior one, is concrescent with the column, and has the form of an ordinary lateral petal, the other two anterior or antero-lateral are lip-like. Within this inner row of petals is the column bearing one median or posterior anther, and two lateral ones. Of the three compartments of the ovary, two are posterior, one anterior. The arrangement may be understood from the annexed diagram, where X is the axis of the plant, S the sepals, P P the two rows of petals, A the outermost anther, a a the two anthers of the inner row, whilst the central triangle represents the ovary with its median carpel in front, opposite the single anther A, instead of in a line with it as in Orchids generally:—



M. T. M.

ORCHIDS AT OSWALD HOUSE, EDINBURGH.

In the Orchid-houses of J. Buchanan, Esq., the number of plants in flower at this season is small, but several interesting species were noted on the occasion of a recent visit. In one house were noted fine plants of *Cymbidium giganteum* and *Cymbidium Lowianum* throwing up strong flower-spikes; and a plant of *C. sinense*, a much less-conspicuous plant, with purple and brown coloured flowers, which are fragrant. There were also the odorous *Dendrobium heterocarpum*, or more properly called *D. aureum*; and the now popular *D. Phalaenopsis*, in several shades of colour, and of various sizes, and these judging by the number of plants observed, are the owner's favourites. Large baskets of *Coeogyne Massangeana* were in luxuriant health, with some few flower-spikes on plants in the cooler houses. *C. barbata*, with its coriaceous bold foliage and erect spikes of flowers, promises a good display. Plants of this Assam species were doing well in the intermediate-house. The gem of this genus in flower was *C. Gardnerianum*, a native of the Khasia Hills, discovered in 1837, but still anything but common. The pseudo-bulbs are club-shaped, with broadish leaves, and the racemes of flowers of almost transparent whiteness, with just a slightly lemon-coloured blotch on the lip, have an attractive appearance. Tubfuls of *C. cristata*, a yard in diameter, were nearing the flowering stage, and the varieties *alba* and *others* will soon give an abundant crop of bloom. *Laelia anceps*, and its varieties *Gouldiana*, *Scottiana*, and others were numerous represented. A fine plant

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FIG. 115.—CANNA ITALIA: SINGLE FLOWER, NATURAL SIZE. (SEE P. 704.)

the wind was much stronger than about here, and caused there great damage and loss of life. On Thursday night, April 4, between 8.30 and 10, there was a halo around the moon; at the same time it was observed by a gentleman who was travelling between Liverpool and Southport. Hence, the cause of halos must be at a great altitude, or it could not have been seen at Bradford and Southport at the same time. The last week of April and the first two weeks of May, the weather suited vegetation exactly. It was commonly said that it had been made on purpose for the farmers, and certainly its effect was so sudden as to appear magical. The trees in the short time named turned in their aspect from that of

storms and rain. The remainder of September was exceptionally bright, hot, and dry, suiting the ripening and harvesting of all kinds of vegetation.

The floods of November, the winds of December and March, the inclemency of January, and the low temperature of February, are the extraordinary circumstances of the weather of the natural year. Excepting them, there has been a near approach to a meteorological average during the time under consideration.

The foliage of forest trees has not suffered this year from any ill effects which sometimes arise from wind, frost, hail, or insects. Of the thirty-five forest trees, whose girths I regularly measure,

of *Lycaste Skinneri alba* throwing up its flowers appeared in splendid condition. *Masdevallia tovarensis* and *M. bella* were very bright. The latter plant is said by Mr. Wood, the gardener, to be almost perpetually in flower. A very large specimen of *Odontoglossum coronarium*, sometimes called *O. brevifolium*, was freely covering a large raft nearly 3 feet long by 2 feet wide. This plant has not flowered in these gardens as yet, but efforts are being made to induce it to do so. Many other species of *Odontoglossum* were showing their flower-spikes; a good plant of *O. Edwardi*, carrying an enormous branched spike; several *Oncidium*s, *Cypripedium*s, and others were in bloom, and the houses presented an interesting appearance. H.

BANANAS AT HAMPTON.

THERE are few nobler leaf plants of a tropical nature grown under glass here, and sometimes with fine effect out-doors in warm positions, than are *Musa*s. Of all vegetation, these plants give some of the most luxuriant and the most rapid growth. Planted as sorted suckers of small dimensions in a heated house, in a few months they have become grand specimens, having massive trunks and magnificent foliage, and thus are most speedily noble decorative objects of vegetable production. It is not usually the case that products of this description are found in gardens of limited nature, and where the glass area is comparatively restricted. There are always found, however, exceptions to every rule, and there is a most admirable illustration of this fact to be now seen in a house attached to the residence of H. O. O'Hagan, Esq., Hampton Court, Middlesex. That there is here a good deal of glass relative to the dimensions of the place, there is no doubt; but much of it is devoted to Peaches, Apricots, Vines, &c. The gardens lie close to the Thames, and rather too much so to be pleasant, when the river is exceptionally high. Last winter when the great Thames floods prevailed, the higher portion of the grounds were immersed 3 feet, and the lower parts from 6 feet to 8 feet in water, which poured through the gardens and round the houses in the most furious fashion; of course in such case, everything had to be left to its fate, and a rough fate it was to many. One of the oddest things in the Peach-houses was that all main stems under water suffered nothing, but all the lateral and young shoots were killed, whilst above the water-line none suffered. Whether because thus saturated or because of the exclusion of air, the immersed young wood died, is a point which may be left for plant-physiologists to decide. It will not be a matter for surprise, as was mentioned shortly after in these pages, to learn that this flood having risen to a height of 4 feet in the house devoted to Bananas at that time, grand plants, and carrying huge clusters of fruit, were killed almost outright. So complete was the work of destruction, that out of ten fine specimens not a single sucker could be found alive a week or two after the flood had abated. The gardener, Mr. Last, however, did detach some dormant knobs or sucker bases from the bottom of the stems after they were taken from the soil, and these being placed in pots singly and stood in warmth, presently pushed growth, so that in March, when the house was again prepared for the plants, those about 18 inches in height were put out in the beds, and another good start made. The result may be seen to-day by anyone interested in Banana culture for fruit production, who may care to look in at River House. The house devoted to these plants is an erect span, 21 feet by 16 feet, and is some 11 feet in height. There is a broad centre walk, and on either side a bed enclosed in 9-inch walls, the inner width being 4 feet. These beds are 2 feet in depth. The heating force is obtained from a double row of pipes that run round between the inner walls of the beds and the outer wall of the house, and also from other pipes sunk beneath the iron grating which floors the main walk of the house. At the bottom of each bed

there is some 9 inches of rubble for drainage, this materially reducing the soil area. On that are laid first rough pieces of turf, and then the compost. This is a material of very innocent nature, being chiefly old pot-soil from *Chrysanthemum*s, &c., with which is mixed a moderate quantity of old hot-bed manure, and rather more of turf edgings or trimmings. Of the stereotyped turfy loam in its virgin state there is none. Nearly filled to the level of the walls, this compost settles down materially during the season, so that now its level is some 3 or 4 inches below the wall tops. Four plants only are growing on either side this year; seven of them are carrying huge clusters of fruit, the other being planted later, will not fruit just yet. These clusters are from the tips of the first whorl of pods to the point of their florescence, fully 5 feet long, but the actual length of the fruit cluster is 3 feet. The fruits will commence to ripen in February, and those now set will occupy some two months before they are all ripe. The present average temperature is 60°, but in the summer it is, of course, much higher. There are no mulchings, and no strong ammoniacal smells that are so offensive in close plant and fruit-houses. No artificial manure of any sort is employed; the only description of feeding otherwise than the soil and plenty of water furnish is found in occasional waterings with the contents of a cesspool. The plants now run to about 10 feet to the top of the leafage, which is of very noble character, and reaches 6 feet in length, and of proportional width. The stems of the plants close to the ground are generally 3 feet in circumference. The variety is *Musa Cavendishii*. Could Mr. Last but exhibit one or two clusters of these grand fruits, when matured, at the Drill Hall, no doubt he would receive a high award. It seems a pity that because such cannot well be the case, that some honour may not be paid to such splendid culture as this case shows. No one can see what is here produced, and the surroundings, without realising that Banana culture is at Hampton of the most meritorious nature. A. D.

ABOUT CHRYSANTHEMUMS.

(Continued from p. 652.)

CHRYSANTHEMUMS AT HOLLYHURST, DABLINGTON.—The collection of *Chrysanthemum*s at Hollyhurst, the residence of W. Harding, Esq., though not large, is extremely well grown, and reflects credit on Mr. Coultas, the enthusiastic cultivator of the flower in the district. There are some 400 plants grown, the Japanese forming the bulk of the number, and nearly every one carried good exhibition blooms. There were grand blooms of Lord Brooke, C. Davis, E. Molyneux, Mille. T. Rey, Louise, J. Sarimpton, and others too numerous to mention. Among the incurved, there were good blooms of R-fulgens, Golden Empress, Jeanne d'Arc, Violet Tomlin, &c. Bush plants are also well grown here, and in the greenhouse there were some grand specimens of *Salvia splendens*—a mass of colour. The gardens generally were a picture of neatness and order, and, considering the number of men employed, show that the old school of gardeners can give some of the younger ones pointers. W. S.

SHOW CHRYSANTHEMUMS.

I would ask, cannot the National *Chrysanthemum* Society make a limit as to the height of flowers shown of Japanese varieties, at their own and affiliated society's shows? There is nothing which mars the look of the tables more, than to see one show-board of cut blooms propped up (as if they were on stack pipes) about 18 inches high, and on the next board the blooms may be about 6 inches high. I cannot understand the use of having show-boards 3 inches high in the front, and 6 inches at the back, if such caps and tubes are allowed to be placed upon them. If the flowers were staged of an uniform height, the tables would have a more satisfactory appearance than that which prevails at present. There is generally a fixed limit at provincial shows as regards the Pompons, and it is

usually that they are not to exceed 6 to 9 inches; why, therefore, no rule to the same effect as regards Japanese blooms? There is another proposal I should like to venture to make, that is, the system of offering prizes by provincial shows. I do not see why they should not offer them the same as the National Rose Society, viz., to growers of 50 to 100 plants, 100 to 300, and from 300 to 500. M. E. Mills, *The Gardens, Coombe House, Croydon*.

FOREIGN CORRESPONDENCE.

A TROPICAL FROG.

UNDER the heading of a tropical frog at Kew (*Gardeners' Chronicle*, November 30, 1895). I read with much interest a note on that sort of frog. I had these creatures myself for many years in one of the houses under my management at Herbault-en-Beauce, France, having received them from Guadaloupe, where they are said to be very abundant; but however strange it may seem, I could never acclimatise them in any of the hot-houses, for as often as they were taken into other houses, they lived only a few months.

The house in which I had kept them for ten years was a large lean-to, the back wall of which was nearly covered with blocks of hard wood, covered with the bark, split in large pieces, and nailed to the wall. On these blocks a fine vegetation of Ferns, Bromeliads, and Aroids, grew, and it was among those plants that the frogs used to harbour, and especially down in the hearts of tall-growing *Bilbergias*—in fact, I never saw them anywhere else but just in the centre where the water lodged, and the frogs remained hidden in these plants during all day; but in the evening and at night they used to run nearly all over the house, and were very difficult to catch. I tried many times to catch them, at the same time carrying a light in one hand, but it was almost impossible to do so, they moved so swiftly; but I learnt to catch them in the daytime by tickling them down in the hearts of *Bilbergias*, when they would jump on to the walks of the houses, and thus render it possible for one to catch them. This species of frog is more difficult to acclimatise than anyone would believe, as the following will show. When I left the gentleman's place above-mentioned, the whole of the plants were sold to my new master, and of course with the plants I took care to take away a good many of the frogs, which I distributed as soon as the plants arrived in different houses, where I thought they would succeed; but they did not live long, and after one year I think there was not one left. I have no opportunity of obtaining any more of them from Guadaloupe, and it was only when reading the account of the frogs at Kew in the *Gardeners' Chronicle* that I remembered having had the same kind. Ch. Maxon, *Orchid Cultivator at La Cavalière, St. Barnabé, Marseilles, France*.

PRICES OF GARDEN MANURES.

IN these days when gardeners for their own as well for their employers' sake, are obliged to keep their expenses within reasonable bounds, I think it is time to say something about the price of those artificial manures which are now so commonly used, but the use of which is restricted by the unreasonable prices demanded by some vendors—especially by those who distribute their manures through middlemen connected with the trade. "Live and let live" appears to be a maxim unknown to some. For example, there is now quite a number of different vendors of Vine and plant manures, all of or about the same quality and actual value, according to analysis and the testimony of gardeners of repute, but which vary in price to the extent of from 30 to 50 per cent. or thereabouts—this amount I am credibly informed being divided between the manufacturer and the middleman. A thoroughly well-known agriculturist not long since asserted in a northern agricultural contemporary that if gar-

deners knew as much about manures as the "average farmer"—not a high estimate of "Horty"—he would not think of buying Vine and plant manures at the prices charged for them, because they were not worth "anything like" the price charged, if they were made of the best constituents of manures, compound them as you may. I have long used "artificiale," and have now price-lists before me of the above manures, both good, and apparently of identical constituents, and the difference in the price amounts to the percentage given above. The chief explanation appears to be this, that one

was just double the weight of that on ground which had received no manure—no other kind of manure being given, the ground being poor. The curious feature of this trial was, that the increase was produced not by the Potatoes being bigger, but by there being more of them, and the difference in the appearance of the crops was marked from the beginning. I state this case incidentally, as what I wish to show is that this manure, made of fairly expensive constituents, and bought in the way stated, cost just about £9 per ton, and could, I find, have been got for a still smaller sum. Had I purchased the manure



FIG. 116.—A TOWN GARDEN.

vendor sells direct to the consumer, and the other through the middleman and not only that, but the first of these two vendors offers his manures mixed of his own composition, or mixed to the purchaser's own recipe; or he will sell any of the constituents separately, for the purchaser to mix them at home—a practice now often adopted. I bought this year my Potato-manure in its separate constituents, according to the recipe published by the Technical Education Committee of the Wiltshire County Council. It consisted of 4 cwt. each of superphosphate, kainit, and nitrate, to be applied when mixed at the rate of 12 cwt. per acre; and under perfectly equal conditions, carefully attended to, the crop of "Bruce" Potato under the manure

from a middleman, it would probably have cost about £15 per ton, 25 to 30 per cent. going, I believe, to the latter, and the rest for advertising and profits, &c. The most amazing thing about these expensive manures is that, according to the vendors, one great feature of their value consists in their lasting effects, the best commentary on this quality being that they are to be applied once, or even twice a year, at a rate which would cost about from £25 to £35 per rood. It may be guessed, therefore, what proportion of the lasting elements enter in to their composition, and these are, as a rule, the highest priced, and have hitherto been supposed to last a Vine border at a less rate of application from beginning to end. *Head.*

A TOWN GARDEN.

THE garden, a view of which we give at fig. 116, is situated in one of the blackest suburbs of London, within a short distance of smoky Stratford, and of factory chimneys not readily computable. The garden was reconstructed about 1855 by the late Mr. Frank Masters, of Canterbury, whose dispositions were pleasing to the eye, and specially designed to hide out adjacent suburban gardens. The illustration tells its own tale. It must suffice here to say that the tree on the left is a fine specimen of *Ailanthus glandulosa*, one of the best of town trees; the one near the centre of the cut is an old Almond, whose dying agonies have been recently cut short by amputation. The large shrubs are fine old Hollies, which suffered greatly from recent severe winters and the drought of last summer, but which might still be brought into condition by patience and good management. The tree at the end is a Purple Beech, and near it are planted Golden Poplar, *Acer Negundo variegatum*, Purple Sycamore, Wistaria, and Laburnums, the effect of which in spring is very satisfactory. The garden has for the last few years been in a measure utilised as an experimental garden for the purpose of ascertaining what shrubs would survive under such untoward conditions. Specimens of these have from time to time been exhibited before the Royal Horticultural Society, and made the subject of comment by the writer of these notes, and have excited much interest. *Aucubas*, Hollies, *Skimmia japonica*, the common Fig, and Metake Bamboo, have survived many others, and are still flourishing. Conifers except *Pinus excelsa*, and *Ginkgo biloba*, the Maidenhair tree—fine old specimens of which exist in the vicinity—refuse to grow. Roses are equally refractory, but a large number of deciduous trees and shrubs do well, and till lately there was a good collection of hardy wild plants and hardy Ferns. Under glass, Vines had ceased to bear, but Camellias and Fuchsias bloomed freely. *Lapageria* and *Solanum jasminoides* were the best creepers, and at one time there was a small but choice collection of succulents. The recent death of the owner of the premises, who took great interest in her garden, and was a genuine plant-lover, will necessitate the break up of the establishment.

TREES AND SHRUBS.

LORBERG'S MAPLE.

ONE of the most brilliantly-coloured of Maples in the autumn is the Maple so named in gardens. It is a form of the palmate variety of the common Norway Maple, and has very deeply-divided palmate leaves, the five to seven lobes wedge-shaped at the base, and themselves dividing rather less than half-way down into oblong lobules, terminating in long slender points (acuminate). The specimen before us was sent with a note of commendation by Mr. W. E. Gumbleton.

A WONDERFUL PORTUGAL LAUREL.

I enclose you particulars and a sketch of a gigantic Portugal Laurel growing upon the lawn at Siberts-wold Vicarage, Dover, kindly sent me by the Rev. Thos. Falkner, who states, that owing to the severity of the winter last season, every leaf dropped off, but now it is as green as ever, and well clothed with foliage. The tree overshadows a circumference of fully 100 feet; girth of trunk 5 feet from ground, 5 feet 3 inches; height of tree, 26 feet; circumference of head, 100 feet. *Alfred Outram, F.R.H.S.*

PINUS DEVONIANA.

Under this name, Lindley (*Bot. Reg.*, 1839) described a Mexican Pine discovered by Hartweg in the neighbourhood of Oaxaca at a height of 8,000 feet. It is one of the five-leaved Pines with deep green leaves, 8 to 10 inches long, with sheaths 1 inch long. In Veitch's *Manual*, p. 184, it is mentioned as closely resembling *P. Montezumæ*, of which it is considered as probably only a variety. This, indeed, seems to be the general opinion among

botanists, and a specimen kindly forwarded from Fota by Mr. Osborne as *P. Devoniana*, is clearly not distinguishable from *Montezamæ*. Mr. Osborne describes the tree as very beautiful, but with a tendency to spread instead of keeping a straight trunk.

THE BULB GARDEN.

TIGER LILIES.

DURING the early autumn months the varieties of the Tiger Lily, *L. tigrinum*, afford a rich and distinctive array of colour just at a time when the Sun-flower abounds in almost every garden. It is at such a time that the value of some exceptional bit of colour, such as found in all the Lilies of this section, find special favour. And during the present year the Kew Garden authorities displayed these to great advantage in a series of beds, showy at a considerable distance. The example thus set will be sure to be frequently imitated in the near future. Those among your readers who may so desire to fill some beds of these kinds, cannot do better than see to their planting without any further delay. The type, as indeed the several varieties of the group, are all of easy culture, and will not require any very elaborate preparation in the matter of soil. What these prefer is, a sandy well-drained loam of fairly good depth. Where very heavy and retentive soils are the rule, the best way will be to remove the original soil at least 6 or 9 inches in depth, and return old potting soil, peat-screenings, half-decayed leaves, wood-ashes, and road-sweepings, in its place. And if the garden generally be low or wet, keep the surface of the beds a little above the usual level.

When the soil is ready, the bulbs may be planted at about 5 inches or 6 inches deep; and if sand is plentiful, a good sprinkling may be added about the bulbs. With the soil prepared in the way suggested, little or no manure will be necessary; but if any be given, let it be thoroughly decomposed, and either dug in deeply below the bulbs, or used as a mulch on the surface after planting. *L. tigrinum* (type), *L. t. splendens* (a most handsome kind), and *L. tigrinum flore-pleno*, are all worthy, and among the cheapest of Lilies for the garden. *J.*

SPARAXIS AND IXIA.

I am surprised the above beautiful bulbous plants are not extensively grown in gardens, for all who have seen a well-grown collection admit that they are pretty when in bloom, inexpensive to buy, and easily cultivated, thriving in almost all kinds of soil, and only requiring to be preserved from frosts. The late Mr. Gaines, a famous florist, residing at Battersea, used to cultivate the plants in capital style, he got together a splendid collection, the graceful panicles or clusters of flowers, varying in colour from brilliant crimson to all shades of orange, red, rose, cream, &c., which presented a beautiful picture on a border in the front of some long houses devoted to Pelargoniums. When the plants are planted in this manner in masses they rival Orchids in brilliancy. These bulbs were left in the ground for three years, when they were lifted, sorted, and the strongest bulbs replanted. The border was protected by a thick coating of old tanner's bark in winter. A site for a bed of *Ixias* or *Sparaxis* should face the south, the subsoil should be dry, or be provided with drainage materials, such as brick-bats, laid all over the bottom of the bed; the soil should consist of rich sandy loam, a small quantity of peat and leaf-mould, the depth being not less than 1 foot. The bulbs may be planted in rows or clumps, from 2 to 3 inches deep, according to their size, covered with river-sand to the depth of an inch, previous to covering them with the earth. If cultivated in pots for greenhouse decoration, the bulbs should be potted in October, and the pots plunged in coal-ashes, &c., in a cold frame till the foliage appears, when removal to the greenhouse may take place, or they may remain in the frame. As the plants advance in growth, air must be freely admitted, or the growth

will be weakly and poor; and liquid-manure may be used after the flower-spikes have made their appearance. In the month of May or later, when the leaves die down, turn them out of the soil, clean the bulbs and place them in boxes or drawers until wanted the next October. *Edw. Bennett, Lyne, Chertsey.*

SPANISH IRIS.

All Irises are beautiful, some of them being surpassingly lovely, and fully justifying their generic name; but while the German bearded Iris, *I. Kämpferi*, *I. reticulata*, *I. Susiana*, and other beautiful forms of the family are, comparatively, high in price, *Iris hispanica* are so cheap, that large clumps or beds may be planted of them at a trifling cost; they are, too, admirably adapted for cutting purposes. The flowers are particularly bright and gay in colour, are borne on long stalks, and, while packing and carrying well, last a long time in water. While in bloom—about the end of May or beginning of June—they are veritable "cut and come again" plants and when grown in a rather rich bed, well manured with old, rotted cow-dung, it is astonishing the quantity of bloom they will produce. Considering the low price at which Spanish Iris, either in separate varieties or in mixture, are offered in the bulb catalogues, I am surprised they are not more planted in the flower-beds or in flower-borders. As they die down after flowering, the ragged untidy appearance of a bed of German Iris when out of bloom is avoided. The present is a good time to plant them. I like to see them in a bed by themselves, planted pretty thickly, for they do not take up much room; but I have also seen fine effects where a carpeting of *Silene pendula compacta* was put over them. I saw a bed of Spanish Iris among which *Violas* were planted so as to form a ground-work, and as they all bloomed at the same time, the effect was very beautiful. *A. H.*

FLORISTS' FLOWERS.

THE HOLLYHOCK.

I HAVE been much interested reading the remarks on the Hollyhock by "R. D.," and am glad to know that there are cultivators who can grow the Hollyhock successfully. I have been trying to grow it for the last twenty years, but I must say that my success has not been conspicuous. I can manage to get rid of the Carnation disease, and to keep it away by isolating the Carnations, and placing every new one I obtain into quarantine; and if the disease is there, it soon shows itself, and the diseased portions are then cut off before the spores are developed. This is effectual as regards the Carnation; but the same treatment will not do for the Hollyhock. Every leaf may be cut off, still the disease will show itself whenever the first leaves appear. I tried to grow Hollyhocks in my new place in Surrey, and sowed seed, keeping away every plant from the place but the seedlings. They grew amazingly on the new ground, and I was in expectation of a fine bloom; but almost before the flower-buds were formed, the disease appeared. I tried the plan of removing the leaves affected, but it was of no avail; the attack came in 1894, and was the most virulent I ever knew. How did the plants get the disease? This was a poser for some time, until I found out that some plants of common varieties were growing at the railway station badly diseased; the plants were at some distance, still the minute spores of the disease were carried upon the clothes of the garden men, and thus it came that my plants were infected. If diseased Hollyhocks are allowed to exist at railway stations, it will be hopeless to attempt the culture of this stately plant in any garden whence passengers are passing to and fro; for I believe that the minute spores are carried on the clothes of any one going near diseased plants. I am not sure what I can do next, for the plants were so bad that I destroyed them all. I have a smaller lot of seedlings, and a few named sorts, to flower next year, but I despair of success. A good strain of seed is sure to

give good varieties, as about 50 per cent. of seedling Hollyhocks are as good as the parents; and if good varieties are not produced, one knows well enough who to blame.

As to the culture of the Hollyhock, that is simple enough, for even in cottage gardens the most stately plants are produced with little trouble; nevertheless, the plant is a gross feeder, and the good results obtained in cottage gardens are doubtless owing to liberal supplies of pig-manure. It seems the disease is influenced to a considerable extent by the seasons. The wet season of 1894 was favourable to the development of the disease, and last season being exceedingly dry was unfavourable, the plants having a chance to do better if they were well watered at the roots, and the leaves kept free from red-spider. *J. Douglas.*

BERLIN.

ENGLISH VERSUS GERMAN CYCLAMENS.

TO "F. N. S." I have to reply that English varieties are cultivated by Mr. Schwarzburg just in the same way as the German ones. As I remarked in my first letter, it may be possible that the treatment is different in England and in Germany. It may be also that the English varieties grow best only under the treatment to which they are accustomed in England. The fact is, that German varieties grown together with English ones, and in the same way, surpass the latter. To-day I have a second proof of the truth of my remark. A second lot of seeds of English varieties was given by the Berlin Horticultural Society to another Cyclamen specialist, Mr. Tubbenthal, at Charlottenburg, near Berlin, who tested them. They were exhibited at the meeting of the society on the last Thursday of November, together with varieties grown by Mr. Tubbenthal. This time the difference was still more striking than the first time. In this case also, the English varieties had quite the same cultivation as the home-grown ones. Mr. Schwarzburg has reported upon the trials; but in order that this may be quite disinterested, Mr. Schwarzburg asked the society to select a committee to test his report and the plants. The report will be published in the *Gartenflora*. At this meeting it was stated that the English Cyclamen growers very much surpassed the German ones about fifteen or twenty years ago; but since that time the German ones have progressed so far, after they introduced English Cyclamen blood into their cultivation, that they surpass the English, as is now shown by the plants exhibited. It was remarked during the discussion that several of the varieties which were brought to Germany fifteen or twenty years ago, to freshen up the German Cyclamen blood, were quite the same as were cultivated this year from English seeds. Another remark of interest is, that German gardeners who grow new varieties give no new names to these sorts, but cultivate and improve them yearly by selecting the very best specimens for seed. So it comes about that there are in different nurseries different high-class varieties, but without distinctive names. If I knew on which days the meeting of the London Royal Horticultural Society is held, it would give me much pleasure to send to the meeting some of our best German varieties, as also plants of English varieties, grown here together with the German ones. Then the society could see for itself whether the English varieties are best here, and whether the German ones surpass English ones grown in their native country. On the other hand, it would be of much interest to German specialists if we could see some English-grown plants. I beg English Cyclamen specialists who take an interest in this question to forward to me some of their best-grown plants, that I may show them here before our Horticultural Society. I have further to remark that Mr. Schwarzburg is not a seed-merchant; that he raises only as many seeds as he needs for his own cultivation, so that he cannot give seeds to those who have asked for them, but that Mr. Tubbenthal is willing to supply seeds, as he also grows the plants for seeds.

Chrysanthemums.—At the same meeting there were shown some *Chrysanthemums* by Inspector Weber of Spindlersfeld. I must confess that they now rival the English-grown plants shown some years ago by English specialists. There was amongst them a new variety, *Tangarika*, imported by the President of the German Dendrological Society, Hofmarschall von Saint-Paul-Illaire, directly from the Imperial Gardens at Tokio. This giant variety measured 22 centimetres (about 8½ inches) in diameter, is pure white, and of very fine habit. Hofmarschall von Saint-Paul wrote from his residence at Fischbach, in the Riesengebirge, that amongst the varieties he imported from Tokio there is now flowering one which has a scent very much resembling that of *Violets*, or even more that peculiar to the rhizomata of *Iris florentina*. This may, perhaps, be the parent of quite a new race, welcome to all those who do not like the scent of other *Chrysanthemums*.

Of high interest at the same meeting was some forced *Lilac Marly*, exhibited by Mr. Harms, of Hamburgh. Mr. Harms remarked, that this variety is best for early forcing. It does not need much pre-

large horticultural exhibitions plants which were bought by the exhibitor shortly before the opening of the exhibition; indeed, cases are known in which the plants were only borrowed. Thus, at our last great exhibition in 1890, I remember that one of the jurors, the director of a famous Netherlands botanic garden, exclaimed, surprised, "How comes this plant here? There exists of this species but one specimen, and that is in my garden." The exhibitor, questioned about the matter, declared that the head gardener had borrowed it for the exhibition. Certainly the exhibitor has no other claim to merit than that of having brought the rare plant to the exhibition. To award him a prize would be absurd, but he earns large rewards for the rich collections he has brought to the exhibition, which cannot be proved to be grown by himself. Certainly, at an exhibition, the labour of the cultivator should win him the prize, and not the fact that he has the longest purse to enable him to buy up the best specimens from different nurseries. It is misleading, if the exhibitor does not declare that the exhibited plants are not cultivated by himself. The jurors cannot

There is no doubt that a great many cultivators will exhibit their plants, if they know that they have only to compete with other growers, and not with those who have selected the finest specimens from the best specialists. It is clear that against the latter no cultivator can compete. The gardener's endeavour is to improve his plants. He works to sell his plants. Now, there is, as regards the advancement of horticulture a great difference according to whom a grower sells his plants—to a gardener who buys them for exhibition, or to the public, or to amateurs. In the first case, all who do not know the origin of the plants, will think that the exhibitor of bought plants is the grower. Certainly those who wish to buy the best will go to the exhibitor, and if he would give as good plants as those which he exhibited, he is obliged to buy them from the grower. It is doubtful if he can get together such a collection a second time. At all events, the grower's name remains unknown, and he does not get the prices for his plants which he would get if he undertook the business himself; so it is to the interest of the growers that they should exhibit their plants under their own names. It is very shortsighted to say it is the same thing if the plants are sold to another gardener or directly to the amateur. Only by direct competition between the growers is horticultural progress possible at local or at international exhibitions. Indeed, at the latter it is even more important than at the former; for an international exhibition is visited by far more persons than is a local one, and so competition is greater. If the larger horticultural societies in England and on the Continent would unite to work in this direction, local societies would certainly follow, and then this spurious competition would soon disappear from horticultural exhibitions.

It is a question of secondary interest to determine how long a plant must be cultivated by the exhibitor before it can be admitted to an exhibition. The exhibition committee at first proposed that the plants must be grown by the exhibitor from seeds or cuttings; but this limit was reduced so that only one year's cultivation or one cultural period was deemed necessary. Forced plants were said at first to be admissible when the exhibitor had forced the plants, bulbs, &c., himself. A severer rule would necessitate that the grower of the forced plant must also assert his interest. An exception, it is true, must be made for imported plants, as well as for novelties; but in both cases it is necessary that the exhibitor declare that the plants have been imported, and how long ago they were imported, and also how long he has had the novelties in cultivation and, if not self-grown, that he is not the grower.

At all events, horticulture would be much advanced if these proposals should find acceptance by large horticultural societies. Then certainly the international character would be still more evident than hitherto, because the cultivators would know that at exhibitions right has preference over might, and that they can compete fairly with their competitors in their own special branches of cultivation. I should be glad to hear the opinion of English gardeners on this subject. *Dr. Udo Dammer, Curator of the Royal Botanic Garden, Berlin.*

NASTURTIUM LILIPUT.

UNDER this appropriate name, H. Ernst Benary, florist and nurseryman of Erfurt, has introduced a new variety of *Tropæolum Lobbianum*, very dwarf in growth, being in every respect smaller than the well-known *N. Tom Thumb*, and covered with dainty little flowers in great profusion, and just showing above the small foliage, making it one of the prettiest of annuals. The flowers are of diverse colours, some of these being quite new, not appearing in the old varieties. This feature, and the fact that the seeds are much smaller than those, are evidences of an entirely new break in the *Tropæolum Lobbianum* section. Herr Benary has not as yet been able to fix the colours; but, as he says, the mixture is highly effective in groups and borders.



FIG. 117.—LILIPUT NASTURTIUM.

paration during the preceding summer, as does Charles X. The only preparation needed is that workmen should divide the benches in the nursery-garden during the summer months. From one square metre Mr. Harms raised from 60 to 90 flower-stalks. At the same time, he forces three times during one season, so that the yield is good, especially as much *Marly Lilac* is still imported from Paris. *Dr. Udo Dammer, Friedenau, near Berlin.*

A QUESTION RELATING TO INTERNATIONAL HORTICULTURAL COMPETITIONS.

In the spring of 1897, will be held, on the occasion of the seventy-fifth anniversary of the Berlin Horticultural Society, an international horticultural exhibition. The exhibition committee has proposed that only such plants as have been for at least one year, or for one cultural season, in the hands of the exhibitor, shall be admitted in competition. To this proposition considerable opposition was aroused, and the united committees of the society did not give their approval to it. Now the general body of the Fellows has, at its next meeting, to decide whether this proposal shall be adopted or not. I think the question of such international interest that it may be discussed in this paper. Certainly it would be a very important step if an international arrangement could be made. The reason for the proposal was, that there have been shown at recent

know, without such a declaration, who is the grower. Certainly, there will always be some exhibitors who will not hesitate to declare falsely that the exhibited plants were cultivated by themselves. Against such no laws can avail, but I think that a great many would be afraid to do this if there were an international agreement that all those exhibitors who are convicted of having misled jurors by false declarations concerning the origin of their plants shall return any prize they may have won, shall be excluded from all exhibitions, whether they be local or international ones, and that their names shall be published in the principal horticultural papers of the different countries. If this resolution were an international one, the exhibitions in a short time would be again what they once were—a true show of plants which different gardeners have cultivated.

It was said that the regulation that the plants must have been under cultivation for a certain period by the exhibitor, would give occasion for untruth. I say, that this can be met by the resolution, that he who says that plants which the exhibitor declares to have been cultivated for the necessary time by himself have not been cultivated for so long by the exhibitor, shall be confronted with the exhibitor. Then it will easily be seen who is right. And if this were done several times, such untruths would be checked.

PLANT NOTES.

BURKHILL NEW WHITE MIGNONETTE.

We have had a good many so-called white Mignonettes, as well as scarlet and other colours; but few of these can be said to have had a very lengthened existence. We have greatly improved the primitive type in habit, compactness, profusion and size of blossom; but as to colour, fashion has been in favour of the original neutral tint. But this new white is pure white, with a tinge of bloom that may be truly described as at once bold and graceful. It may be fancy, but I believe it is also a fact, that it is the sweetest strain of Mignonette in the trade. I have met with it several times recently in pots, and on each occasion have been most favourably impressed with its whiteness and refined fragrance. The purity of its colour will make it a most welcome addition to bouquets, wreaths, &c. *D. T. F.*

CLEODENDRON FALLAX.

We find the best way to succeed with this well-known old stove plant is to raise plants from seed each year. A small batch of March-sown plants is just going out of flower, on which are a number of seeds that will ripen in due course. The plants stand on the side stage in an intermediate-house. As stated, the seeds are sown in the month of March in shallow well-drained pans filled with a light compost, and as soon as the young plants are large enough to handle, they are potted singly into thumbs in a mixture of two-parts loam to one of rotted leaf-soil, and when these pots fill with roots, the plants are placed in 5-inch pots in a similar soil, but with the addition of a small quantity of sifted fowls'-dung which has laid in a heap for some months. During the summer the plants are grown in any ordinary Cucumber or Melon-pit, but not too much shaded. In September and October they add brightness to any warm plant-house by their large scarlet panicles of blossom. *H. J. C.*

FRUIT REGISTER.

RASPBERRY BELLE DE FONTENAY.

The fine weather experienced during September and early October was favourable to autumn-fruiting Raspberries, and I do not remember having seen Belle de Fontenay in such fine condition as it was at that season. It is a variety that is excellent for autumn-fruiting, and is well worth cultivation if for that only, as its fruits come in usefully with the retarded red Carrants. It is somewhat tart in flavour, but not therefore disliked as a dessert fruit. Its requirements as to soil are similar to the summer-fruiting varieties, and it should be afforded an early and sunny situation, so that its fruits, particularly in late seasons, may ripen perfectly before frost sets in. Unlike the summer Raspberries, it fruits upon the current year's growth, and in pruning it, therefore, all its canes should be cut down to the ground not later than February. The young growths should be thinned early, leaving the strongest to crop, and these must on no account be allowed to become crowded, but be kept well thinned out, so that they may gain as far as possible every benefit from the sun and air. For this reason it is not advisable to stake them; and, indeed, it is unnecessary to do so, as they are sturdy enough to be self-supporting, and if thus left alone they naturally arch, and fully expose their flowers and fruit. *Thomas Coomber.*

GRAND DUKE PLUM.

As a late black variety, we like this Plum very much. It resembles Diamond in appearance, but the fruit has heavier bloom, and at Mereworth it is of far better flavour, and the trees growing on a west wall, crop freely. The fruits have the good characteristic of keeping for a long time after ripening without shrivelling; in short, it is a most valuable Plum. The variety was raised by Mr.

Rivers, Sawbridgeworth. It is a seedling from Autumn Compote, and ripens from the 10th to 20th of October.

APPLE, NEWTON WONDER.

This comparatively new introduction of Messrs. Pearson, of Chilwell, is apparently a cross between the Blenheim Orange Pippin and Wellington, having a resemblance to both these varieties. I have not as yet grown it, but its good qualities are highly spoken of by Messrs. G. Banyard, at whose nursery place I recently saw some heavy and handsome fruits. If the trees bear early, and are fairly free from canker, then we have in Newton Wonder a first-rate Apple, which can be kept in sound condition till the month of May. It was exhibited by the raisers before the Royal Horticultural Society in 1887, receiving a First-class Certificate. It is said to be eminently suited to cold soils and districts. *H. Markham, Mereworth Castle, Kent.*

THE WEEK'S WORK.

THE ORCHID HOUSES.

By W. H. WHITE, Orchid Grower, Burford, Dorset.

CLEODYNE CRISTATA, ETC.—Plants of this winter-flowering Orchid are showing flower-spikes already, and where there are several specimens, a long succession of flowers will be afforded if one or more of them are placed in a slightly warmer situation than the others. At this period the cultivator should guard against over-watering the plants, or sprinkling the bloom-spikes, these being liable to rot away if moisture accumulates about them. Just before the flowers open, afford the plants a thorough soaking of weak liquid manure-water to assist their development. *C. ocellata maxima* and *C. elata* are also pushing up their flower-spikes, and need to be copiously watered till the flowers fade; *C. faccida*, *C. Massangeana*, and *C. tomentosa*, are at rest, requiring very little water at the root before flower-spikes appear, or growth recommences. Species that have bloomed recently, as *C. Rossiana*, *C. Cummingii*, *C. graminifolia*, and *C. sulphurea*, may be re-potted if they require it.

MAXILLARIA.—Among plants in flower is the pretty *Maxillaria lepidota*, whose blooms, although of small size, last a long time in perfection, and a strong plant here with over 100 blooms open is regarded as a very effective feature at this season. *M. picta*, not so showy as the first-named flower, also in flower, is as interesting, and on that account worth growing, as also for its delightful fragrance. Such handsome and strong-growing species as *M. grandiflora* and *M. venusta* that have just passed out of flower should be examined, and if greater root-space be needed, it should be afforded. Overgrown plants, or those whose central growths have become much crowded, may be divided, and made up into small, compact specimens, or re-potted as single pieces. *Maxillarias* require liberal root-watering and a moist atmosphere when making growth; and it is important when repotting them to have the pots well drained. The compost should consist of one-third good fibrous peat and two-thirds sphagnum-moss, with plenty of small crocks intermixed. Pot somewhat firmly, and keep the base of the plant a little above the rim of the pot. It is not advisable to afford the plants a heavy watering for a few weeks after disturbance, but sprinkle the surface of the compost, so as to keep life in the sphagnum-moss. When new growths are observed to push out roots, the quantity of water may be slightly increased. A light part of the cool-house is the proper place for these plants the whole year.

ONCIDIUM INCURVUM.—This is a graceful and pretty Orchid, when well bloomed, that is now starting to grow, and should, if necessary, be re-potted, using the same kind of compost as that recommended for *Maxillarias*. Both genera grow thoroughly well together, as they need an identical treatment. *Oncidium ornithorhynchum* has also just passed out of flower, and may now be supplied with fresh material to root into. This species succeeds in the cool-house in summer; but in winter it should be placed with *Miltonia vexillaria* in the intermediate-house.

MILTONIAS.—The majority of the Brazilian *Miltonias*, viz., *M. spectabilis*, *M. Moreliana*, *M. candida*, *M. bicolor*, *M. Peetersiana*, *M. Clowessii*, *M. cuneata*, *M. Russelliana*, *M. Rognellii*, &c., will now

be resting, and until growth recommences they should be kept comparatively dry at the roots. Keep them in the coolest part of the intermediate-house during winter, where they will obtain as much light as possible. Unfortunately, these plants are seldom kept in a healthy and satisfactory condition. The principal cause of failure in our own case has been the use of unsuitable material for them to root in. I find they thrive best in good fibrous peat from which all the fine matter has been sifted out. Use no sphagnum-moss, but mix plenty of broken crocks with the peat. In such material they can be watered very freely, and during the growing season this is essential. The water passes quickly away, and the risk of damp in bulbs or foliage, and decay at the roots, is practically avoided. Supply fresh material when new growth commences. The dwarf-growing varieties, as *M. spectabilis*, &c., may be put in shallow pans, and suspended to the roof; but others are best grown in pots, and kept well above the rim. *M. Schroderiana*, a rare and handsome species, is in full growth, and should be given the warm temperature of the East Indian-house during the winter months. When the new bulbs are matured, it may be removed to the Cattleya or intermediate-house to rest and flower.

FRUITS UNDER GLASS.

By RICHARD PARKER, Gardener, Goodwood, Chichester.

THE EARLY VINERY.—This house being now closed for the forcing of the Vines, great care will be needed to ensure all the buds breaking regularly, therefore no fire-heat will be needed for the first few days, and this is the more important if the canes are young and have not been forced before. If the canes are strong and well ripened, and the precaution taken to bend them down so that the apex will be as low as the lowest fruiting spur, they may so remain till it is seen that every prominent bud has started. In our early vinery, the Vines are planted in a narrow border, which received a thorough watering when the house was closed; and the canes will be kept fairly moist by syringing them regularly once or twice daily, according as the weather is dull or bright; no more root-watering will be applied until active growth begins, after which time tepid water will be used always. In the absence of frost, no difficulty will be found in keeping the temperature at 55° to 60° during the day, with just a slight amount of circulation in the hot-water pipes, and for ten days or a fortnight this temperature should not be exceeded. The night temperature may range from 48° to 50°. If the roof can be covered at night with thick canvas or other material, it will be an advantage. These temperatures can be secured in mild weather by the sole use of a bed or two of fermenting materials, placed in the house, the moist heat of which greatly assists the breaking of the canes.

SECOND VINERY.—These Vines should now be pruned, and the house got in readiness for a start being made at or about the New Year. Our Vines in the second early vinery are forty years old, and with a view of affording fresh vigour to them without replanting, every alternate cane was cut back to the bottom wire last winter, and from these old stems vigorous canes have been secured, which are in a well-ripened condition. These canes will not be cut back very much, but from 8 to 10 feet of cane will be left, from each of which I hope to take from two to four bunches next season. To make room for the development of these young canes, the lower spurs on the old Vines will be sawed off as far up as may be necessary to allow space for the side shoots of the young canes to grow. The top parts of the old Vines will be cropped until such time as the young ones come into full bearing, when these in their turn will be cut back in the same manner. As the Vine border in this house was recently re-made, nothing is required in the way of preparation beyond raking off the rubbish and levelling the rough surface. After a time the surface-soil will be lightly broken with a fork, and a dressing of Thomson's Vine-manure applied.

STRAWBERRIES.—For the earliest batch, make use of the variety *Vicomtesse Hericart De Thury* potted in 5 inch pots, which cannot be beaten for early fruiting. Prepare them by plunging the pots to the rim in a bottom-heat of 70° to 75° afforded by a bed of leaves, or leaves three quarters, and stable litter one quarter. This should be made up in a pit, capable of being heated, if necessary. Bring the bed pretty close to the glass, and afford a top-heat of about 55°. By

this kind of treatment the plants make strong growth, and by bringing them on slowly the flower-trusses are strong and carried well up above the foliage. Ventilation must be afforded to get rid of rank steam, otherwise injury will be done; in fact, a chink may be left on always if there is any fear that the temperature will rise above the point recommended. The lights should be covered with double mats on frosty nights, the plants being exposed to the light early in the day. I prefer to surface-dress the plants when the fruit is set, but it may be done when the plants are brought in.

THE FLOWER GARDEN.

By BAILEY WADDS, Gardener, Birdsall Gardens, York.

CUTTING EVERGREENS.—If the weather continues favourable, advantage should be taken of it to thin out and prune Laurels, Box (but not clipping the leaves of this last), Hollies, and other ever-green shrubs. The prunings being in demand at this season for decorative purposes, should be saved by inserting them in damp soil. Together with these may be associated in decoration Spruce Fir boughs and Ivy, all of which should be secured and kept in readiness for use. To many of us this season brings a great deal of work in the matter of wreath-making for a variety of purposes; and when the days are fine, it is a good plan to gather in as much material as will be required, it not being an agreeable job to gather it when the trees and shrubs are covered with snow or rain is falling. The work of cutting decorations requires careful doing, or much damage is done, therefore get it through in fine weather if possible and in advance of the time. As material for wreaths for twining round pillars, nothing looks so well as small shoots of Holly, furnished with berries; heavy wreaths for the tops of screens or walls should be made of Mahonia, Spruce Fir, Box, and Ivy, and when the Holly is well-berried, large branches may be cut from trees growing in out-of-the-way places. Care is necessary in fixing Holly branches in position, as they should not be placed so low that persons can brush against them, or damage may be done to the pictures by the leaves, or to carpets by the fallen berries. For bright green foliage the Common Laurel is one of the best.

EVERGREENS BY PARCEL POST.—Packages of these may be sent without much damage if a piece of stick or light lath cut a little longer than the parcel to be sent, so as just to stick out at each end. Lay the stick on a sheet of newspaper, then lay the ever-greens, Mistletoe, Holly, Fern, or even flowers, in the middle of the parcel, and tie carefully with the ever-greens packed all round the flowers, making the outer covering fast to each end of the lath. In this way the decorative materials that are so highly prized by town-folk at this festive season may be sent by post for little cost, and there are no boxes to be returned.

HELLEBORUS NIGER AND OTHER SPECIES.—Bell-glasses, hand-lights, or garden-frames should be placed over the roots of the first-named growing in the borders, so as to protect the blooms from snow and rain. Clumps may also be potted in undivided masses, and placed in an intermediate-house; the best variety for this purpose is *H. angustifolius*—a fine pure white-flowering variety in much request at this season. It can, with a little heat, be quickly brought into flower. There are several fine varieties worthy of a place in the herbaceous and mixed border which are easy to cultivate if the soil be well drained and rich. They are readily increased by divisions and by seeds. For flowering during the winter and early spring they should be planted in situations sheltered from the north and east. Valuable varieties are *H. maximus*, *H. M. laciniatus*, *H. niger* Mme. Fourcade, *H. guttatus*, *H. olympicus*, *H. orientalis*, *H. Dr. Moore*, *H. pallidus*, and *H. p. alba*. The more shrubby varieties, viz., *H. foetidus* and *H. trifolius*, have beautiful foliage.

THE HARDY FRUIT GARDEN.

By W. POPE, Gardener, Highclere Castle, Newbury.

FRUIT CORDONS.—The utility of cordons should not be lost sight of by the intending planter of fruit trees, for not only do such forms of fruit trees come quickly into bearing and generally afford the finest fruit, but they should be commonly employed to fill up small vacant spaces on walls or fences which would otherwise be left unoccupied. Where such spaces exist, a suitable selection either of

trained trees or of maidens should be made, planting them as early as possible.

PRUNING SWEET CHERRIES AND PLUM TREES.

These trees, although differing much in character of growth, require a somewhat similar treatment in the matter of pruning and training. The fruit being in both cases produced on spurs, the breastwood and lateral growth on the main branches should be shortened to a couple of buds, and the leading shoots laid in where required, care being taken to avoid crowding the shoots in any part. Pyramids or bushes should have all the lateral shoots not required for furnishing the trees, sparred back to near the main branches, and the leading growths shortened more or less according to strength, in the case of side branches to an outside bud, or if very stout and sturdy, they may sometimes be left unshortened. Keep the centres of the heads thin, so that light may penetrate to the inner parts. Standards, especially of Plums, require frequent attention in the matter of thinning, or in a few years, if this be neglected, the whole interior parts of the tree will be fruitless.

Morello Cherries form very pretty and profitable pyramids or bushes if proper attention be given to the necessary pinching once or twice during the summer. At the present season the young shoots on these must not be shortened, but merely thinned by cutting out the weak and badly-placed ones. As regards wall trees of the *Morello*, much of the old wood may safely be removed and replaced with young growth. An error often made is to train in the bearing-wood much too closely, for as a rule each fruiting-shoot ought to be allowed from 4½ to 6 inches space on each side. Spurs should be thinned in number, those retained being close to the wall, and not allowed to extend themselves so as to form breastwood.

MANURING THE FRUIT QUARTERS.—Advantage should be taken of frosty weather to wheel manure to the Gooseberry and Currant quarters, lightly forking it into the ground, so as to just put it out of sight. Raspberry plantations, if long planted, should have a heavy dressing of farm-yard manure applied as a mulch. New plantations may not require more than will manure the lines of plants for a distance of 1 foot on each side of the same. This will serve at the same time to protect the roots from hard frosts. During open weather, liquid-manure should be applied to the roots of old orchard or established fruit-trees elsewhere, such as wall-trees which are weakly, or fail to finish their crops satisfactorily. Before applying dung to these last, the soil should be drawn away down to the surface-roots, and farmyard drainage-water in quantity afforded; the soil should then be returned over them, and the top-dressing put on.

THE KITCHEN GARDEN.

By JOHN LAMBERT, Gardener, Powis Castle, Welshpool.

EARLY POTATOS.—Where the earliest batch of new Potatos is obtained from plants grown in flower-pots, preparations for a start may soon be made. The pots should not be less than 9 or more than 10 inches in diameter. They should be well washed out, and the bottom covered with a 1½-inch layer of crocks, and these covered with some of the coarser portions of the leaf-mould. As a potting-compost, the now mellow loam that formed the beds on which Melons were grown will be very suitable, if a small amount of leaf-mould or Mushroom-bed manure be added, together with charred earth, &c., filling the flower-pots to three-quarters of their depth. Place the set—preferably an uncut one—an inch deep in the middle. A Peach-house or viney just started to force will be suitable for the pots. If the soil is moist when used, no water will be required by the sets before growth appears, and when that occurs, place them as near as possible to the roof-glass, so that they may grow short-topped and sturdy. When of sufficient height, fill up with warmed soil to within an inch of the rim. At this period a thorough watering of the soil with tepid water may take place. One advantage of forcing the Potato in flower-pots, is that they can be accommodated in places which would scarcely be occupied with other plants; and I have seen some fairly good results come from the following method. The method pursued is to plant in pits capable of being heated, or wooden frames standing on hot beds of dung and leaves, and for the earliest crop the heated pit is preferable. Pits and frames should be whitewashed, in the case of the former, and scoured with soap-and-water in that of the latter, and then filled with well prepared hot-bed materials, viz.,

stable litter and tree leaves, or the latter alone, made quite solid by treading them evenly all over. Before putting on the soil, the warmth should be on the rise, and should the bed have sunk much, enough prepared materials should be placed on the surface and trodden down as before, and to such a depth that the bed of soil will not be more than 6 or 8 inches from the glass. The compost for use in hot-beds is the same as that advised for Potatos in pots, and it should not be of less depth than 8 inches. When the soil has become warm, say 75°, which is about the proper temperature, the sets may be planted. To save time, place a sufficient number of selected sets in boxes or small pots, covering them with leaf-mould, and set them to sprout in mild heat. These when transplanted will have a good bit of leaf-soil adhering to the roots, and will not be much checked in growth by removal. Plant in rows 2 feet apart, and from 9 to 10 inches apart in the row. Grow the plants quickly, but do not let them become drawn by too much warmth, or the exclusion of light and air. Some gardeners sow Radishes between the rows, but it seldom pays to do so, as the Radishes grow much better by themselves. The following are excellent forcing varieties, viz., *Sharpe's Victor* and *Veitch's short-top Ashleaf*.

PLANTS UNDER GLASS.

By W. H. SMITH, Gardener, West Dean Park, Chichester.

FORCING HOUSE.—The plants which may be brought into the forcing-house, vineries, or peacheriee, consist of Lilacs, Deutzias, Roses, *Hortia japonica*, *Azalea indica*, *A. mollis*, Ghent varieties, and Roman Hyacinths, and these being kinds that require but a small degree of heat to bring them into flower, are the best for the mid-winter season. The flowers will endure a much longer time if the plants are brought into a less warm house or pit when these are about to expand. At this date Lily of the Valley crowns are flowering capitally well, owing to their being thoroughly matured. The pots containing the crowns, if they are forced in this manner, and not in boxes, should be plunged in the hottest part of the bed, and afforded plenty of warm water.

CHRYSANTHEMUMS.—Most of the Chrysanthemum plants will shortly be out of flower; and it will require in most places a good deal of forethought and good management to maintain a gay appearance in the conservatory, and to supply flowers elsewhere during the next two months. The following kinds of bulbs, viz., Narcissus, Tulip, Scilla, Iris, and Jonquil, are useful in a variety of ways and easily forced into flower, and these, like others, are the better for being brought into a lower temperature than that of the forcing-house, to open their blossoms. If clumps of Christmas Rose are taken up and placed in a warm greenhouse, they will quickly come into flower; and the pure white flowers are always much admired, and useful in a variety of ways.

POINSETTIA PULCHERRIMA.—The stronger plants, whose heads have been removed, should always be saved for increase of stock, and they may at once be stowed away beneath the greenhouse or stove-stages, or other frost-proof, dry situation. The gaps made by their removal may be filled with others that have been suitably prepared in an intermediate-house.

RICHARDIAS.—All the well-rooted plants should receive plenty of manure-water, and any which are throwing up spathe may be placed in a warmer house than that they now occupy. Fumigate the plants once in three weeks to destroy aphid, which, if unmolested, soon spoil the spathe.

GENERAL HINTS.—Named Hyacinth, late Tulip, and Daffodil bulbs at the present time plunged in coal-ashes out-of-doors or in frames, should be occasionally examined, and all those which have commenced to grow at the top and have plenty of roots should be removed to cold frames or the greenhouse, and injured by degrees to sunlight. Italian Hyacinths succeed the Roman variety, and the blossoms are useful material for light decorative purposes. Keep Violets in frames free from decayed leaves, and if any of the plants show signs of damping, dust them with charcoal-powder, and draw off the frame-lights in mild weather. If frost threatens, place litter round the frames and cover up warmly. The present is a suitable season for obtaining loam, peat, sand, sphagnum and other moss, flower-sticks, &c., and leaf-soil.

EDITORIAL NOTICES.

Letters for Publication.—All communications intended for publication, as well as specimens and plants for naming, should be addressed to the Editor, 41, Wellington Street, Covent Garden, London. Communications should be WRITTEN ON ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.

APPOINTMENTS FOR THE ENSUING WEEK.

SALES.

WEDNESDAY, DEC. 18 { Sale of the Lease and Stock of the Westfield Nurseries, Ashgate Road, Chesterfield, on the Premises, by Protheroe & Morris (two days).
 THURSDAY, DEC. 19 { Roses, Carnations, Azaleas, Dutch Bulbs, &c., at Protheroe & Morris' Rooms.
 FRIDAY, DEC. 20 { Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—40°.

Potatoes. UNDER the auspices of the Technical Education Committee of the Surrey County Council, Mr. JOHN WRIGHT conducted a series of experiments, with a view of ascertaining for different localities and various soils, the best croppers and the best varieties generally. The report is now before us, and very interesting it must be for the cultivator. The experiments were conducted in ten different localities, and the results were compared by means of samples got together and exhibited in the public hall at Carshalton, on October 16 and 17. Two hundred and twenty dishes of Potatoes were shown, the tubers being exhibited as taken up, and a sample of the soil upon which they had been grown was placed beside them. The smallest but most shapely came from the chalky soil, the largest from the clay and peat, whilst those from the sand were the most scabbed. A selection from the best was cooked, with varying results, as might be expected from all the tubers being cooked at the same time without reference to their maturity. We cannot give all the details of these interesting trials, but

their general character may be gleaned from the following extract:—

For good shape, thirty varieties were chosen from the entire exhibition. Of these, Chancellor was found in seven collections from as many centres. Satisfaction in six. Goldfinder in five. Renown and Windsor Castle, each, in four collections. The Bruce, Prime Minister, The Canon, Triumph, and Congress, in three collections. Supreme, Dreadnought, Colossal, Best of All, White Perfection, and Victory in two collections. Only one dish each of the remaining fourteen varieties was chosen from the whole of the samples displayed.

For quality, Goldfinder, Supreme, and Satisfaction were the best from dark, boggy soil. Windsor Castle, Satisfaction, and Renown from clay soil. Supreme, Satisfaction, and The Bruce from dark, sandy soil. Colossal, Satisfaction, and Windsor Castle from chalky soil. Challenger, Chancellor, and Duke of York (early) from sandy-peat soil. Future Fame, Satisfaction, and Best of All from gravelly soil. Triumph, Satisfaction, and Windsor Castle from marly soil. Victory, Early Regent, and Dean's Renown from loose sand. Triumph, Victory, and Satisfaction from strong loam. Puritan (early), Windsor Castle, and Dean's Renown from dark porous soil.

Tubers of good shape and marketable appearance were chosen from fourteen other varieties, but these when cooked were found generally deficient in quality. As in the case of at least some of these, the results were, in all probability, the consequence of unripeness—their best cooking-season not having arrived—it would be premature to publish their names, and thus imply, as later experience might prove, unmerited condemnation. Also, it should be stated, that still more varieties afforded good crops in the bulk, yet the tubers were more or less unshapely, and therefore not cooked. As there is reason to infer that these were in a large degree prejudiced by the second swelling after the rains, which was more apparent in some soils and localities than others, the varieties are reserved for further trial prior to the publication of their names.

As only in one district (embracing Mitcham and Bandon Hill) exactly the same varieties were grown in four distinct kinds of soil—bog, clay, sand, and chalk, these trials obviously afford the best basis for comparison as to the relative adaptability of the varieties to soils of the nature indicated. The results, both as to the character of the samples in appearance, and their condition when cooked, are shown in the following summary:—

SUMMARY OF SAMPLES AND COOKING QUALITY OF VARIETIES GROWN UNDER IDENTICAL CONDITIONS IN THE MITCHAM DISTRICT ON THE SOILS INDICATED.

Varieties.	Boggy Soil.	Clay.	Gravelly Sand.	Chalk.	Remarks.
Goldfinder	Sample: good Cooking: floury	Sample: good Cooking: moderate	Not a good sample, and not cooked	Sample: good Cooking: solid	The best on boggy soil.
Supreme	Sample: good Cooking: floury	.....	Sample: good Cooking: floury	.....	Good on bog and sand.
Satisfaction	Sample: good Cooking: floury	Sample: good Cooking: floury	Sample: good Cooking: solid	Sample: good Cooking: firm	Good all round.
Colossal	Sample: good Cooking: waxy	.....	.....	Sample: good Cooking: very good	Good on chalk only.
Dreadnought	Sample: good Cooking: too solid	.....	Sample: good Cooking: too solid	.....	Third rate.
Chancellor	Sample: good Cooking: rather solid	.....	.....	Sample: good Cooking: fair	Good on bog and chalk.
Best of All	Sample: good Cooking: tender	.....	.....	.....	Best on bog soil.
Windsor Castle	.....	Sample: good Cooking: floury	.....	Sample: good Cooking: good	Good on clay and chalk.
The Bruce	.....	Sample: good Cooking: fair	Sample: good Cooking: fair	.....	Good on clay and sand.
Reading Giant	.....	Sample: good Cooking: solid	.....	.....	Fair on clay only.
The Canon	.....	Sample: good Cooking: dark	Sample: good Cooking: solid	Sample: good Cooking: good	Good on chalk.
Prime Minister	.....	Sample: good Cooking: dark	Sample: good Cooking: dark	Sample: good Cooking: too solid	Cooking quality inferior.
Dean's Renown	.....	.....	Sample: good Cooking: fair	.....	Fair on sand only.
Congress	.....	.....	Sample: good Cooking: fair	.....	Fair on sand only.

The cooking qualities of varieties that were not grown for comparison in the particular soils specified, may be seen on reference to Miss Hoare's remarks under the different centres (pp. 4, 5, and 6). The blanks in the table indicate that the samples were not good enough for cooking in the particular soils thus indicated.

If the whole of the varieties could be cooked in January or February by the same qualified official who exercised so much skill and care in October, somewhat different results might be expected, for, as previously indicated, some of the most useful late Potatoes do not develop their best qualities till they have been stored for several weeks or months, and if some of the exhibited samples could be spared from the analysis to which they (also the soil) are to be subjected, a second trial as suggested would complete the test of their relative culinary value. For the purpose of cooking, Potatoes should be kept in a dark place; for planting, they are better where light can reach them, but in both cases they must be kept cool yet absolutely safe from frost.

MANURE TRIALS AT RICHMOND.

The long drought was so antagonistic to the influence of chemical manure, that the effects of the different mixtures were not adequately declared. Four varieties, twenty-five equal sized sets of each, weighing in the aggregate 3 lb., were dressed with chemicals at the time of planting. There was, for the reason stated, comparatively little difference in the results, and it will suffice to give the smallest and greatest yields in each case.

Renown (Webb's).—“No manure”	... ..	25 lb.
“ “ Equal parts nitrate of soda and super-phosphate	... ..	44 “
White Perfection.—“No manure”	... ..	39 “
“ “ A 1 potato manure	... ..	45 “
Magnum Bonum.—“No manure”	... ..	36 “
“ “ Equal parts kainit, super-phosphate and nitrate of soda	... ..	47 “
Chancellor.—“No manure”	... ..	44 “
“ Sulphate of ammonia	... ..	52 “
“ 3 parts kainit, 1 part each of super-phosphate, and nitrate of soda	... ..	50 “

The mineral manures were applied at the rate of 4 lb., the nitrogenous kinds at 1 lb. per rod. No farmyard manure was used.

The R. H. S. year, comes also the dissolution of the Committees.

WITH the last meeting of the several committees. Prior to their dispersal the committees are asked to suggest the names of members for the reconstruction of the committees in the ensuing year. As there are no limitations, excepting that the new Members proposed must be Fellows of the Society, it is a misfortune when the members do not use their privilege, if only to neutralise the prejudice that some people still indulge in, that provincial interests are not sufficiently studied by the Society. Time and space are after all not quite obliterated, and a gentleman living in Scotland or Ireland can hardly be expected to attend so frequently as his brethren who live nearer the centre. But to suppose, as we sometimes hear, that provincial exhibitors, provincial committee men, or provincial exhibits are, apart from those considerations of time and distance that we have alluded to, in any wise differently treated from others, is a mistake that cannot be too emphatically contradicted. A much larger infusion of new members would be desirable in all the committees, but it is difficult to see how this object is to be attained, particularly when the members of the existing committees do not more freely exercise their privilege of suggesting new members, and when the Council do not more rigorously enforce the principle of retirement of older ones by rotation.

Again, the amateur, as distinguished from the commercial element, requires to be much strengthened. Perhaps this could be done through the medium of the Scientific Committee, to whom might be allotted the task of dealing with plants and exhibits not directly of commercial interest. At present the Scientific Committee con-



FIG. 118.—LUDDEMANIA TRILOBA: FLOWERS OF NATURAL SIZE, ORANGE-COLOURED.

sists too exclusively of experts who act as referees in chemistry, entomology, and other sciences, but who are not specially interested in horticulture. It was not so in old days, when such men as WILSON-SAUNDERS, ELWES, BOSCAWEN, MANGLES, GEO. MAW, SIR CHARLES STRICKLAND, and other enthusiastic amateurs took part in the meetings. Another means of strengthening the societies would be the establishment of local committees, according to circumstances, in connection with the provincial horticultural societies, such committees to be in constant touch with those in London, and entitled to send representatives to any of the London meetings. In this way the deplorable waste of energy and opportunities manifested in local exhibitions might be reduced, horticultural progress, rather than the benefit of exhibitors, or the amusement of visitors, made the principal object, and a higher tone generally introduced, whilst the wants and requirements of the provinces would be better made known at headquarters than is the case at present.

But these are subjects which we cannot now further dilate upon. Our main object in alluding to the meetings of the Committees on Tuesday last, is to point out that in the case of the Fruit Committee, at any rate, the occasion was historic. On that day Mr. BARRON retired from his position as secretary, a post he has held since 1865. Votes of thanks to the members of the several committees and to their respective chairmen and secretaries were matters of course; but, in the case of Mr. BARRON, a warmer, more special feeling prevailed, which found partial expression in the subjoined resolution, and which will be accentuated when an occasion will shortly be taken to show how thoroughly the horticulturists of the country appreciate the labours of Mr. BARRON. The resolution referred to was most fitly proposed by our leading Pomologist, Dr. HOGG, who traced the history of the Pomological Society till its absorption in 1865 into the Royal Horticultural Society, where it now flourishes as the Fruit Committee:—

Proposed by Dr. HOGG, seconded by Mr. J. SMITH (Mentmore)—“This Committee desires to record its high sense of the valuable services which Mr. BARRON has rendered to it during his long occupation of the position of Secretary, from which he is now retiring, and to congratulate him on the distinction of having been placed by the Council on the roll of Honorary Fellows of the Royal Horticultural Society. The Committee will also heartily welcome him to a seat at this table, and expresses an earnest hope that he may long enjoy health and happiness, and find many opportunities for continuing to render distinguished service to horticulture and to the Society.”

LUDDEMANIA TRILOBA (*Rolfe, n. sp.*).—This beautiful species is one of the recent discoveries of Consul F. C. LEHMANN in the Andes of Columbia, and it has been flowered and twice exhibited before the Orchid Committee of the Royal Horticultural Society by Sir TREVOR LAWRENCE, Bart. On the last occasion (November 16) the fine plant from which our illustration (fig. 118) was taken was shown, and was unanimously awarded a First-class Certificate. *Luddemania triloba* is a plant of considerable floral beauty, as well as one of remarkable botanical interest. The plant had a pendulous inflorescence over 2 feet in length, and bearing thirty-three wax-like flowers of bright orange colour, the sepals being tinged with copper-brown, and the base of the lip, which is distinctly three-lobed, having a dark purple blotch. By reference to our illustration, it will be seen that the plant requires to be grown in a basket, if for no other reason than to allow of the proper display of its

inflorescence. The best situation for it is the intermediate-house, and in its culture it has the same requirements as the *Acinetos*.

OUR ALMANACK.—Secretaries of Horticultural Societies and others, are earnestly requested to forward *immediately*, the dates of Show Fixtures and of Meetings of Botanical and Horticultural Societies of any kind for 1896, for insertion in the Almanack, to be published in our issue for January 4.

LINNEAN SOCIETY.—On the occasion of the meeting held on Thursday, December 5, C. B. CLARKE, F.R.S., President, in the chair, Messrs. Bernard Arnold and Rupert Vallentin were admitted, and the following were elected Fellows of the society: W. M. Christy, Rev. H. P. Fitzgerald, A. W. Giffen, Rev. E. A. Peacock, R. v. T. R. Stebbing, and W. O. Scantford. The president called attention to a portrait of the late Prof. Babington, of Cambridge, which had been lately presented by his widow to the society. On the motion of Dr. Marie, seconded by Mr. A. W. Bennett, a vote of thanks to Mrs. Babington was unanimously accorded. Prof. Stewart offered some remarks on the types of the axes of certain *Gorgonaceæ*, in which he referred chiefly to the importance or otherwise of the presence of spicules in the axes, and exhibited the following species in illustration of his remarks:—*Paragorgia arborea*, *Melitodes ochracea*, *Saberogorgia suberosa*, *Corallium rubrum*, *Caligorgia verticillata*, *Vernicella guadalupensis*, *Isis hippuris*, *Plexaurella crassa*, and *Eunicella verrucosa*. Some criticism was offered by Dr. Marie, chiefly in relation to the structure of *Gorgonia flabellum* and *Gorgonia setosa*. Mr. Martin Woodward exhibited and made remarks on a living specimen of *Ouarumœna*, which he thought should be regarded as a common *Amœbia* attacked by a parasitic fungus. Mr. G. C. Druce communicated a paper on a new species of *Bromus* in Britain, which was said to differ from others of the genus in its inflorescence, having single-shoot stiff pedicels arising alternately right and left of the main rachis, each bearing at its extremity 3–5 sessile, or, in some cases, shortly-stalked spikelets, giving an interrupted and compact appearance to the whole inflorescence, which is made up of two rows of clustered groups of 3–5 spikelets. This peculiar feature being absent in its nearest allies, the name *interruptus* was proposed to distinguish it. It appeared to have been described or referred to by Professor Hackel as *Bromus mollis* var. *interruptus*; but Mr. Druce considered that it was sufficiently distinct to be entitled to specific rank. He had found it growing abundantly in a field of Vetches near Upton, Berkshire, and specimens had been examined from Headington, Oxford, and Dartford, Kent. In a discussion which followed, Dr. O. Stapf reviewed the literature of the subject, and gave reasons for regarding the so-called new species as merely an abnormal growth of *Bromus mollis*. Critical remarks were made also by Mr. H. Groves and Mr. A. B. Rendle, who were inclined to share the opinion of the last speaker.

—An evening meeting will be held on Thursday, Dec. 19, 1895, at 8 P.M., when the following papers will be read:—I. R. A. ROSE A.L.S., "A Revision of the Genus *Vanilla*;" II. E. S. GOODRICH, F.L.S., "On the *Cephalopoda* collected during the Voyage of H.M.S. *Investigator*."

NATIONAL CHRYSANTHEMUM SOCIETY.—A well-attended meeting of the General Committee took place at Anderson's Hotel, Fleet Street, on the 9th inst., Mr. B. WYNN in the chair. After dealing with some correspondence, the Secretary reported that the amount of prize-money awarded at the December show amounted to £51 4s. 6d. The awards of medals made by the Arbitration Committee to miscellaneous subjects at the same exhibition were approved. It was decided to recommend to the annual general meeting the appointment of three auditors instead of two only, as at present; one to retire annually, and be eligible for re-election for one year. This increase is made necessary by the growth of the society. The Secretary brought

up a recommendation to the General Committee from the Jubilee Sub-committee, that for the future, in all classes in which Japanese Chrysanthemums are required to be shown on boards, the boards for twelve blooms shall be 28 inches in length by 21 inches in depth from back to front; the holes for the tubes to be 7 inches apart from centre to centre; the height at the back to be 7 inches. This was carried. It will be understood that as the size for a twelve-bloom board only is given, it is yet intended to apply to all larger collections. It was arranged that the annual general meeting should take place on February 24; the audit of the accounts being held a week previously. It was agreed, subject to the approval of the managers of the Royal Aquarium, that an exhibition of early Chrysanthemums, Dahlias, &c., should take place on September 9, 10, and 11, and an early autumn show on October 6, 7, and 8, and the mid-winter show on December 1, 2, and 3. It was also resolved that the sum of £20 should be offered for early Chrysanthemums in September, and £10 towards the Dahlia prizes. The dates of the Jubilee exhibition are November 3, 4, 5, and 6. Five Fellows and thirty-four ordinary members were elected, bringing the total number of new members for the year up to 162. Three societies were also admitted to affiliation. A vote of thanks was passed to the chairman for presiding.

"THE BOTANICAL MAGAZINE."—The dedication of the annual volumes of our venerated contemporary has become a matter of much interest to botanists and horticulturists. This year the honour falls to the share of Mr. HARAY BOLTS of Cape Town, whose works on South African Orchids especially, amply entitle him to the warmest compliment that his colleagues can pay him. The plants figured in the current number are:—

Streptocarpus Wendlandi, Hort. Dammann, ex W. WATSON, in *Gardeners' Chronicle*, 1894, i. 590, t. 7447, a magnificent species, the parent of *S. Dyeri* X.

Aloe Luntii, Baker, t. 7448.—A highly interesting species, discovered in Southern Arabia by Mr. LUNT. The stems are short, bearing at the top a tuft of long linear-lanceolate recurved fleshy leaves, destitute of spines at the margin. The flower-panicle is loosely branched, and bears numerous tubular pink flowers tipped with green. Each flower is about 1 inch long (25 cent.).

Buddleia Colvizei, Hook. fil. and Thoms., t. 7449.—The handsomest of all Himalayan shrubs, with pendulous masses of rose-purple or crimson flowers, relieved by the dark green foliage.

Bartholina pectinata, R. Brown, t. 7450. An extraordinary little terrestrial Orchid, from the Cape of Good Hope, with tuberous roots, an erect slender hairy stem, only 3 to 4 inches (80 to 100 mill.) in height, and a solitary roundish thick leaf, spreading on the surface of the ground. The flowers are 2 to 3 inches (50 to 80 mill.) across, with erect linear lanceolate greenish sepals, shorter than the very narrow erect whitish petals, lip 50 cent. across (2 inches), fan-shaped, white, dividing about half-way down into numerous linear fringe-like spreading segments.

Musa rubra, Wallich, t. 7451.—A species with a stem 5 to 7 feet high; leaves, 4 to 6 feet (1½ to 2 met.), long oblong lanceolate acuminate. Bracts bright red, with obtuse golden tips; flowers tubular, yellowish, 1 to 1½ inch long (35 mill.); the females rather shorter than the males.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.—We are requested to state that the committee have gratefully received the sum of £257 3s. 5d., being a proportionate amount of the fund raised to perpetuate the memory of the late Mr. WM. THOMSON, of Clowenford, to be invested and known henceforth as the "Wm. Thomson Memorial Fund."

NATIONAL ROSE SOCIETY.—A copy of the balance-sheet, duly attested, has been sent to us. It shows that the receipts, including balance from last account of £72 11s. 9d., amounted to £788 0s. 7d. The balance at the banker's is £45 14s. 3d., the total

expenditure being £742 6s. 4d. No less a sum than £260 10s. was distributed in prizes at the Crystal Palace.

.. "HANDBUCH DER PRAKTISCHEN ZIMMERTHATNEREI" (*House-Gardening*)—We mention this German treatise by reason of the excellent illustrations, which convey to the beginner at a glance a better notion of what to do and what to avoid than pages of description. The author is Mr. MAX HESDÖRFFER, and the publisher ROBERT OPPENHEIM, of Berlin. The work is to be published in eight parts, at a low price.

ROYAL INSTITUTION.—The following are the lecture arrangements before Easter: Professor John Gray McKendrick, Professor of Physiology in the University of Glasgow, six lectures (adapted to a juvenile auditory), on "Sound, Hearing, and Speech" (experimentally illustrated); Professor Charles Stewart, Fullarian Professor of Physiology, R.I., eleven lectures on "The External Covering of Plants and Animals: its Structure and Functions;" The Rev. Philip H. Wicksteed, four lectures on "Dante;" Professor H. Marshall Ward, Professor of Botany in the University of Cambridge, three lectures on "Some Aspects of Modern Botany;" The Rev. William Barry, D.D., four lectures, "Masters of Modern Thought—Voltaire, Rousseau, Goethe, and Spinoza;" Prof. C. Hubert H. Parry, Professor of Musical History and Composition at the Royal College of Music, three lectures on "Realism and Idealism in Musical Art" (with musical illustrations); The Right Hon. Lord Rayleigh, Professor of Natural Philosophy, R.I., six lectures on "Light." The Friday evening meetings will begin on January 17, when a discourse will be given by the Right Hon. Lord Rayleigh, on "More about Argon;" succeeding discourses will probably be given by Professor Barton Sanderson, Mr. W. S. Lilly, Dr. John Murray, Mr. J. J. Armistead, Dr. Edward Frankland, Mr. A. R. Binnie, Mr. Sidney Lee, Professor T. R. Fraser, Professor Dewar, and other gentlemen.

EARLY WALLFLOWERS.—We have received from Messrs. SUTTON & SONS their Earliest of all Wallflower gathered from plants sown as recently as last May. The plants have already been flowering since the middle of September, and are still full of bloom and bud, and should the weather not prove too severe, will continue to yield acceptable gatherings throughout the winter months, bursting again into new vigour and beauty at the first touch of spring. The value of such a pretty spring flower in December must be apparent to all, especially growers for the market.

FRUIT AND MARKET GARDENS.—The following is the acreage under small fruit crops as given in the Agricultural Returns for 1895, published by the Board of Agriculture:—England, 63,122; Wales, 1,175; Scotland, 5,250. In each case, but especially in England, there is a considerable increase in the area devoted to small fruit crops as compared with that noted in 1894. The total area of land and water in Great Britain is 56,771,728 acres, and in Ireland 20,705,253. Kent has 22,272 acres under fruit, a slight increase over 1894. Middlesex continues nearly stationary with 3,982 acres; Lancashire has 2,517 acres against 2,396 last year; Surrey 1,463 instead of 1,331; Worcester, 3,144 as compared to 2,508. The total area used as orchards in 1895 is given at 21,963 acres in place of 203,821 in the preceding year. The largest orchard areas are, in Devonshire, 26,955; Hereford, 26,538; Somersetshire, 24,520; Kent, 23,260; and Worcester, 19,665 acres. Market gardens occupy in England a total area of 85,398 acres, an increase of more than 4,000 acres over the preceding year. Kent has far more market gardens than any other county, the acreage being returned at 12,516 acres; after which comes Middlesex, 9,410; Bedford, with 7,274 acres; Worcester, 5,586; Essex, 4,740; Surrey, with 3,683. The remaining counties have all a very much smaller area devoted to market gardening.

PIERRE NOTTING.—The death of this famous rosarian, of Luxembourg, is announced. According to the *Revue de l'Horticulture Belge*, M. NOTTING was in his seventieth year, and died on November 2.

THE PUBLISHER OF THE "GARDENERS' CHRONICLE."—We greatly regret to announce that this Journal is no longer to have the services of Mr. A. G. MARTIN as publisher, considerations of health necessitate his residence in the Transvaal or other dry climate. Mr. MARTIN leaves with the sympathy and goodwill of all his colleagues, who trust that he may speedily regain his health and quickly obtain some suitable occupation. Mr. H. A. STRATTON, who for many years has been a trusted assistant, will, in future, undertake the duties of publisher.

HORTICULTURAL PROGRESS IN HOLLAND.—Great activity prevails just now in Holland in the matter of technical education. A school of Horticulture is established at Wageningen; a laboratory for the study of Vegetable Pathology, under the direction of Professor RITZEMA BOS has been founded at Amsterdam; a new horticultural journal has lately been established; and the *Album Van Eeden* is to be continued as the *Bulletijum Haarlemense*, under the auspices of the Society of Bulb Cultivators.

BEGONIA FROEBELI INCOMPARABILIS X.—The insertion of the following letter from Mr. BENNETT-POË, enables us to correct one or two misapprehensions relating to this fine plant, see p. 680, fig. 112. Mr. BENNETT-POË, it appears, was not the raiser of the plant, but Mr. FROEBEL, of Zurich. The flowers, instead of being only 1 inch in diameter, measure upwards of 3 inches:—

"The introduction many years ago by Roez of a tuberous Begonia from Ecuador, dedicated by Alphonse de Candolle to M. Froebel, of Zurich, was an acquisition to growers of tuberous Begonias, for its blooms, though not large, were very brilliant. Some years later, another tuberous Begonia, a winter-flowering species, was introduced from Peru, Begonia polypetala, perhaps the most distinct and remarkable species yet introduced. M. Froebel, of Zurich, employed these two species in the production of the stately and handsome hybrid figured last week, which having taken in general appearance so markedly after the seed-bearing parent, was sent out under the name of Begonia Froebeli incomparabilis X. But happily, in the time of flowering, it takes after the pollen parent, and produces its brilliant blooms in the winter months, when they are far more valuable and appreciated. I have grown this Begonia since 1880, the year it was sent out, and have advocated its claims in the gardening papers both then and subsequently, and again as recently as this autumn, for it has never failed to be a remarkable plant each winter. It would seem to be quite unknown, from the fact that it came as a surprise to those present at the meeting of the Royal Horticultural Society on November 21. I have frequently wished I could show it, but until recently my garden was too far distant to enable me to do so, as Begonias are not plants that will bear a journey of 450 miles before being placed on the exhibition table. A word as to its culture, which is of the easiest. The tubers are potted about August, when they will no longer remain dormant, and are placed in an ordinary span-roof greenhouse where Nerines and various other plants flower, and there they have been in blossom since early in October, and will continue some time longer, judging by the accession of flower-stems to follow, J. T. Bennett-Poë."

A NEW PHASE IN HORTICULTURE.—A correspondent of the *Times* calls attention to what he calls a "totally new departure." Naturally curious to know what this could be, we read on to find that the new departure consisted in retarding instead of forcing certain plants. Nothing very new in this, surely. The application of the practice on a large scale to the Lily of the Valley has resulted in an average of 95 per cent. of flowers from the end of autumn up to Christmas, instead of 50 per cent. obtained by forcing.

THE THAMES EMBANKMENT.—The "laying-out" of the enclosure, east of Charing Cross Station, has been unsatisfactory from the first. The recent erection of the band-stand made things worse—the dotting of some miserable Euonymus on the green lawn seemed to show how little the planter valued the effect of space and "repose" afforded by the turf; and now, quite recently, some flower-beds of the most extraordinary and meaningless pattern have been carved out. There is plenty of time to alter these, and perhaps something may yet be done to improve the general disposition of the lawn, and render them appropriate to the outlines of the enclosure.

"A HISTORY OF GARDENING IN ENGLAND,"—The Hon. ALICIA AMHERST's work under this title

has been published by Mr. QUARITCH, of Piccadilly. This is not a book to be dismissed with a mere mention. It is a standard book, likely to become classic. We hope shortly to give a notice of the book at greater length than we are now able to do.

STOCK-TAKING: NOVEMBER.—Once again the trade and navigation returns bring us pleasant news. The imports and exports for the past month of November are greatly in excess of those for the corresponding month in 1894, and the eleven months' totals are also a cheerful contrast to the figures set down for comparison in last year's record. The excess of imports for the past month is £3,737,012; for the eleven months just finished the increase is £4,320,557, as compared with last year's record. The usual extract from the monthly summary is as follows:—

IMPORTS.	1894.	1895.	Difference.
	£	£	£
Total value of imports	35,234,149	38,971,161	+3,737,012
(A.) Articles of food and drink—duty free	11,519,298	12,958,182	+1,438,884
(B.) Articles of food and drink—dutiable	2,499,605	2,602,113	+102,508
Raw materials for textile manufactures	6,835,644	7,700,372	+864,728
Raw materials for sundry industries and manufactures ...	3,683,795	4,103,954	+410,159
(A.) Miscellaneous articles	1,489,780	1,485,178	-4,602
(B.) Parcel Post	66,420	83,461	+17,041

It is worth noting that, with the trifling fall of £4,604 under the heading of "Miscellaneous," the increase extends to every section into which the returns are divided—what is "minus" in fruits and vegetables being made up in other sub-sections of the duty-free articles of food. It is long since such a state of things was placed to the credit of imports. A second great scheme of road construction will shortly be carried out in European Russia, under the special supervision of the Department of Roads and Bridges—to connect producer and exporter.

We fancy that Parish Councils could be made of immense use in bringing small growers, as well as others, into complete touch with all consuming centres. It is fair to note here that the Board of Trade officials appear to be in earnest respecting help in the matter of light railways—the President of that department, together with an engineer of repute, having been on the Continent studying the system preparatory to setting to work on existing materials and Parliamentary action. As to our usual extracts on the imported fruits, roots, and vegetables, we give the following:—

IMPORTS.	1894.	1895.	Difference.
Fruits, raw:—			
Apples bush.	1,179,595	589,721	-589,874
Cherries ... .. "	...	...	...
Plums "	1,535	320	-1,215
Pears "	59,331	22,456	-36,875
Grapes "	100,694	138,668	+37,974
Unenumerated "	58,768	45,933	-12,835
Onions "	597,601	609,388	+11,787
Potatoes cwt.	151,605	81,181	-70,424
Vegetables, raw, unenumerated value	65,551	71,856	+6,305

It will readily be observed that "minus" has it—our, rather the British producer. It would be pleasant to record some new industry in connection with Apple production; possibly that will come in time. The disposal of this fruit in Brittany seems beyond the powers of railway companies; there Apple-waggons line the roads to the railway station, often seeking in vain for carriage, sometimes waiting for a day or two until the goods' entrance opens to them. The wonder is expressed as to whether there will be any reduction in the price of cider in the cider-consuming districts of France. There does

not appear to be any boycotting of that industry on the other side of the Channel, as reported for this country by your correspondent, "E. C.," in a recent number of the *Gardeners' Chronicle*. And now as to our—

EXPORTS.

These foot up for last month the handsome total of £19,540,333, or an increase of £1,457,246 over the total for November last year. There are decreases in the value of live animals, in raw material, and machinery; but the total is not very great. The increase in the eleven months just now ended is put at £8,295,982. With a good surplus in the Exchequer, and a settlement on the American money question, we can afford to look ahead with confidence. Notwithstanding the import-duty of 7s. per ton on coals entering Russian ports, it would seem that the demand for Russian coal has not been increased, or the consumption of the English article reduced. By-and-by, when the promised roads are made there may be a reduction in the cost of the native article. In conclusion, it may be noted that complaints continue to be sent in by our Consuls as to the picking up of some of our trade by "the foreigner," who is keen to note exactly what is wanted in foreign countries, and sends it out. We require an extension of our system of technical schools; we have done pretty well, but very much more is required; and it is about time that the once much-talked-of Imperial Institute should give more reason than it now does for its existence.

DUNDEE CHRYSANTHEMUM SOCIETY.—The annual meeting of the Dundee Chrysanthemum Society was held on the 5th inst., Mr. D. STOBBER in the chair. The Secretary (Mr. W. P. LAIRD) in his report referred to the question of obtaining a Corporation Cup for competition at the annual exhibition of the Society, and said though the request which had been made to the Council had been refused, he had hopes that they would yet have a Corporation Cup. The Treasurer (Mr. D. CROLL) reported that the expenditure for the year was £66 9s., and that there was a debit balance of £6 10s. 8d. They had, however, £27 4s. 1d. still at their credit. The deficiency, he explained, was accounted for by the state of the weather at the annual show, which brought about a reduction in the admission money. The reports were then adopted, and office-bearers for ensuing year elected.

CHEBHUNT, WORMLEY, AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.—The usual fortnightly meeting of this society was held on Thursday, Dec. 5, at Turnford, upwards of a hundred members being present, H. N. BUSBY, Esq., presiding. The secretary, Mr. W. L. YATES, having read the minutes of the previous meeting, Mr. WILLIAM HARRISON, of the Turnford Hall Nurseries, delivered an instructive lecture on "Grape Growing for Market," dealing exhaustively with the subject, including the early history, introduction of the Vine to this country from Asia Minor; propagation, grafting, planting, manuring, fertilisation of the flowers, and the entire routine of cultivation under glass of all the more popular varieties of Grapes. The methods of packing for rail and Covent Garden market were fully described and illustrated. At the close a discussion was initiated. On the motion of Mr. W. H. MILES, seconded by Mr. ROLFE, a hearty vote of thanks was accorded Mr. HARRISON for his lecture. The next meeting will be held on Dec. 19, when Mr. W. CASLEA will contribute a paper entitled "Bee-keeping, and its relations to Horticulture."

THE PEOPLE'S PALACE HORTICULTURAL SOCIETY.—A meeting of the Committee took place at the People's Palace on the 7th inst., Mr. E. SHEA in the chair. A very encouraging report was received from the judges who made the awards to the greenhouses in October last, they having made an inspection of nearly forty in the East End, and they reported that the houses, although mostly of home construction, were clean, and the condition of the plants generally satisfactory. The Chrysanthemum show held on Oct. 31 and two following days,

entirely consisted of plants and cut flowers shown by members; and the excellent quality seen in many of the plants and blooms was very gratifying. It was resolved that three exhibitions be held in 1896—a spring show on March 26, 27, and 28; a summer show on June 25 and two following days; and the Chrysanthemum show at the end of October, or during the second week in November, a date to be fixed later on. A series of monthly lectures of an elementary character has been arranged, and a monthly meeting of members also, at which they will be invited to contribute plants, &c. It was also reported that the spring and autumn shows had proved financially successful, but there was a small loss on the summer show, owing to the stormy character of the weather during the time it was open. It is also in contemplation to attempt some modification of the thickly populated areas known as congested districts, though great difficulty is experienced in accurately defining the same. It may be stated that the society supplies its members with bulbs, seeds, &c., at cost price, and to the most needy cuttings are supplied free of cost as far as they can be obtained. The subscription of the members is quite small, but donations from various ladies and gentlemen greatly assist the committee in their work. A cordial vote of thanks was given to Mr. SHEA for presiding.

— On Saturday evening last Mr. J. W. SANDERS, the editor of *Amateur Gardening*, gave a popular and interesting lecture on "How Plants Grow," before a very large audience of members and friends of the People's Palace Horticultural Society, Mr. RICHARD DEAN, the horticultural adviser of the society, presiding. The lecture, which was purely extempore, and delivered in an easy, conversational style, was illustrated by a number of diagrams. The greatest interest was shown in the subject, and at the close of Mr. SANDERS' address, many questions were put to him, and an enthusiastic vote of thanks was accorded to him. The next lecture will be by Mr. RICHARD DEAN, on "Dried Flowers for Christmas Decoration."

"THE AUTOCAR."—This is a new journal, published by ILIFFE & SON, Coventry, and 3, St. Bride Street, Ludgate Circus, E.C., in the interests of the mechanically-propelled road-carriage. In these pages the superiority of automatic carriages to those moved by horse-power is warmly urged. There are illustrations showing various self-propelled vehicles, and whether or not these are ever largely used in our streets, they are at least appropriate in certain instances. The *Autocar* does not deal with any special make of vehicle, but with all driven by machinery, whether carriage, waggon, tram, or bicycle, and whether the motive-power be afforded by steam, electricity, hot-air, or petroleum.

AUSTRALIAN FUNGI.—From the Department of Agriculture, Victoria, comes a systematic arrangement of Australian fungi, by Mr. D. McALPINE. The volume consists of a series of tables, containing condensed information, names, authorities, habitats and characteristics of the several species, which should prove most useful both on account of the importance of the subject treated of, and the clearness with which the information concerning it is here given. The author includes in his treatise a "host" index, and a list of works upon the subject.

APPLES IN PARIS.—The glut of Apples from Normandy is so great that prices have fallen to a very low figure. It is many years since the crop of Apples in the province has been so large, and the cultivators are at a loss what to do with this superabundance. Some of it might be made into cider, but not every variety is fit for that purpose.

MOSS LITTER AND PEAT INDUSTRIES, LTD.—A company (headquarters, 32, Queen Victoria Street, E.C.) has been started which bears the above title, and has for object the introduction of fabrics made from moss litter and peat. It has been discovered that from these materials not only a valuable absorbent antiseptic wool for surgical dressings can be made, but also textiles of various grades, ranging

from coarse blankets to the finest cloth. Another property possessed by peat is that, when submitted to certain preparatory processes, it becomes hard as iron, and takes a good polish. Under yet other treatment it can be developed into tough white paper. These several valuable uses for a raw material hitherto comparatively neglected, have already met with considerable appreciation, and optimists hope that (largely through the intervention of this company) Ireland may in the immediate future reap substantial benefit from her stores of yet unworked treasure.

EUCHARIS GRANDIFLORA (syn. *E. amazonica*).—Mr. OSMAN sends us from Brentry Gardens, Westbury-on-Trym, a fine photograph of this plant, which shows how well the plant is grown in that establishment. The photograph shows twenty plants bearing about 1000 flowers—the third crop this year. Had we not already figured five specimens of this plant, we should have been tempted to reproduce the illustration with which Mr. OSMAN has kindly furnished us.



FIG. 119.—SEED-BEARING SHOOT OF CEPHALOTAXUS PEDUNCULATA: SEEDS BERRY-LIKE, OLIVE-COLOURED. (SEE P. 717.)

THE YORKSHIRE COLLEGE, LEEDS.—The Department of Agriculture of this College, which is affiliated to the Victoria University, has published its fourth annual report, which is of a most satisfactory character. In addition to the two years' training, the College provides for special lectures in the country districts on horticultural and agricultural subjects, the attendance being, generally speaking, good; in some cases the average attendance was as many as 350. Some of the villagers—a minority we are glad to see—"refused to try to learn anything."

TECHNICAL HORTICULTURAL INSTRUCTION.—That excellent gardener, Mr. J. CROOK, of Forde Abbey Gardens, Chard, occasionally places his services at the disposal of the Somerset County Council, and has just recently completed a course of garden lectures at Crewkerne. His syllabus seems to have been a comprehensive one, as it includes two lectures on fruit culture, dealing with hardy trees, such as Apples, Pears, Plums, &c., and also with bush and ground fruits. Two lectures were devoted to vege-

table culture, including the most prominent crops, one to the preparation of the soil, manuring it, &c., and one to flowers and their culture. Such a course as this may well be given in many localities, for there is ample room for wider instruction in even elementary gardening.

SCOTTISH HORTICULTURAL ASSOCIATION, EDINBURGH.—One of the largest meetings of the above society gathered at their rooms, St. Andrew Square, on Tuesday evening, the 3rd inst., when Mr. MALCOLM DUNN read a paper on "Gardeners and their Employers," as given before the Royal Horticultural Society. The paper was well received by the members, and a discussion generally agreeing with the points laid down by the writer followed. After the reading of this paper, the treasurer, Mr. ALEX. MACKENZIE, stated that although the unfortunate weather might have been expected to reduce the financial success of the last Chrysanthemum Show, the balance in hand proved to be considerably over £100. Mr. D. MURRAY, the president, occupied the chair, and a motion of giving the usual subscription of £5 each to the Gardeners' Orphan Fund, and to Edinburgh Infirmary, was received with general satisfaction.

VICTORIAN FRUITS.—It is not very much that our friends in the colony of Victoria can send us, but what they forward is picked and sent on in as good a condition as that sent by most other senders—the quality being of a high order. It is, therefore, satisfactory to be able to state, on the most trustworthy authority, that, the accounts being made up, a fairly remunerative profit has been found to result from the venture. This is the more satisfactory because continued efforts after improvement will most assuredly follow, which but a few years hence will be pleasingly illustrated in our principal markets.

FRUIT-GROWING IN BRITISH COLUMBIA.—There is not nearly enough fruit-trees grown in the State to meet the home demand, and most of the trees planted were imported from Oregon and Washington, or from the Eastern States and Ontario. This is not because good nursery stock cannot be produced; on the contrary, as fine trees can be grown there as in any part of the world. Pears are not so satisfactory as other hardy fruit trees. Here there is an opening for gardeners, small or large capitalists, and others in need of an outlet for their money, experience, and energy.

PROSPECTS IN NATAL.—The completion of the Transvaal-Natal Railway has undoubtedly opened up a fair prospect for those connected with the land and its products in Natal. The railway runs from Durban through the Transvaal, and it is believed that all vegetables and fruits grown in the British colony will find a ready sale in the land of gold and diamonds. The Government Agent in London informed us the other day that a Natal farmer's agency is on foot, to which farmers can submit their produce with the knowledge that a sale will be effected in a business-like manner, and with the certainty of prompt payment." He also stated that the fibre industry is receiving attention in Natal. Arrangements are being made that some 500 acres shall be planted with Agave in the lower Umzimkaba district. All this looks as if the colony was waking up, and just at the right time.

HOOKE'S "ICONES PLANTARUM."—This publication, though severely botanical, frequently contains references to plants which are probably destined in the future to become of horticultural importance. The last issued part (vol. v., part 1, November, 1894), contains figures and descriptions of several new Dipterocarps, by Sir DIETRICH BRANDIS. *Petrocosmea grandiflora*, Hemsl., a Western Chinese Gesneriad, is a charming little tufted plant with much of the habit and appearance of *Saintpaulia ionantha*, but the leafstalks are longer than the blade, not to speak of other characters. The flowers are described as cobalt blue. It should be looked after by our collectors when they have

time to look after something besides Orchids. Dr. STAFF describes several new Melaatomads, some of which must be worthy of introduction. Mr. BAKER describes and figures (t. 2423) a curious little Aloe from Natal with linear spotted leaves, margined with small whitish spines.

NEW GARDEN PLANTS OF THE YEAR 1894.

—As an appendix to the *Kew Bulletin* has been published, an alphabetical list of plants newly-introduced into British gardens, compiled from the several horticultural journals of Europe, and from some of the nurserymen's catalogues.

spoken of by M. Rodigas, *Bulletin d'Arboriculture, &c.*, November, p. 337.
 POLYGONUM BALDSCHUANICUM, Regel, *Le Jardin*, p. 231, 1895.
 RICHARDIA PENTLANDI, *Garden*, November 2.
 RIVERS' TRANSPARENT GAGE, *Bulletin d'Arboriculture, &c.*, November.
 ROSE MARCHIONESS OF LONDONDERRY, H.P., *Rosen Zeitung*, September, 1895.
 ROSE MOSELLA, § POLYANTHA, *Rosen Zeitung*, September, 1895.
 SACCOLABIUM AMPULLACEUM, *Lindenia*, t. CDLXXXV.
 SELENIPEDIUM DALLEANUM, André, *Revue Horticole*, December 1; see also *Kew Hort.*, 1895, p. 151.
 VANDA PARISHII VAR. MARRIOTTIANA, Rehb. f., *Lindenia*, t. CDLXXXVIII.
 VILLARSIA NYMPHÆOIDES, *Garden*, October 19

rally upturned, and this not only when the flowers are being produced, but also on the sterile branches, so that the two rows of leaves thus form a trough along the upper side of the branches. The individual leaves do not greatly exceed 1 inch in length, and are about $\frac{1}{2}$ inch in width, almost perfectly linear and straight-sided, rarely falcate, abruptly pointed at the tip, rounded at the base, with a very short petiole. The male catkins are stalked, each stalk immediately after its origin in the axil of the leaf being abruptly bent downwards out of the way of the leaves. The stalk of the male catkins is about $\frac{1}{10}$ inch long, about the same length as the minute globose catkins themselves, and covered with overlapping ovate acute bracts which pass into the scales of the catkin. The scales of the terminal leaf-bud of the shoot are almost all distinctly acuminate. The seed-bearing peduncles in the native specimens are approximate, and the terry-like seed itself ovoid. We have a rough sketch of the seed of this plant, derived probably from the garden of the late Sir Frederick Pollock, at Hounslow. It is ovoid, and rather pointed at both ends, smaller than in *pedunculata* proper (see fig. 119). In Japan, where it is often cultivated, it is said to form a spreading tree of small stature. No Chinese specimens are in the Kew Herbarium; but Messrs. Veitch in their *Manual*, mention it as having been discovered in North China by Mr. Fortune in 1849, although Fortune does not mention it in his communications on the subject in this journal, and we suspect his plant may have been the true *C. pedunculata*."

Van Tieghem (*Bull. Soc. Bot. France*, 1891, April 24, p. 184), points out a character which is peculiar to this genus, and that is the existence of a resin-canal in the centre of the pith. This character is so easily observed that it is useful to the gardener, who can thus without seeing flowers or fruit, immediately ascertain whether he has a *Cephalotaxus* to do with by cutting a small portion of a branch and observing whether there is a resin-canal in the centre. On a cross-cut the canal, of course, presents the appearance of a blackish dot in the centre of the pith.

NOTICES OF BOOKS.

INSECTS AND INSECTICIDES. By Clarence Weed, D.Sc. (Kegan Paul, Trench, Trübner, & Co.).

This is a second edition of a book that has already received favourable notice in these columns. It is written by an American professor, but much of it is applicable to the old country. Here, however, we are exceedingly slow to adopt the methods recommended by experts; perhaps because it is feared that the trouble and cost would be excessive as compared with the value of the results. But how can we know this without experiment? Whilst the United States, and even European countries, can count; experiment stations by the score or by the hundred, we in this country should have a difficulty in employing the fingers of two hands in computing the number of similar institutions, nor have we a single State entomologist.

AGRICULTURE: PRACTICAL AND SCIENTIFIC. By James Muir. (Macmillan & Co.).

This is an introduction to the study of the principles of agriculture, and gives much serviceable information as to the application of these principles to practice. We find many details given as to the nature and use of manure and sewage, which the reader has usually to disentangle from voluminous treatises. Manures as at present used are employed wastefully, because they are "sown" or dug in at stated times by the calendar, rather than in accordance with the needs of the plant at different periods of its growth, and in relation to the local and seasonal conditions. During the greater part of its existence, water forms the best manure (if we may so call it) for plants. The stimulant and nutritive substances which constitute manures are only required in relatively small amounts, and at particular stages of growth only.



FIG. 120.—CEPHALOTAXUS DRUPACEA. A, B, SECTIONS OF SEEDS; C, LEAF.

PLANT PORTRAITS.

ALLAMANDA VIOLACEA, *Revue de l'Horticulture, Belge*, December.
 BEGONIA MRS. JOSEPH ELIAT, flower red, striped and marbled with white, *Australian Horticole*, November 15, t. 45.
 CATASETUM STUPENDUM, *Cogniaux Lindenia*, t. CDLXXXVII.
 EULOPHIA CONGOENSIS, *Cogniaux Lindenia*, t. CDLXXXVI.
 LILIUM BIONDI, sp. n., Baroni, *Nuovo Giorn. Bot. Ital.*, November, 1895, t. viii.
 LILIUM CHINENSE, n. sp., Baroni, *Nuovo Giorn. Bot. Ital.*, November, 1895, p. 333, t. vi.
 LILIUM SULPHUREUM, Baker (*Bot. Mag.*, 7257), *Revue Horticole*, December 1.
 NYMPHÆA MARLIACEA IGNEA, Hort., *Garden*, October 26.
 ODONTOGLOSSUM CITROSUM, *Revue de l'Horticulture Belge*, December.
 PENNISETUM RUPPELLIANUM, an ornamental grass, bigly

CEPHALOTAXUS DRUPACEA.

We are glad to have the opportunity of figuring the fruits or rather berry-like seeds of *Cephalotaxus drupacea* kindly forwarded to us by Mr. D. Crombie, from the garden of Lord Powerscourt. The seeds as here figured, taper at each end, and towards the base are narrowed into a neck-like process unlike anything we have yet seen in the genus. As to the plant itself we may recall what was said in these pages on January 26, 1884, p. 113.

"*C. drupacea* (fig. 120), in British gardens is the dwarfest form, forming a low bush with greenish-yellow shoots and leaves. The latter are very gene-

Gardeners, in their management of plants under glass, understand this better than agriculturists do, but it is, of course, an easier matter for the gardener than for the farmer to regulate the amount and to time the application of manure; but making all due allowance, the farmer might learn a good deal from his brother in the garden.

THE POTATO IN FIELD AND GARDEN. By W. J. Malden. (London: W. A. May, Mark Lane Express Office, 150, Strand.)

"The introduction of better varieties of Potatoes, the adoption of more economical methods of dealing with the crop, the discovery of means for keeping in check diseases of plants, have made Potato growing an art which can only be successfully carried out where the farmer or gardener is abreast of the times with regard to information on all these points, as home and foreign competition are very strong. The want of a more perfect knowledge in individual cases causes a very large portion of the crop to be grown unprofitably. Those who thoroughly understand the subject, and cater for the best markets, find it a profitable business, although they may not be otherwise better situated than their less successful neighbours." With the sentences just quoted this little book opens. They at once attract our sympathy, and we turn to the succeeding pages to see to what extent the author acts up to his own standard. The investigation is so satisfactory that we may class this as one of the best books on the subject, and in some points the information it contains is more varied and more "abreast of the times" than in any work of similar character that we can recall. The work under notice is divided into ten sections, the first of which deals with the crop generally, including its introduction into Europe, new varieties, &c. Other sections deal with soil, planting, manuring, seed varieties, treatment during growth, diseases of the crop, digging Potatoes, and the cost and feeding value of the crop.

We are disposed to think our author under-estimates the value of high mounding, as recommended by Jensen for the mitigation of the effects of the Potato disease. We have no experience of this as practiced on a large scale, but for small gardens and for cottagers we should recommend the system as preferable to the use of the Bordeaux Mixture. It is much more manageable, cheaper, and equally, if not more, efficient. Another advantage it has is that where this plan is practiced, the rows are not placed so near together as usual, nor are the plants in the rows so close. Of course, a good deal depends on the habit and mode of growth of the variety, but in any case the greater the space between plant and plant, the less is the risk of infection.

HANDBOOK OF WEST AMERICAN CONE BEARERS.

Mr. J. G. Lemmon, who has had such excellent opportunities for studying the Californian Conifers in their native haunts, and whose zeal and enthusiasm have enabled him to turn them to such good account, has published a pocket edition of his descriptive notes on the Conifers of north-west America. It is an excellent little book, illustrated by small photographs. It is written more especially for those who are not botanists, and an attempt is made to introduce good English names in place of Latin designations. We sympathize with Mr. Lemmon's aspirations, but we cannot congratulate him on the success of his attempts. To us it appears that such names as "Evergreen fasciculars," "Broken cone Lumber Pines," "Pendent fruited Pendentia," "False Hemlock Spruces," "Erect-fruited Solitaires," are no improvements on the more terse Latin epithets. People who are really interested in botany soon cease to find the language an impediment; it is not worth the trouble to coin new words for those who care for nothing save external, so far as plants are concerned. The present little book may be had from the author, Telegraph Avenue, North Oakland, California.

IRRIGATION FARMING: A handbook for the practical application of water in the production of crops. By Lute Wilcox; 95 illustrations, 312 pages. (New York: Kegan Paul, Trench & Trübner.)

The author of this work is a practical man, who has spent the greater portion of his life in irrigation work, and is a recognised authority in the United States on the whole subject of irrigation from a practical standpoint. The new manual contains twenty chapters and ninety-five illustrations. This book is primarily written for and adapted for western farmers and farms, but is equally valuable to farmers in the south and other sections of the United States, and other countries. It is divided into twenty chapters, each of which is a condensed treatise on its special topic. The concluding portions of the book give a review of the common law of irrigation, and a glossary of irrigation terms. The other chapters are devoted to the consideration of the following topics: Advantages of irrigation, relation of soils to irrigation, treatment of alkali, water supply, canal construction, reservoirs and ponds, pipes for irrigation purposes, flumes and their structure, duty and measurement of water, methods of applying water, irrigation of the garden, irrigation for the orchard, the vineyard and small fruits, alfalfa, windmills and pumps, devices, appliances and contrivances, sub-irrigation and sub-soiling.

The book is, as we have said, specially adapted for certain portions of the United States, but it will be very serviceable in many of our colonies and in India, on which account we recommend it to the notice of our colonial readers. The practical details of construction, &c., will be found very serviceable.

For greenhouses a plan is adopted of having raised beds in which rows of 2½-inch drain tiles are placed at about 18 inches apart, and at a slight slope, so as to ensure a sufficient fall and obviate stagnation. The lower ends of the pipes project beyond the bed, so that they can be closed during the time that the water is being poured into the pipes at the other end, and opened after a time to allow of the passage of the surplus water. This plan also admits of the aeration of the soil. Whether the pipes would not soon get blocked with roots is a matter to be determined, but if they did, the evil could be remedied without much inconvenience.

ANALYTICAL KEY TO THE NATURAL ORDERS OF FLOWERING PLANTS. By Franz Thonner. (Stam, Sonnenschein & Co.)

A series of tables intended to facilitate the detection of the several natural orders of plants by the student. To us they seem more likely to be useful as furnishing hints to an expert. For instance, it is very misleading to a beginner to cite as the characters of Passifloræ (see p. 113), "Stamens 10; ovules parietal. Shrubs or trees. Juices milky. Calyx 5 lobed. Corolla-lobes valvate, rarely contorted in aestivation." The best way for a student is to frame such tables for himself.

THE HIPPEASTRUM.

THESE are now dormant, and at such time ordinary cultivators are apt to be forgetful of them. Hippeastrums should gradually pass into the resting period in September; and again attention is needed that they be not dried off too rapidly, or air and light admitted too freely. Even during growth the Hippeastrum must have a light shading from bright sunshine, and a moderately high temperature of 65° to 70° as a minimum, and a rather moist atmosphere. Just as the temperature is gradually increased when starting the plants, so also must it be gradually decreased to rest them. The water may be withheld altogether as soon as the leaves take a yellowish tinge.

At present the plants are quite dry at the roots, and they have been removed from the tan, where the roots had ramified all through the plunging material. We have carefully examined every bulb to remove

the dried outer coatings, with any insect pests that may be hidden amongst them; and as a further precaution, the crowns are dusted with tobacco-powder. This kills thrips and the mealy-bug, if any are present. Air should be admitted freely by day, and the heating apparatus must be used to dry up damp, which may be injurious to them. No time should be lost in getting the potting-soil ready. I like to have such soil mixed at least six weeks before using it, so that the manure may in some degree be absorbed by the loam; and good compost may consist of about two parts of good yellow loam to one part light fibrous peat, and one part of decayed stable-manure.

The potting of the plants should take place towards the end of January. The bed where they are to be plunged should have been previously prepared by mixing some fresh tan with the old material, and at the time of potting the bulbs it may be 85° to 90°. Plunge the pots to the rims, as they are potted. Repotting must be done carefully, and over-potting avoided. The largest bulbs are about 6 inches in diameter, and these are potted in 24's or 8-inch pots.

Good flowering bulbs may be put in pots 4½ to 5 inches diameter. The pots should be washed and well drained. In preparing the bulbs for potting, all the old material must be removed, and the base of the bulbs examined. The roots grow in a circle round the base of the bulb, leaving the centre of them quite bare, and there is usually a film of dried skin covering this. Remove the skin to see if there is any decay underneath, and if any be present, cut it away and dust the wound with quicklime, pressing it in with the fingers. The bulbs should be placed on a cone of mould, with the roots hanging down the sides; press the soil firmly amongst them, finishing off with the bulbs about half covered. Some sand ought to be mixed with the compost, and a little ought also to be sprinkled on the surface of the soil. *J. Douglas.*

NURSERY NOTES.

WILL TAYLER'S, HAMPTON, MIDDLESEX.

IN the varied outside department of nursery work and experience, none is more replete with interesting details and information than the fruit-tree department, where this is a specialty. Visited late in the autumn, say till the end of the month of October, much information may readily be gleaned that cannot fail to be of use to those contemplating fruit-tree planting. Amateurs especially learn much in this way, that it is almost impossible otherwise to obtain. In any fruit-tree nursery worthy the name there are to be found object-lessons by the score. The trees may be seen in all shapes and methods of training, and comparisons can be made of their behaviour on different kinds of stock. Moreover, if the visit be early enough, the cropping capabilities of the various varieties may be observed, a rather important piece of information for the beginner; while those who are past the elementary stage will find much to interest and enlighten. The past season I had the opportunity of looking through the fruit-tree nursery of Mr. Will Taylor, which is situated in what is locally known as the "Broad Lanes," Hampton, and for the cultivation of fruit trees and Roses occupies a very favourable position. It is known as the Osborne Nursery, and was some years ago a branch nursery of the late firm of Osborne & Sons, Fulham. Mr. Taylor has now been established here for the last twelve years or so, during which time fruit trees and Roses have absorbed much of his attention. His frequent contributions of fruit at the leading exhibitions are well known, and among these the autumnal show at the Crystal Palace is a notable instance. It is a feature of the nursery that many of the fruits attain to exceptional size, weight, and colour. As proof of this, some dishes of Blenheim Orange Pippin Apple were eagerly purchased by a leading fruiterer for the extraordinary price of 1s. a-piece, and this, too, in an abundant year. At

the same exhibition, a crowning fruit of a dish of Peasgood Nonsuch weighed exactly 22 oz. when gathered, while a similar fruit of Jubilee turned the scale at 17 oz. Admitting that the year has been favourable for fruit crops, one cannot help but notice in this nursery exceptional instances of fine colouring, such varieties as Bismarck, Fearn's Pippin, Gascoigne's Scarlet, Alexandra, Annie Elizabeth, and Crimson Queen being especially worthy of note on this account. The last named Apple is deep crimson in colour, and, as here seen, with the fruits coloured all over, is very handsome. Indeed, such varieties are valuable in the garden from an ornamental standpoint when they have such exceptionally high tints. An instance, quite the reverse, was to be seen this season in that over-praised American Apple, Newtown Pippin, which cannot be grown so satisfactorily, as can the varieties named in the open quarters. It is said to require a wall to grow it to perfection—by no means a recommendation for it, when one sees it side by side with the brilliant Blenheim Orange Pippin grown in Mr. Tayler's nursery. Reinette du Canada is highly spoken of, and the fruits fully endorse the high encomiums passed upon it. It is perhaps the largest dessert Apple, and valuable also as a late kitchen fruit; the latter are covered with russet-brown skin, has tender yellow flesh, of fine flavour, and it is withal a heavy cropper. Ringer is also a heavy cropper, and reliable; it is regarded as a mid-season fruit, and is good till Christmas; the flesh is sweet, requiring little or no sugar when cooked.

Space, however, will not permit of a lengthy enumeration of varieties, suffice to say that all the leading kinds are represented in good fruitful trees. Particularly noteworthy is the small size of the trees that have borne the brilliant-coloured and large fruits alluded to of Bismarck, Blenheim Orange, Peasgood's Nonsuch, and others; and this, with the ordinary cultural routine in such nurseries. For example, trees of Bismarck not yet three years old, and only about 3 or 4 feet high, were literally loaded with large and handsome fruits. And of many other varieties this is equally true. To amateurs with only a small area, these bush trees, fruitful in the year of planting, and occupying such little room, are great acquisitions, being readily pruned, sprayed, and the fruit gathered or examined.

Even market growers are planting the Apple in bush-form, as the fruits from them obtain the highest quality and fetch high prices. Quantities of Wellington, Damelow's Seedling, and Schoolmaster (acid flesh, fine quality, and late), Cox's Orange Pippin, as well as the early well-known kitchen varieties, are here in plenty, and represented by trees in the finest health, vigour, and fruitfulness. The soil throughout the nursery is light loam overlying gravel, is well drained and warm. Pears on the Quince are largely grown in all the leading varieties, and with equally satisfactory results. Roses of all sections are cultivated, and the plants for size and general goodness are all that could be desired. Bush fruits of all kinds in variety, trained trees in abundance, Figs, Grape-vines, and the like, are all grown to meet the constantly-increasing demand, and are alike noteworthy for their clean well-matured growth and general appearance. J.

HOME CORRESPONDENCE.

THE APPLE TREE IN SHRUBBERIES.—At p. 620, a correspondent "D. L. M." inquires, "Why should not the strongest and hardiest of our Apples be planted in the shrubbery, for nothing looks better in the spring, or could be more useful in the autumn." Your correspondent may be interested in learning that this has been carried out in Mrs. Fitzwygram's garden at Larkfield, Hampton Hill, the idea originating with Mr. Maurice May, the gardener, whose argument for doing so was, that if the beauty of the Apple blossom was realised in a shrubbery, we should not rest until all shrubberies were freely planted with the trees. But because Apple trees abound in our gardens, we are content that the shrubbery should remain crammed

full of Laurels, with hungry Poplars overhead, and with other subjects equally ornamental or useful. I believe, in this instance, that some little argument was necessary at first. As soon as the result was apparent, viz., the increased beauty and utility combined, Mrs. Fitzwygram gladly gave her permission to plant more of them, and as other trees become too large in the shrubbery they are taken out, and Apple trees planted instead. In many gardens where space is limited, it is scarcely possible to make the most of the kitchen garden if Apple trees are planted thickly; but by utilising the shrubberies and the margin of the lawn for the fruit trees, a mixed kind of garden is created that is by no means unpleasing, which proves advantageous to the owner and helpful to the gardener. Of course, a shrubbery should not be all Apple trees, any more than as now so generally a confused mass of various species of Laurel and dingy and rusty Conifers. What is sadly needed is, that a much larger percentage of beautiful deciduous flowering trees and shrubs should enter into the composition of the shrubbery than is the case at present. J. [With which opinion we cordially agree. Ed.]

NATIONAL CHRYSANTHEMUM SOCIETY.—What is really wanted is some information about "the suitable hall in a central spot," available for the exhibitions of the above Society. I am able to say that two years ago a special sub-committee was appointed to visit suitable places within a radius of a mile of the Westminster Aquarium, and found nothing that would afford half the space for staging and locomotion as that afforded on the floor of the Aquarium building; while the rent asked for such places as the Queen's Hall is something almost fabulous. Complaints of the unsuitability of the Aquarium appear as regularly every year as does the shortest day, but no alternative sites are suggested. I am sure, from what I know of the committee, they will readily consider any proposal of a practical and suitable nature, if placed before them. One fact is perhaps overlooked by "Mum," and others. A big Chrysanthemum show in November is now associated with the Royal Aquarium, just as the Cattle Show is with the Agricultural Hall, and is annually looked for as a London fixture. Should the National Chrysanthemum Society leave the Aquarium, it would not follow that the November show there would be discontinued; the managers of the building are keen business men, and know the value of such an exhibition, and would, no doubt, hold one, and they would do it on a scale that would dwarf out of all proportion anything the National Chrysanthemum Society would do elsewhere, apart from the subsidy from the Aquarium Company. This is an aspect of the question that I have no doubt is duly considered by the committee, but it is probably one which has not struck "Mum," and those who sympathise with him. One thing is quite certain—that, judging from the report made at the annual dinner, association with the Royal Aquarium does not prevent the rapid expansion on the part of the Society. Another Mum.

—Your correspondent, "Mum," *Gardeners' Chronicle*, p. 681, brings forth the old objection once more against the holding of the autumn exhibition in the Royal Aquarium. He finds all the fault imaginable, but he ends there, leaving to others the difficulty of finding an alternative place. Finding fault is one thing, suggesting improvements is another; why does he not name a better place? He half admits the fact that the Royal Aquarium is central, as it is for visitors and exhibitors alike, and the latter are surely entitled to some amount of consideration. "Mum" appears not to know that the whole of St. Stephen's Hall will be devoted to exhibition purposes next year, and this addition will make an enormous difference to the show, providing, as it does, so much extra space. Who knows, too, what other schemes the management may have in contemplation? Perhaps "Mum" will say where such a site as he has in his "mind's eye" will be found. B.

THE ROYAL HORTICULTURAL SOCIETY'S COMMITTEES.—I saw a note on this subject in the *Gardeners' Chronicle* for November 30. It may surprise some, but it is a fact, that many gardeners in the provinces seldom or never read the transactions of these committees, unless it be those of the Scientific Committee, which have a general interest, though the reports are far too meagre as a rule. Could not some process of devolution be attempted, and a wider interest aroused, by having a few sub-committees (with full powers), which would sit periodically at a

few centres in the provinces in England, Scotland, and Ireland, *en rapport*, of course, with the London Central? I merely throw out the idea, and the plan need cost very little if each committee paid its own expenses. My aim is to suggest some scheme by which the "Royal" could be brought into closer contact with horticulturists all over the country. Up till now I am not exaggerating when I say that we provincial men have not believed that all the "talents" were confined to London and neighbourhood, or all the good things either. The Royal Horticultural Society should "sit on circuit" like Her Majesty's judges. There would be no objection to the secretary of the Society, or some competent member of the Council, presiding at these meetings, but all the members would need to be local with a wide limit. At present we pay little attention, or none at all, to the committees' proceedings in London, and when we do, we discount their transactions on a liberal scale. Faith is weak. J. S. W.

CRABS IN THE GARDEN.—Some of your correspondents have recently been calling attention to the varieties of the crab as ornamental shrubs. To any one planting trees, say for an alcove or shaded walk, *Pyrus Malus floribunda* is a most desirable variety for the purpose. I have enclosed some fruits of the same. R. M., *Newbury*. [Our correspondent kindly sent several shoots of this variety loaded with the fruits, which are yellow in colour, and the size of those of the Whitethorn. Ed.]

GERBERA JAMESONI.—A good specimen of *Gerbera Jamesoni* has done well here in the open border for several years, though it has had no assistance at all from hot-water pipes. I think the plant is certainly larger than that of Mr. Lynch in the Botanic Garden at Cambridge, though the latter is the more floriferous of the two. I have always put a box with the top and bottom knocked out over the head of my plant, and this has been filled up with dry leaves to the top. I generally bid good bye to my *Gerbera* in November, and I see nothing more of it till the middle or end of the following May—though the leaves are all scraped away from it at the beginning of April. By the aid of the above simple precaution, this plant is manageable enough in the Isle of Wight; but if my circumstances were like those of Mr. Lynch at Cambridge, I should follow his plan, which I know to be a very good one. He has the advantage of a much larger crop of flowers than I ever get, but I esteem my plant to be a finer one than his. Which has the advantage, a plant which is grown in proximity to the hot-water pipes of a stove, or another which is favoured by the climate of the Isle of Wight? H. Eubank.

PLANTS FOR GAME COVERT.—I thank those of your correspondents who have replied to my query on the above (see p. 684). I assure Mr. Harrison Weir my question was *bona fide*, knowing that so few shrubs were free from injury by that enemy of tree of shrub growth—the rabbit. I was anxious to add to their number, if possible. As bearing on this subject, I may here mention a remark I have used to owners of estates and others for many years past, viz., "feeding rabbits on growing tree and shrub bark is only comparable in extravagance to using new £5 Bank of England notes to dish up *entrées* at a dinner party." However, this is by the way; rabbits are, and will be, kept for sport on most, if not all, properties where woods and plantations exist, and it is the duty of those interested to find out what shrubs are useful for covert are the least injured by them. I do not think *Rosa rugosa* fairly comparable as to its spines with the wild Dog Rose. I hope I have too much feeling for both man and beast to think even of making large plantations of the Dog Rose for covert. *Rhododendron ponticum* is a well-known covert plant, mainly free from injury by rabbit. Those of us who are situated on the limestone formations know, though, that it will not grow freely enough for that purpose. In most cases, it merely exists. In reply to Mr. Pope, I may mention, that with us English Yews, Hardworth broad leaved, and the ordinary Tree Box, are the only evergreen trees free from injury. Amongst deciduous shrubs, *Spargelia* in variety, flowering Currants ditto, Persian Lilacs, Dog-wood, Snowberry, and Elders are not injured. The latter in particular is never touched by rabbits, even in the hardest winter, and where they are very numerous. H. J. C., *Grimston Gardens, Tadcaster*.

RABBIT-PROOF PLANTS.—Mr. Pope (p. 685) asks for the names of these, and I intended sending a note on the subject some time ago. As last winter was so exceptionally severe, with the ground covered by snow for several weeks, and the woods unfortunately full of

rabbits, a remarkably good trial was afforded. The conclusion I arrived at is that no plant ordinarily grown in woods is proof against attack in a severe winter with one exception, viz., *Rhododendron ponticum*—a plant which thrives here in the natural soil, a stiff clay, and is grown in large masses, some of the plants running up from 12 to 16 feet, and it abounds in all sizes, from tiny seedlings upwards. The rabbits were so pressed for food that they died by hundreds, although fed with hay, &c., but in no case did they nibble the *Rhododendrons*. As regards the liability of other plants to be attacked, I place them in the following order, starting with those which received the least injury, but several of them are about equal in that respect. Yew, Holly, Portugal Laurel, Common Laurel, *Berberis aquifolia*, Privet, Ivy, of this last they ate every leaf obtainable, and in one instance climbed a broken tree 4 feet, and walked along it 26 feet, at a distance of 4 feet above the ground; they also climbed to the top of stacks of green faggots put up on end, and cleared off the bark and young twigs, and large branches of Beech 1 foot in diameter were barked clean by them. So many died of poisoning by Yew and other herbage, that it was not safe to take the foxhounds into the woods after the frosts was over, as they ate the dead rabbits and became ill in consequence. All this tends to show the immunity of *Rhododendron ponticum* from injury; and where it will grow I consider there is no plant its equal for covert planting—its beauty in spring when in flower is well known, and appreciated. Hybrid *Rhododendrons* are not so safe from attack here, possibly because they grow more slowly, and rabbits have a remarkable tendency to attack anything recently planted, or standing in an isolated position, as choice things often do. *W. H. Divers, Belvoir Castle Gardens, Grantham.*

THE IMPORTATION OF HORSE RADISH.—I was very pleased to read your article on this subject in the last week's issue. Mr. Mason's facts cannot be too widely known. Horseradish nowadays has no flavour or pungency. One seldom meets with any now at restaurants, hotels, or green grocers, but what one could eat a dish of, comparatively speaking, without tasting the old Horseradish flavour of one's youth. Then all was English-grown; and the secret is one of cheapness of production. The foreign roots are cultivated in a most inexpensive way, and are sold at a lower price than the cost of production is here. I wonder Mr. Mason did not explain the difference in the style of cultivation in England and in Holland, where most of this tasteless stuff comes from. I also wonder that he and other English growers do not cultivate the root in the cheap way the Dutch do, seeing that the British public prefer cheap and tasteless roots. In Holland they plant in April, the snags, or long thin rootlets at the base of every old root, about 8 or 9 inches apart each way. These enlarge during the summer growth, and being dug up in November, form the article sold as imported roots (an old root enlarged). English cultivation is very different, and much more costly. The crowns of large roots are cut off about 4 inches in length, and planted in February, I believe about 1 foot apart in the rows, 2 feet from row to row, and 1 foot deep. Each crown is worth a penny, which, together with the amount required for labour, entails a cost of about £60 or £70 per acre for planting only. The planted crown throws a shoot up to the surface of the ground, which enlarges to about the thickness of the parent crown; and in November, when the growth is finished, trenches are dug between the rows, and the new growth of 1 foot cut away from the old crown below, and the article sold by English growers, being a new fresh-grown root, full of flavour, and not a piece of old tough root enlarged. The imported roots come over packed tightly in enormous barrels, and anyone may know them in the shops; they are dirty-looking, and have a little leaf green and bleached in the barrels. English-grown roots look much fresher and cleaner, and have a little tuft of green leaf just beginning to grow on the crown. Any one who tries the English roots against the Dutch will soon detect the difference in the flavour and strength; and while he is tasting the English, he will "weep" to think he ever bought or encouraged the foreign root. *Alfred Watkins Cromwell House, Twickenham.*

CHRYSANTHEMUM, M. CHENON DE LECHÉ—The engraving in last week's *Gardeners' Chronicle*, p. 684, represents this charming variety in its true character. It is without doubt one of the best of the many new varieties introduced during the last few years. The

colour is so distinct from any other, and so pleasing, that it is sure to find many admirers. I saw the blooms staged at the Royal Aquarium Show, and at Hall too it was a prominent feature in Mr. Wells' stand. I regard this Japanese as one of M. Calvat's best introductions, and one that will find favour wherever seen. *E. Molyneux.*

GAS-LIME.—I can assure your correspondent, "R. D.," that gas-lime, used in the fresh state, in the quantities I mentioned, and in the way directed in my Calendar in the autumn of the year, will be quite safe for him to recommend when lecturing. No ill-effects will be visible the following season; but instead, if good cultivation be given as well, the soil will not only grow good vegetables, but such as will take prizes. This I have proved for a number of years; and others who have seen the crops that I have grown will corroborate the statement. I should certainly not have recommended the use of fresh gas-lime without having fully tested it for years. *John Lambert.*

BEGONIA GLOIRE DE SCEAUX.—I find this useful free-flowering Begonia of great service for decoration at the present season and later in the year. The flowers of a soft pink colour contrast pleasantly with the rich bronze foliage. I usually propagate the plant from "eyes" in a brick heat like the Vine in the spring, inserting these in light sandy soil, and keeping the latter rather on the dry side till the roots have pushed, and when this occurs, shoot quickly appear above the soil; and the cuttings, if they are then carefully potted, become soon ready for hardening off and placing in a cold frame. The plants with ordinary attention do very well in cold frames throughout the season and make good plants by the autumn, at which season they should then be taken into a house or pit having a temperature of 50° to 55°. During the summer, manure-water should be frequently afforded to all the well-rooted plants. *H. Markham.*

LATE FLOWERING VARIETIES OF CHRYSANTHEMUMS.—Several of your correspondents have lately spoken of varieties of Chrysanthemums suitable for flowering at Christmas and later, but none has mentioned Princess Victoria, a variety which I consider the best of all for the purpose. This variety has a good habit, and, being a good grower, it makes strong compact bushes from 3 to 4 feet high, if stopped once in the spring; and the blooms are good, either on specimen plants, or, if not disbudded, as sprays. Last Christmas my only two plants were grown side by side with L. Canning and other late-flowering varieties, none of which was equal to it in usefulness or beauty. This year I have about thirty strong plants in 8 or 9-inch flower-pots, and they are just commencing to open their buds, and will be in perfection at about the 30th inst. I intend to discard Lady Lawrence in favour of Princess Victoria. I send a spray from the earliest plant for your opinion; also a spray of another variety named Florence Watson, an importation from Japan, which, I think, will make a good late white. *R. Watson, Elkington Hall, Louth.* [The blooms sent of Princess Victoria were of useful decorative size, white, with lemon-coloured centre, outer florets becoming pink with age. Apparently very free in blooming, but compared with L. Canning the blooms are less white. Should the habit of this one be better than L. Canning, the variety is doubtless of first-rate usefulness. Those of Florence Watson mentioned by our correspondent on sprays unthinned have broad, pure white florets, slightly incurved, young florets distinctly lemon-coloured. Some mistake appears to have been made in putting up this bunch, however, as the large blooms from thinned shoots are very deep, the florets are numerous, narrower, and fluted, and little trace of lemon in the centre. They are presumably two varieties, and the broad-floretted one is decidedly pretty. Ed.]

PEAR LUCY GRIEVE.—I was pleased to see the Pear Lucy Grieve figured in your last week's issue, and to read the touching lines in verse by a fond parent, now departed, in memory of his little daughter and her seedling Pear. Partly from the touching incidents connected with the origin of the Pear, I got a maiden plant of it a number of years ago, but it has never fruited with me. It is on the Quince, on which stock it is a weak grower, and evidently shy bearer. However, I am not yet without hope of seeing Lucy Grieve in fruit in *East Lothian.*

TREE-PLANTING AT EXMOUTH.—The inference to be drawn from your note (p. 650) respecting this

is, that the system has only but recently been introduced. Thanks to the generosity of the Lord of the Manor, many of our principal roads were planted several years ago, others were planted last season, and at the present time we have nice avenues of trees, principally Limes. I regret, however, to say that this autumn the public have taken the matter up, and very few Limes, or what, perhaps, would be more suitable, Planes, are being planted; and our beautiful esplanade—perhaps one of the finest in the kingdom—has been disfigured by being planted with a mixed collection of Horse-Chestnuts, Sycamores, Balsam, Lombardy, Black Italian, Silver, and other kinds of Poplars. The Chestnuts will certainly be a failure, for the situation is much exposed to the sea, and in gales they will get every leaf blackened. I may add, that since the trees were planted many have been beheaded to bring them into shape. It is a matter of regret that the Council were so ill-advised as to consent to the planting of such varieties, for it only brings street tree-planting into disrepute. *Exmouthian.* [The kinds named are not, perhaps, the best that could be chosen. Still, the only really unsuitable one is the Horse-Chestnut. Ed.]

SOCIETIES.

ROYAL HORTICULTURAL.

DECEMBER 10.—The meetings and exhibitions for the present year were brought to a close on Tuesday last by that held in the Drill Hall, James Street, Westminster. As is usual on occasions immediately preceding the Christmas season, there was a large attendance at the several committees, and particularly in the case of the Fruit Committee, whose members had to take leave of their Secretary. A resolution passed in connection with Mr. Barron's retirement from this position is referred to on another page. Notwithstanding the unusual attendance upon the committees, the extent of the exhibits was not large, and two of the long tables furnished sufficient accommodation for them all, excepting a group of Chrysanthemum plants. Orchids, cut Chrysanthemums, fruit and vegetables, and a few miscellaneous plants of interest, comprised the exhibition.

Floral Committee.

Present: W. Marshall, Esq., in the chair; with Messrs. J. Fraser, J. Luing, H. B. May, H. Herbst, B. Dean, E. Owen, G. Stevens, J. Jennings, G. Gordon, W. Bain, H. Cannell, J. D. Pawle, H. Sefer-Leonard, G. Nicholson, C. Jeffries, C. E. Shea, J. W. Barr, J. Walker, J. T. Bennett-Poc, H. Briscoe-Ironside, C. Blick, G. Paul, H. H. D'Ombraia, and Harry Turner.

From the gardens of Sir TREVOR LAWRENCE, Bart., Bedford, Dorking (gr., Mr. Bain), came a number of cut spathes of hybrid Anthuriums, all of them pretty; also a number of well-grown plants of *Primula floribunda*, a very pretty little species from China, with yellow flowers, blooms during most of the winter (Silver Banksian Medal).

J. P. BENNETT-POC, Esq., Holmewood, Chesham, again exhibited the plant of *Begonia* × *incomparabilis*, raised by Mr. Froebel of Zurich, and figured in our last issue.

About eighteen plants of seedling varieties of *Primula sinensis*, illustrative of an excellent strain, but hardly in full flower, were shown by Messrs. H. CANNELL & SONS, Swanley, who had also some good sprays of varieties of *Canna*, including Queen Charlotte and an *Alphonse Bouvier*, the latter a very effective crimson-scarlet colour.

Mr. C. HERRIN, The Gardens, Dropmore, exhibited a few plants in flower of *Oxalis Ortgiesii*, a species bearing small yellow flowers and dark orange wedge-shaped leaflets (Vote of Thanks).

Chrysanthemums were again shown by several exhibitors, but the only award gained on this occasion was one by a decorative variety, named *Stressa*, exhibited by H. BRISCOE-IRONSIDE, Esq., Cedar Lodge, Bayes Hill, Sussex. A large number of the blooms were arranged in a stand in an effective manner, and the decorative value of the very soft yellow-coloured blooms was well illustrated.

Mr. ROBERT OWEN, nurseryman, Maidenhead, had a fairly large collection of new varieties, including Mrs. C. E. Shea, J. W. Richardson, Madame Eugène Mercier, and a number of seedlings (Silver Banksian Medal).

A group of Chrysanthemums, shown by G. H. F. TARKS, Esq., Chislehurst (gr., Mr. J. Lyne), was composed of plants of *Jeanette Sheehan*, a sport from the white-flowered *Princess Blanche*, with yellow flowers, having a bronzy centre. The variety was given an Award of Merit by the society in January last, and is apparently very free-flowered, beside being pretty and attractive (Silver Banksian Medal).

A new patent Orchid-basket was exhibited by Messrs. SEASELL & SONS, 135, St. Charles's Road, Heeley, Sheffield, the chief innovation in which is a saucer-shaped top, by which it is claimed the water given is thrown to the centre of the compost.

Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; and Messrs. Jas. O'Brien (Secretary), Dr. Maxwell T. Masters, J. Jaques, E. Hill, J. Douglas, W. Cobb, S. Courtauld, H. M. Pollett, T. W. Bond, De B. Crawshay, A. H. Smea, H. Ballantine, H. J. Chapman, W. H. White, E. Ashworth, T. B. Haywood, and R. Brooman-White.

The last meeting of the year brought a good attendance of the members of the Committee, and the exhibits, for the season, were good and interesting.

Sir TREVOR LAWRENCE, Bart. (gr., Mr. W. H. White) as usual, contributed some remarkable plants, the most admired of which was a pretty specimen of the rare *Dendrobium Treacherianum*, whose dwarf Bulbophyllum-like growth bore three short spikes bearing together twenty-three large rose coloured flowers with dark crimson base to the lip. The plant was awarded a First-class Certificate, and a Cultural Commendation was allotted to the grower.

A Botanical Certificate and Cultural Commendation were also given to a noble specimen of *Agrostium pertusum* with eighteen long racemes of neatly-arranged white flowers; a Botanical Certificate for the pretty *Masdevallia pachyura*, with red-brown and clear yellow flowers, and which was now shown for the first time, the plant which has hitherto borne the name in gardens being *M. caloptera*, a totally different and smaller species. Sir TREVOR LAWRENCE also showed the rare *Marmodes Lawrenceanum* (*Lindelia*, t. 275), (Botanical Certificate); a giant variety of *Masdevallia macrura* (Award of Merit), the extraordinary large *Bulbophyllum grandiflorum*, *Dendrobium Cologyne*, and the white and rose forms of *Laelia rubescens*.

Baron Sir H. SCHRODER, The Dell, Egham (gr. Mr. H. Ballantine), sent a most beautiful collection of cut flowers of *Cypripediums*, representing some sixty fine species and varieties, and for which a Silver Banksian Medal was awarded. Of the most striking, we noted the two yellow *Cypripedium* *insigne* *Sanderæ* and *C. i.* *Sanderiana*, the former yet far and away the best of yellow *insignes*; *C. × Southgatei*, *C. × T. B. Haywood*, *C. × Arthurianum*, *C. × Harrisianum superbum*, *C. × Aiusworthii*, *C. × Mrs. Chas. Canham*, and among some pretty unnamed hybrids a handsome flower obtained between *C. Druryii* and *C. superbium*. In the group also were flowers of the pretty *Cologyne Arthuriana*, a near ally of *C. maculata*, but demonstrated by the late Professor Reichenbach to be botanically different. As a garden plant it is certainly distinct, for it flowers after the *C. maculata* is over.

J. T. BENNETT-POE, Holmewood, Cheshunt, staged a very pretty group, of which the centre was formed by a very graceful arrangement of fine spikes of various *Calanthes*; with them was a remarkable noble variety of *Lycaste Skionari*, named *Holmewood var.*; a good plant of a rich blue *Vanda coerulea* (Cultural Commendation), and a singular variety of *Laelia autumnalis*, with large pure white side lobes to the lip. A Silver Banksian Medal was awarded for the group.

Messrs. JAS. VEITCH & SON, Royal Exotic Nursery, King's Road, Chelsea, staged an effective group of rare plants, among which one of their latest and most beautiful novelties, *Laelio-Cattleya × Lady Rothschild* (C. Warszewiczii ♂, *Laelia Perrini* ♀) made its *début*, and secured an Award of Merit. The flower in size approaches *C. labiata*, but the form of the lip follows closely on that of *L. Perrini*, though in the hybrid it is of more ample form, and brighter in colour. The sepals and petals were of a clear rosy-lilac, the disc of the lip primrose-yellow, with some beautiful purple markings at the base, and a bright purple front lobe. Another fine hybrid shown by Messrs. VEITCH was the pure white *Calanthe × Harrisii* (Turner × Veitchii), which received an Award of Merit, and noteworthy things were *Laelio-Cattleya × Pallas* (C. Dowiana × *L. crispata*), the rare *Oymbidium Tracyanum*, and several others (Silver Flora Medal).

Messrs. F. SANDER & CO., St. Albans, staged a very effective group of their various new winter-flowering *Calanthes*, together with *Phaio-Calanthe × Arnoldiana*, *Laelia anceps alba*, *Helicia sanguinolenta*, *Restrepia antennifera*, *Odontoglossum asprum*, *O. Schroderianum*, *O. Nevadaense*, *O. Wilckeanum*, and numerous hybrid *Cypripediums* (Silver Banksian Medal).

Messrs. B. S. WILLIAMS & SON, Victoria and Paradise Nurseries, Upper Holloway, N., showed a good collection of *Cypripediums*, among which we noted the noble *C. × Pitcherianum*, Williams' var., and others.

THOS. STATTER, Esq., Stand Hall, Whitefield, Manchester (gr., Mr. R. Johnson), sent the handsome *Cypripedium × Lucienianum superbum*, *C. × Leeanum giganteum grandiflorum* (perhaps the largest of the *C. × Leeanum*), *C. × plumosum*, *C. × Niobe splendens*, *C. × Rufua* (a richly-tinted Lawrenceanum cross), *C. × Ariadne*, *Laelia × elegans nobilis*, a very fine and richly-coloured variety; *Laelio-Cattleya Treasderiana* *superba*.

H. TATE, Esq., Allerton Beeches, Allerton, Liverpool (gr., Mr. Osborne), sent *Cypripedium insigne*, Tate's variety. The form appeared in the midst of a mass imported by Messrs. F. Sander & Co. in 1892, which has been grown on all together. Tate's variety, on which there were two flowers, is remarkable for having the upper and lower sepals alike, and the usual dotted lines and pure white lip of the ordinary variety's dorsal sepal on both upper and lower.

T. W. SWINBURNE, Esq., Corndean Hall, Winchcombe, Cheltenham, staged an interesting group of *Cypripediums*, among which were the pretty *C. × Swinburnei*, with nine blooms; *C. × Swinburnei magnificum*, whose massive flower seems difficult to reconcile as being from the same cross as the type, and yet it is known to be so; the pretty *C. × Iadra*, fine varieties of *C. × Leeanum* and *C. insigne*, *C. Spicerianum*

with ten flowers; the very singular and distinct *O. × Lady Hutt* (*insigne × Fitchianum*), a noble flower, in some respects like a massive *C. × Asburtoniae*, but having a large yellow-coloured staminode, and incurved lobes of the lip of the same clear colour.

Messrs. HUGH LOW & CO., Clapton, arranged a group of Orchids, in which were two fine varieties of *Cymbidium giganteum*, *Oycocoches chlorochilon*, and others.

W. C. WALKER, Esq., Percy Lodge, Winchmore Hill (gr., Mr. Geo. Cragg), showed *Laelia rubescens*, *Oncidium prætexatum*, and a *Cypripedium Charlesworthii*, with curiously-twisted sepals.

G. SHOBLAND BALL, Esq., Earlscliffa, Bowden, Cheshire, sent the rare and beautiful *Cattleya labiata* in better form than it has before appeared; *Cypripedium insigne Sanderæ*, and *C. insigne Ballianum*, a charming clear yellow form, with broad, pure white upper-half to the dorsal sepal, on which were faint purple blotches, suggesting shadows of the blotching seen in *C. insigne Chantinii*.

Messrs. W. L. LEWIS & CO., Southgate, showed *Cypripedium × Ashtonii* (*ciliolare superbum × selligerum majus*) a stately flower, resembling the *C. × Alfred Hollington* (Award of Merit).

D. B. CRAWSHAY, Esq., Rosefield, Sevenoaks (gr., Mr. S. Cooke), sent a fine form of *Oncidium tigrinum* (Award of Merit); and F. W. MOORE, Esq., Royal Botanic Gardens, Glasnevin, Dublin, showed *Oncidium pictum*.

Fruit Committee.

Present: Philip Crowley, Esq., in the chair; and Messrs. T. J. Saltmarsh, W. Wilks, P. C. M. Veitch, G. W. Cummins, Jas. Cheal, A. H. Pearson, J. Wright, Alex. Dean, C. Herrin, J. Willard, Charles Ross, J. W. Bates, Wm. Pope, G. H. Sage, Geo. Wythes, Jas. Hudson, F. Q. Lane, A. Balderson, G. Reynolds, Jas. Smith, G. Norman, Dr. Robt. Hogg, and Jno. A. Laing.

Some fruits of the tree Tomato (*Cyphomandra batsea*) were sent by the South Devon Fruit Farm, Torquay (T. PENDER, Manager). Seed was obtained from Ceylon, and sown in February, 1891, and the plant grew a great height, but did not fruit. After shedding its leaves, the plant was cut down to 1 foot, and this season it has grown to 12 feet high, with branches 60 to 12 feet long. The flowers are produced in bunches like *Solanums*, and the plant has carried fruit at every joint.

The fruits shown were about the size of a small hen's egg, but were not quite ripe. The plant has always been in a cool-house, and it is thought that the fruit will never ripen sufficiently early to be profitable without fire-heat. Many particulars concerning this fruit were given in the *Gardeners' Chronicle* for March 19, 1887, together with an illustration.

The only collection of Apples and Pears was one from Lord FOLEY, Ruxley Lodge, Esher (gr., Mr. J. W. Miller). There were upwards of forty dishes, and included were good specimens of Beauty of Kent, Saadringham, Blenheim Orange, Mannington's Pearmain, Court of Wick, Lord Derby, and many others (Vote of thanks).

Seedling Apples again occupied the attention of the committee, but no awards were given, though the committee are desirous of seeing some of the kinds at a later date.

Mr. CHAS. ROSS, gr. at Welford Park, had Opal, a small yellow fruit, in colour like Golden Noble. Messrs. JARMAN & CO., Chad, Somersset, had fruits of Crimson King Apple, a fair sized fruit, highly coloured, exhibited together with a young tree of the same variety.

Mr. W. EMPSON, Amptill, Beds, exhibited Amptill Seedling and Easter Russet Pippin. Messrs. LAXTON BROS., Bedford, had Laxton's Bedford Scarlet; and the Right Hon. Lord ST. OSWALD, Nostell Priory, Wakefield (gr., Mr. Jno. Easter), showed good dishes of Queen Apple, Alexander, and Prince Albert (Vote of thanks).

Messrs. DOBBIE & CO., Rothesay, N.B., exhibited some very well-grown purple and green Kales, to be known as the Victoria Kale. They were very remarkable for the close curling of the leaves (Award of Merit).

Messrs. H. CANNELL & SONS, Swanley, brought a few Savoys; several varieties of Beet, of good shape and colour, and not over large, notably, Best-of-All and New Purple; some Cannell's Mammoth Leeks, and a collection of Onions in variety, the produce chiefly of field culture, but exhibiting nevertheless, very large size and perfect ripeness. Very fine new forms were Lullington Park Hero, Cannell's Globe, and Southport Red.

A collection of Onions, in about thirty dishes, shown by the Earl of CARNARVON, Highclere Castle, Newbury (gr., Mr. Wm. Pope), was well worthy of remark by reason of the size and solidity of the specimens. Such varieties as Sutton's A1, Ailaa Craig, The Lord Keeper, Sutton's Crimson Globe, Cranston's Excelsior, Veitch's Main Crop, Tongood's Southampton Champion, and Rousham Park Hero, were of excellent exhibition size and quality, but smaller specimens of the same varieties were of equal quality at least, and as convenient. There were two seedling varieties of uncommon shape, but most nearly like Cranston's Excelsior, having a large, almost crimson flat base, tapering to an unusual degree.

ALDERLEY EDGE AND WILMSLOW HORTICULTURAL.

NOVEMBER 29, 30.—A successful show was held in the Drill Hall, Wilmslow, on Friday and Saturday. The competition in most of the classes was good, and considering the lateness of the date, fine blooms were exhibited.

Col. Dixon, Astle Hall, the President, opened the show, and a large number of visitors were present on both days.

The committee are to be congratulated on the result of their first effort, and it is hoped that the show will become a permanent fixture. The fruit shown was very good, and indeed, exhibits generally were praiseworthy.

One feature of the show was a varied collection of Orchids exhibited by E. A. H-WORTH, Esq., Harefield Hall, Wilmslow (gr., Mr. E. Holbrook), which was much admired. A smaller and select collection was shown by Dr. HODGKINSON, The Grange, Wilmslow (gr., Mr. J. Worre).

Messrs. CLIBRAN & SONS, of Altrincham, sent plants and cut flowers, also a fine collection of fruit; Messrs. JOHNSON & WHEELER, of Chesterfield, cut blooms of new varieties of *Chrysanthemums*; Messrs. CALDWELL & SONS, Knutsford, sent Conifers, &c., to decorate the room, and also showed a collection of *Cyclamens*, &c., these various trade exhibits adding much to the attractive ness of the show.

In the local classes, honours were gained by Mrs. BRADLEY (gr., Mr. Geo. Heap), followed by R. B. LINGARD MONK, Esq., J. WHITEHEAD, Esq., H. HEENAN, Esq., and G. HARRISON, Esq. (gr., Mr. W. M. Williams).

HIGHGATE AND DISTRICT CHRYSANTHEMUM.

DECEMBER 4.—The eleventh annual dinner of this Society took place on the above date at the Winchester Hall Hotel, Archway Road, Highgate, and Charles Catling, Esq., the President, occupied the chair. There were more than 100 members and friends present.

The chairman, in proposing the toast of the evening—"The Highgate and District Chrysanthemum Society"—referred to the success of the recent show, which he said was the finest yet held.

Mr. Percival Hart, last year's President, proposed "The President and Chairman," and congratulated Mr. Catling on the success of his year of office.

The chairman briefly responded, and alluded to the stragous manner in which the committee had worked throughout the year. He afterwards presented the Medal awarded at the recent exhibition, which were as follows:—Silver Medal of the National Chrysanthemum Society, to Mr. J. Brooks, gr. to W. REYNOLDS, Esq., J.P., Highgate, as an addition to the 1st prize for a group of Chrysanthemums; Rycroft Medal (presented by Mr. H. J. JONES, Lewisbam), to Mr. A. Page, gr. to A. TAYLOR, Esq., Southgate, for twelve Japanese blooms; Bronze Medal of the National Chrysanthemum Society, to Mr. T. L. Turk, gr. to T. BONEY, Esq., Highgate, for twelve bunches of cut blooms.

NATIONAL CHRYSANTHEMUM.

DECEMBER 11.—As is usual at this, the last meeting of the committee for the year, only a few novelties were staged, but the interest in the meeting was considerably enhanced by a collection of several boards of fine blooms of novelties of a very interesting character, to which a small Silver Medal was awarded.

First-class Certificates of Merit were given to Japanese Mrs. R. W. E. MORRAY, a full, asymmetrical, pure white incurved flower, the petals narrow, but plenty of them, from Mr. R. W. E. MURRAY, Blackford House, Edinburgh; to Japanese Janette Sheahan, a pale yellow sport from Princess Blanche, two finely-bloomed, dwarf, bushy plants, being exhibited; it was Certificated as a late-flowering decorative and market variety.

Messrs. JOHNSON & WHEELER, nurserymen, Chesterfield, sent incurved H. W. Roeman, of a bright pure golden colour, which the committee wished to see again. From Messrs. H. CANNELL & SON, nurserymen, Swanley, came Goldfield, a deep golden incurved Japanese as shown, which the committee asked to see again. It was shown at the meeting of the Royal Horticultural Society on the previous day as *Asanti*, but the exhibitors apparently thought it expedient to change the name! A vote of thanks was passed to Mr. Thomas Bevan for his services as chairman of the Floral Committee during the past year, which was suitably acknowledged.

EDINBURGH ROYAL BOTANICAL.

PLANTS IN FLOWER IN THE GARDEN.

Asystasia scandens is a climbing plant which is perhaps better known under the synonym of *Houtfeya scandens*, and a specimen planted out is now flowering in one of the stoves. It is not a plant of vigorous growth, and reaches a height of about 6 feet or thereabouts. The stems, dark shining green, are swollen at the nodes, and they bear opposite dark green leaves, upon which the venation is very prominent. The inflorescences are terminal, and are borne upon the short branches, in racemes carrying a good number of white flowers 2 inches across the lobes; and the anthers are black. As grown, it is very floriferous, and at this season is a very acceptable addition to the warm-house. It was introduced from Sierra Leone about fifty years ago, and is figured in the *Bot. Mag.*, t. 4449.

Jasminum pubescens.—Where cut flowers are in demand during autumn and winter months, this favourite should not be forgotten, because of its fragrant white flowers. It is a native of China and India, easily grown as a pot plant or when planted out in a border. Afforded a good position in an intermediate, or cool stove temperature, more growth by plants in borders is made, and consequently there are more flowering shoots. In gardens it is often seen under the name of *J. hirsutum*.

Ceratopetalum gumiferum.—A plant of this New South Wales shrub or tree (for it is said to attain the dimension of

the latter) has been in bloom for the past three or four months. The foliage is opposite, the ternate leaves having their leaflets with serrated margins, and it is evergreen. The terminal panicles consist of loosely-arranged flowers, in which the sepals are very prominent, and the petals small and divided into three pointed segments. The yellowish-white sepals turn, at the present time, to a pinkish colour, a change that brings them into more prominence. A good bush of this plant would prove attractive. It is grown in a rather rich compost in a cool greenhouse among other Australian plants.

Reinwardtia.—Every year at this season we are reminded of the usefulness of these old plants in brightening and beautifying the stove or warm greenhouse. The two species, *R. trigynum* and *R. tetragynum*, are both in full flower. They are somewhat similar in their flowers, but distinct in habit and foliage. The first is compact in habit, with entire ovate leaves, growing in pots to a height of 1 to 2 feet, but when planted out as here, it grows to between 2 and 3 feet, and even higher, carrying hundreds of flowers, and forming a compact bush. The variety *R. tetragyna* is of a straggling habit, with larger elliptic serrated leaves, and rather larger flowers of a lighter yellow colour. Both varieties are easily propagated from cuttings in the spring, and they may be placed in a cold frame during the summer, with abundant water at the roots, and copious syringing to keep down red-spider, to which the plants are very subject. They may be kept until their flowers appear in a cool greenhouse, and then placed in gentle heat to cause the flowers to open freely, which they will continue to do for a considerable length of time.

Eucharis Sanderiana, and other Species.—This species named is not so well known as its merits deserve, for it possesses bold foliage on short petioles, shorter leaves, which have a more conspicuous venation than in the well-known *E. grandiflora*. The flowers are of great substance, the perianth not reflexed, and the corona almost absent. It was introduced by Messrs. Sander in 1838, from New Grenada. *E. candida* is also flowering here, its long peduncles carrying blooms in which the corona is very apparent, while the leaves are smooth, on long petioles. *E. Mastersii*, introduced in 1855, shows signs of flowering. All the above varieties of *Eucharis* are worthy of a place in a stove. *R. L. Harrow, Edinburgh.*

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS. Above (+) or below (−) the Mean for the week ending December 7.	TEMPERATURE.				RAINFALL.		BRIGHT SUN.	
	ACCUMULATED.				10ths Inch.	Ins.	Total Fall since Jan. 1, 1895.	Percentage of possible Duration for the Week.
	Above 42° for the Week.	Below 42° for the Week.	Above 42° difference from Mean since January 1, 1895.	Below 42° difference from Mean since January 1, 1895.				
0	Day-deg.	Day-deg.	Day-deg.	Day-deg.				
1	4	29	+ 282	+ 395	16 +	224	47.0	4
2	4	32	+ 2	+ 453	5 +	183	29.5	20
3	12	22	+ 249	+ 278	4 −	178	26.6	28
4	27	16	+ 215	+ 365	4 −	154	23.1	28
5	26	14	+ 220	+ 346	2 −	152	23.4	24
6	31	9	+ 195	+ 312	4 −	147	23.2	27
7	20	12	+ 146	+ 351	7 +	166	33.0	12
8	25	4	+ 237	+ 294	3 +	172	30.6	9
9	31	3	+ 181	+ 351	2 −	161	33.0	15
10	12	13	+ 54	+ 280	5 +	203	33.4	18
11	29	4	+ 11	+ 202	3 −	176	34.3	20
12	52	0	+ 302	+ 148	4 −	181	28.0	11

The districts indicated by number in the first column are the following:—
0, Scotland, N. *Principal Wheat-producing Districts*—
1, Scotland, E.; 2, England, N.E.; 3, England, E.;
4, Midland Counties; 5, England, including London, S.;
Principal Grazing, &c. Districts—6, Scotland, W.;
7, England, N.W.; 8, England, S.W.; 9, Ireland, N.;
10, Ireland, S. * Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending December 7, is furnished from the Meteorological Office:—
"The weather during this week was very unsettled and stormy over the whole kingdom. Rain fell daily in the west and north, the amount in many places being twice, and in some places three times, the mean; in the east and south, however, the falls were slight, and less frequent. At the end of the period, showers of hail, sleet, or snow were experienced."

"The temperature was high during the greater part of the week, but fell quickly towards its close. The average values for the week just equalled the normal in 'Scotland, N.' but exceeded it in all other districts, the excess ranging from 1° in 'Scotland, E.' and 'Ireland, N.', to 3° or 4° over the greater part of England. The highest of the maxima were recorded on the 4th, in the north, and on the 5th at the more southern stations, and ranged from 58° in 'England, E.' and 'Ireland, S.', and 57° in the 'Midland Counties,' to 53° in 'Scotland, N. and E.,' and in 'Ireland, N.' The lowest of the minima occurred at the end of the week, when they ranged from 25° in 'Scotland, E.,' to 33° in 'England, E.,' and to 40° in the 'Channel Islands.'

"The rainfall was considerably in excess of the mean over Scotland and the North of Ireland, and to a smaller extent in 'England, N.W.,' but in all other districts there was a deficit. "The bright sunshine exceeded the normal amount in most parts of 'England,' as well as in 'Scotland, E. and Ireland, S.,' and just equalled it in 'England, N.W.' Elsewhere there was a deficiency. The percentage of the possible duration ranged from 30 in 'Ireland, S.' and 28 in 'England, S.E. and E.' to 9 in 'England, N.W.,' and to 4 in 'Scotland, N.' At Dublin the percentage recorded was as high as 39, and that at Aberdeen 37."

MARKETS.

COVENT GARDEN, December 12.

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

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.	
Adiantum, per doz.	4 0-12 0	Ferns, various, doz.	5 0-12 0
Aspidistra, per doz.	12 0-30 0	Ficus elastica, each	1 0-7 6
— specimen, each	5 0-15 0	Foliage plants, doz.	12 0-34 0
Chrysanthemums, doz. pots	6 0-12 0	Lilium Harrisii, per dozen pots	18 0-36 0
— (specimens), p. plant	1 6-3 0	Marguerites, p. doz.	6 0-12 0
Cyperus, per dozen	4 0-10 0	Mignonette, p. doz.	4 0-6 0
Dracena, each	1 0-7 6	Palms, various, ea.	2 0-10 0
— various, p. doz.	12 0-24 0	— specimens, ea.	10 8-34 0
Ericas, various, doz.	9 0-24 0	Poinsettia, per doz.	12 0-18 0
Evergreen Shrubs, in variety, doz.	6 0-24 0	Primula sinensis, per dozen	4 0-6 0
Ferns, small, doz.	1 6-3 0	Solanum, per doz.	9 0-12 0
		Spiraeas, per doz.	9 0-12 0

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.	
Apples, Blenheim, p. bushel	3 0-5 0	Grapes, Gros Colmar 1st quality, lb.	1 6-1 9
— Cooking vars., per bushel	1 6-3 0	— Gros Colmar, 2nd quality, p. lb.	10-1 3
— From Nova Scotia, per barrel	11 0-14 0	— Alicante, 1st quality, p. lb.	1 3-1 6
— Wellington, 1st quality, bush.	4 6-5 0	— Alicante, 2nd quality, p. lb.	10-1 0
— Wellington, 2nd quality, bush.	3 0-4 0	— Muscat, 1st quality, p. lb.	3 6-5 0
Cobs, per 100 lb.	30 0-35 0	Pine-apples, St. Michael, each	3 0-6 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.	
Arums, p. 12 blooms	4 0-8 0	Orchids:—	
Azalea, 12 sprays	0 9-1 0	Cattleya, 12 blms.	6 0-12 0
Bouvardias, per bn.	0 6-1 0	Odonatoglossum crispum, 12 blm.	3 0-6 0
Carnations, 12 blms.	1 0-3 0	Pelargoniums, scarlet, per 12 bunch	4 0-6 0
Chrysanthemums, per 12 blooms	1 0-4 0	— per 12 sprays	0 6-0 9
— per 12 bunches	3 0-8 0	Poinsettia, 12 blms.	6 0-12 0
Eucharis, per dozen	3 0-5 0	Pyrethrums, 12 bun.	2 0-4 0
Gardenias, per doz.	3 0-5 0	Roses, Tea, per doz.	1 0-3 0
Hyacinths (Roman) 12 sprays	6 0-9 0	— coloured, p. doz.	2 0-4 0
Lapageria, per doz. blooms	0 6-1 6	— pink, French, doz.	3 0-4 0
Lilac, French, p. bun.	3 0-5 0	— yellow (Maréchal), per doz.	3 0-6 0
Lilium Harrisii, do.	4 0-8 0	— red, per dozen	1 0-1 6
— lancifolium, per dozen blooms	1 6-3 0	— Safrano, French per doz.	1 6-2 0
Lily of the Valley, per doz. sprays	1 6-2 6	Stephanotis, 12 sps.	2 0-4 6
Maidenhair Fern, per 12 bunches	4 0-8 0	Tuberoses, 12 blms.	0 3-0 6
Marguerites, 12 bn.	1 0-3 0	Violets, 12 bunches	1 6-2 8
Mignonette 12 bun.	2 0-4 0	— Parme, French, per bunch	2 6-4 0
Narciss., White, French 12 bun.	3 0-4 0	— Czar, do.	2 6-3 0
		— Mimosa or Aca-cia, do.	1 0-2 0

ORCHID-BLOOM IN VARIETY

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.	
Cauliflowers, p. crate (5 to 8 doz.)	10 0-12 0	Tomatos, Smooth, „	7 0-10 0
Mushrooms, per lb.	0 8-9	— ordinary „	4 0-5 0
Cucumbers, per doz.	8 0-10 0	— Canary Islands, per case, 12 to 14 lb.	4 6-5 0
Onions, Eng., cwt.	5 0-6 0		
Tomatos, Home-grown, p. doz. lb.			

POTATOS.

Trade slow supplies heavy. Snowdrops, 70s. to 90s.; Hebrons, 75s. to 85s.; Brucés, 45s. to 60s.; Black lands, 30s. to 45s. *J. B. Thomas.*

SEEDS.

LONDON: December 11.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., state that as is usual during the Cattle Show week, the seed market is now well attended; meantime, however, no increase of business is shown, and values all round are without material alteration. Offers of Canadian Alsike have for the present fallen off. Mustard and Rape seed keep steady. Blue Peas and Haricot Beans are firm. As regards Canary seed, holders, in spite of the slow inquiry for arrived parcels, express considerable confidence as to an ultimate advance in prices. The new Hemp seed continues cheap and good. The Board of Trade returns give the imports of Clover and Grass seeds into the United Kingdom for the eleven months of this year as 258,534 cwt., value £763,369; as against 295,490 cwt., value £723,856, for the corresponding period of 1894.

FRUITS AND VEGETABLES.

BOROUGH: Dec. 10.—Quotations:—Savoys, 3s. 6d. to 5s. per tally; Cabbages, 2s. 6d. to 3s. do.; Onions, 2s. 9d. to 3s. 6d. per bag; Carrots 2s. to 2s. 6d.; Turnips, 2s. to 3s. 6d. per dozen bunches; Apples, 3s. to 6s. per bushel.

SPITALFIELDS: Dec. 10.—Savoys, 2s. to 3s. 6d. per tally; Cauliflowers, 5s. to 7s. do. (best); do., second, 2s. 6d. to 3s. do.; Turnips, 1s. 6d. to 1s. 9d. per dozen bunches; Greens, bunch, 1s. to 1s. 6d. per dozen; Collards, 1s. 3d. to 2s. per tally; Parsley, 1s. to 1s. 6d. per dozen bunches; Beetroot, 1s. to 1s. 3d. per bushel; Sprouts, 2s. to 2s. 6d. per half-bushel; Celery, 8s. to 12s. per dozen bunches; Leeks, 1s. per dozen; Horseradish, 1s. 2d. to 1s. 3d. per bundle; Apples, dessert, Blenheim, 4s. to 4s. 6d. per bushel; do., King Pippin, 5s. to 5s. 8d. do.; Cookers—Queenings, 3s. to 3s. 6d. do.; Northern Greening, 3s. to 3s. 6d. do.; Wellingtons, 3s. 6d. to 4s. do.

STRAFORD, D.C. 10.—Supply good, demand slow. Cabbages, 2s. 6d. to 3s. per tally; Savoys, 2s. 6d. to 4s. do.; Greens, 1s. to 1s. 3d. per dozen; do., 4s. to 6s. per tally; Cauliflowers, 1s. to 1s. 6d. per dozen; do., 4s. to 6s. per tally; Scotch Kale, 6d. to 9d. per sieve; Brussels Sprouts, 1s. 3d. to 1s. 6d. per half-sieve; do., 2s. 3d. to 2s. 6d. per sieve; Turnips, 1s. 6d. to 2s. per dozen bunches; do., 30s. to 40s. per ton; Carrots, cattle-feeding, 2s. to 2s. 6d.; Parsnips, 40s. to 50s. do.; Mangels, 11s. to 15s. do.; Swedes, 14s. to 17s. do.; Onions, English, 80s. to 85s. do.; do., Dutch, 2s. 9d. to 3s. per bag; do., Port., 3s. 9d. to 5s. per case; Apples, English, cookers, 2s. 6d. to 4s. per bushel; do., dessert, 2s. 6d. to 4s. per barrel; do., Nova Scotian, 11s. to 14s. do.; Pears, English, 3s. to 3s. 6d. per bushel; Beetroot, 2s. to 2s. 6d. per bag; Horse-radish, 1s. 2d. to 1s. 3d. per bundle; Parsley, 1s. 6d. to 2s. per half-sieve.

FARRINGTON: Dec. 12.—Quotations:—Cabbages, 3s. per tally; Savoys, 4s. do.; Cauliflowers, 5s. do.; Sprouts, 1s. 6d. per half-tally; Celery, 12s. per dozen rounds; Leeks, 2s. per dozen; Parsley, 2s. per dozen; Turnips, 2s. per dozen bunches; Carrots, 2s. do.; Beetroot, 1s. 6d. per bushel; Parsnips, 3s. per sack; Onions, 4s. 6d. per bag; Apples, Blenheims, 4s. 6d. per bushel; Wellingtons, 4s. 6d. do.; Baldwins, 16s. per barrel; do. Newtowns, 16s. and 18s. do.; Pears, stewing, Catillan, 8s. per case; Grapes, English, 1s. per lb.; Almera do., 10s. per barrel; Canary Tomatos, 4s. and 5s. per box; Walnuts, 6s. per bag; Chestnuts, 7s. to 11s. do. (cwt.).

POTATOS.

BOROUGH: December 10.—Quotations ranged from 35s. to 90s. per ton.

SPITALFIELDS: December 10.—Quotations:—Sutton's Abundance, 50s. to 70s.; Reading Giants, 45s. to 60s.; Brucés, 50s. to 85s.; Main Crop Kidneys, 55s. to 75s.; Hebrons, 60s. to 80s.; Snowdrops, 60s. to 70s. per ton.

STRAFORD, December 10.—Quotations:—Brucés, dark soil, 35s. to 40s., and 40s. to 50s.; Reading Giants, 40s. to 50s.; Sutton's Abundance, 50s. to 60s. per ton.

FARRINGTON: December 12.—Quotations:—Maincrop Kidneys, 75s. to 85s.; Laxtons, 75s. to 85s.; Jeannie Deans, 65s. to 75s.; Brucés, 50s. to 60s.; Magnums, 45s. to 50s. per ton.

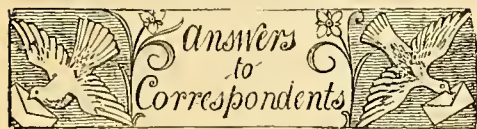
LONDON AVERAGES: Dec. 11.—Dnnbars, 90s. to 100s.; Snowdrops, 70s. to 90s.; Hebrons, 70s. to 90s.; Sutton's Abundance, 50s. to 70s.; Puritans, 50s. to 60s.; Regents, 60s. to 70s.; Magnums, 40s. to 50s.; Imperators, 40s. to 50s. per ton.

HAY.

Averages.—The following are the averages of the prices at the metropolitan markets during the past week:—Clover, prime, 75s. to 95s.; do., inferior, 50s. to 70s.; hay, best, 60s. to 90s.; do., inferior, 38s. to 60s.; mixture, 70s. to 87s. 6d.; and straw, 20s. to 42s. per load.

CYCAR STEMS, as a rule, do not produce branches very freely, but in the Paris Jardin des Plantes an old trunk which has been injured has produced lateral branches, and a whole colony of lateral buds, now about the size of eggs, are in course of formation. No perfect leaves exist at present, so that the species is uncertain.

CHRYSANTHEMUM AND FRUIT SHOW IN CARLISLE.—On Monday, December 9, a large meeting of gardeners and others interested was held at the Bush Hotel, Carlisle, for the purpose of discussing the desirability of promoting a Chrysanthemum flower show at Carlisle. Mr. C. Lonsdale, Rosehill, in the chair. After some discussion it was decided to form a society to be called the Carlisle and Cumberland Horticultural Society, and to hold a Chrysanthemum and fruit show under its auspices next autumn, and possibly a flower show at an earlier date. Mr. Sale, of Botcherby, was appointed secretary *pro tem.*, and the committee then proceeded to appoint office-bearers. The Mayor of Carlisle was appointed president; a large number of gentlemen residing in the district were appointed vice-presidents; Mr. Watt, jun., Knowefield, was elected treasurer, and a working committee was likewise appointed with Mr. C. Lonsdale as chairman. Another meeting will be held in the same place next month, for the purpose of drawing up rules, lists of premiums, &c.



AGARICUS: X. Y. Z. What is called the "Sclerotium" of some fungus, a kind of bud which remains dormant for a time, and then, when times change, develops into mycelium or spawn. We cannot tell you what the fungus is—very likely it is a state of the common Mushroom. In any case, if you pick it out, no harm will arise.

CERTIFICATE IN BOTANY: G. H. H. Yes; write for particulars to the Secretary of the Science and Art Department, South Kensington, London; or, for horticultural botany, to the Secretary, Royal Horticultural Society, 117, Victoria Street, London, S.W.

FRENCH BEAN FLOWERS DROPPING: *Vindex.* The general warmth of the house is too low. It is true that the seed will germinate at a minimum temperature of 60° Fahr., but something higher is needed for rapid growth, together with the fullest amount of sunlight, and a moist heat. No manurial aids are required until a good crop of pods is set. Want of light at this season induces poor development, and your plants may do better as the days lengthen.

FRUIT AND VEGETABLE: G. G. These popular terms need no definition as regards the sense in which they are understood in gardens. As you must know, many vegetable productions are fruits in the sense that they contain the seeds of the plant, as, for instance, Peas, Beans, Tomatos, Vegetable Marrows, Cucumbers, Chillies, &c., which are used as vegetables. "Vegetables" may consist of the entire plant, or part of it, minus the seed-vessels.

"**JOURNAL OF THE ROYAL HORTICULTURAL SOCIETY**": A *Constant Reader.* Apply to the Secretary, 117, Victoria Street, S.W.

NAMES OF FRUIT: *Masters, Warwick.* Pear Vicar of Windfield. — *R. M., Newbury.* Fresh-coloured Apple King of the Pippins; and green-striped Apple Striped Beefing. — *W. J. W.* 4, Cockle's Pippin; 6, Claygate Pearmain; labels on others detached from fruit. — *G. T. M.* Apples 2 and 6, Scarlet Nonpareil; 4, Prince Arthur; 7, Colonel Vaughan, others not recognised. — *Serpell.* Appears to be Tyler's Kernel.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to consult the next number.* — *N. C.* 1, *Matricaria inodora*; 2, *Sedum spurius*; 3, *A. grass*, with foliage only. — *R. Maries.* The lesser *Cymbidium* is *C. giganteum*, the larger *C. Traceyanum*, formerly very rare, but now appearing more plentifully. — *W. S.* The seedling seems to be merely a variation of *Zygopetalum Mackayii*. We fail to detect the slightest botanical difference from the type. Probably the cross was not effected. — *T. R.* *Babiana stricta.* — *E. J., Aberdeen.* 1, *Davallia Tyermanii*; 2, not possible to name from the imperfect barren frond sent; 3, *Lastrea glabella*; 4, *Pteris argyrea*; 5, *Adiantum assimile*; 6, *Adiantum concinnum latum.* — *S. P. D., Barnsley.*

1, *Saxifraga cespitosa*; 2, *Pteris cretica albolineata*; 3, *Lastrea aristata*; 4, *Pteris tremula*; 5, *Asplenium bulbiferum*; 6, *Adiantum cuneatum grandiceps.*

NOTICE TO LEAVE EMPLOYMENT: R. A. If there is no serious fault on his part, the gardener living in the entrance lodge is entitled to one month's wages; and if he is obliged to remove forthwith he can claim compensation for lodging, coal, light, &c., if he have these perquisites, for the space of one month from the date of notice.

ORCHIDS: R. T., *Falkirk.* The finest *D. Wardianum* we have seen. The other is *Cymbidium Traceyanum*, illustrated in the *Gardeners' Chronicle*, 1891. It was an extremely rare plant, but recently we have seen several specimens.

PEAR AUGUSTE MIGNARD: H. & Sons, and J. Barnett. We find that this variety, described by the late J. Scott of Merriott, is mentioned in their *Guide Pratique* by the Brothers Simon-Louis of Metz, which was published in 1876. It is there said to be a variety (raised by Gregoire) under trial.

ROYAL HORTICULTURAL SOCIETY: Bot. If you send in your request, together with the annual subscription, to the Secretary, 117, Victoria Street, Westminster, your name will be proposed at the next meeting of the Society, and doubtless you will be accepted as a Fellow.

SEEDLING PELAGONIUMS: B. & R. The variety you send is one which produces a very large truss, but the individual blooms are not nearly so fine as many varieties already in cultivation.

SCANDS: L. G. *Aldrovanda vesiculosa* is mentioned by E. von Mueller, *Fragm.* vol. 7. It is Australian. *Roridula dentata* was figured in our pages, Sept. 26, 1891, and in the same issue are figures of *Drosera dichotoma*, *D. capensis*, *D. spatulata*, and *Drosophyllum lusitanicum*. The species of *Byblis* are *B. gigantea* and *B. liniflora*, the former having the synonym *Lindleyana*, and the latter those of *filifolia* and *cœrulea*. Both species were introduced in 1848, *B. gigantea* coming from the Swan river district. Polypompholyx numbers four species, viz., *bicolor*, *laciniata*, introduced in 1855. Most of the Sundews and allied genera will grow in sphagnum-moss and a small quantity of peat in well-drained pots stood in pans of water; and propagation is by means of seeds, and strong pieces of the root cut into 1 inch or ½ inch lengths, placed in shallow pans, and slightly covered with sandy peat, and put under a bell-glass. In five weeks these pieces will be fit to pot singly. Most of them succeed under greenhouse or intermediate-house conditions.

TREE LABELS: E. R. Oaken stumps 3 feet long and 3 inches square, charred for a distance of 2 feet from the lower end, and driven into the ground to a depth of 1½ feet, are as good as any, being very durable, and not easily drawn out of the earth. The top should be cut at a convenient angle to receive the name or number, which should be in black oil paint on a white ground. The rest of the label should be painted either of a green or slate colour.

TURNIP: W. C. No larva found.

COMMUNICATIONS RECEIVED.—E. R., Paris.—C. S. S., Boston, U.S.—K. W. & Co.—H. de V., Paris.—W. J. B. (many thanks).—G. S.—B. & M.—G. M.—W. E.—W. L. A. Y.—W. J. G.—W. & S.—T. H.—T. H.—La Mortola.—H. H. D'O.—W. D. B.—Ernest Bargman.—M. P.—Canon E.—W. B.—T. H.—W. F.—T. P.—G. H.—W. R.—Ch. de B., Antwerp.—Dimmick.—F. Roberts.—D. McD.—W. W.—F. U.—F. W. M.—W. E. B.—G. W.—J. H.—A. F. P.—H. H. D.—Helen J.—M. R.—J. M. M.—W. J. B.—J. A.—H. M.—J. E.—H. W. W.—C. T. D.—Snowdon.—J. Dekkers, Constantinople.

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,

increased to the extent of more than 80 per cent., and that it continues to increase weekly.

Advertisers are reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN, AND ALL CLASSES OF GARDENERS AND GARDEN-LOVERS at home, that it has a specially large FOREIGN AND COLONIAL CIRCULATION, and that it is preserved for reference in all the principal Libraries.

CHEAP COVERT PLANTS, viz., *Rhododendron ponticum*, strong, 2 to 3 feet, 15s. per 100; £7 per 1000.—CHARLES WILMOT, Nurseryman, Darley Dale, Near Matlock, Derbyshire.

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JOHN COWAN and CO.
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ROBERT WARNER & Co., Engineers, 27, Jewin Crescent, E.C.
Dear Sirs,—It affords me much pleasure to inform you the 25 ft. Annular Sail geared Windmill, on 40 feet timbers, working a set of 3 in. x 9 in. stroke treble pumps, that you fixed here for Baron Schröder, is giving very great satisfaction, pumping the water through 4,224 feet of pipe, to a vertical height of about 80 feet. I must also express my thorough appreciation of the manner in which the whole of the work has been so successfully carried out.—Yours faithfully,
H. BALLANTINE, Head Gardener to Baron Schröder.
R. WARNER & Co. have made and erected a similar Mill and set of Pumps for Lord Northbourne.
NUMEROUS OTHER TESTIMONIALS ON APPLICATION TO
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Engineering Works, WATFORD-ON-THE-NAZE, ESSEX.

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NOTICE to BUILDERS, SEEDSMEN, NURSERYMEN, MARKET GARDENERS, HOT-WATER FITTERS, TIMBER MERCHANTS, and the Trade Generally.

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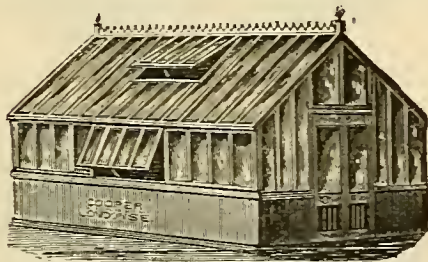
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CONDITIONS OF SALE.—Goods are offered subject to being on hand on receipt of reply. Cash to accompany all orders, and prices to be strictly net. All orders will be executed in rotation, and carefully packed and put on rail, except those otherwise stated.

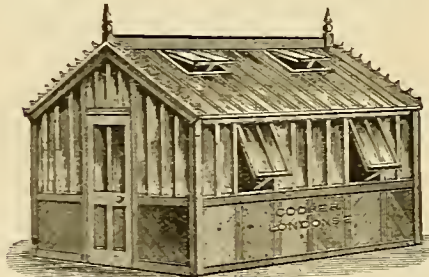
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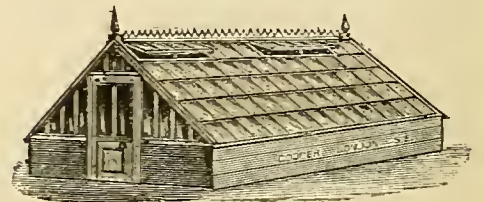
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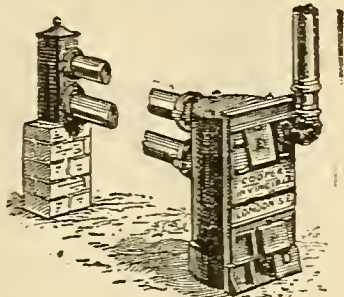
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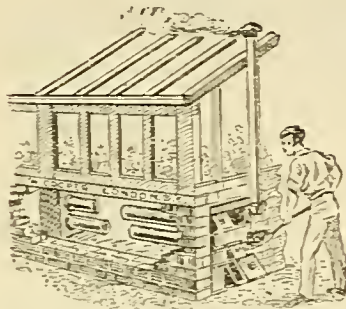
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IRON CHAPEL or MISSION HALL.



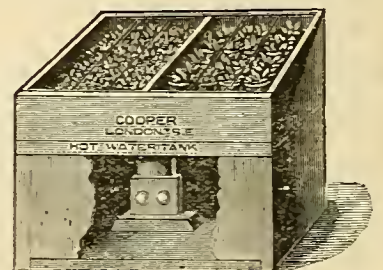
Lor 2620—40 by 20 Sale price £100
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SPAN-ROOF IMPROVED POULTRY-HOUSE.



Sale price from £1 15s.

THE RAPID PROPAGATOR.



Sale price from 16s.

For full particulars see Four-page Advertisement in last week's issue; or, Illustrated Sale List, post-free on application.

WINTER DRESSING.

Guaranteed to clear out Mealy Bug.

Cleanse and prepare your Fruit Trees and Plants, both indoors and out, for a healthy start next season, and destroy Scale, Bug, Red Spider, American Blight, and the Larvæ of other insects, by using the

XL ALL LIQUID INSECTICIDE WASH

(Patent).

A pure Nicotine Preparation (under a new system), from duty-free Tobacco. Absolutely safe, and no fear of injury to the buds. In use goes twice as far as any other Insecticide.

Per Pint, 2s.; Quart, 3s. 6d.; ½ Gallon, 5s.; 1 Gallon, 10s.

POSITIVE PROOF.

The following is from one of the largest Market Growers round London, having acres covered over with glass-houses:—

Mr. THOMAS ROCHFORD writes,—

"Turnford Hall Nurseries,
Near Broxbourne, Herts, Nov. 9, 1895.

"Please send me on 2½ gallons of your XL ALL Liquid Insecticide; I consider this is the most effectual and cheapest Insecticide I have ever used."

To be obtained from all Nurserymen, Seedsmen, Florists, and Sundriesmen; or, direct from—

G. H. RICHARDS, Sole Proprietor, Old Shot Tower Wharf, Commercial Road, Lambeth, London, S.E.
Further Particulars and Testimonials post-free on application.

BENTLEY'S Prize Medal INSECTICIDE.

USED BY THE LEADING GARDENERS.

1 pint, 2s.; 1 quart, 3s. 6d.; ½ gallon, 5s.; 1 gallon, 9s. 3s. gallons, 24s.

JOSEPH BENTLEY,

CHEMICAL WORKS, BARROW-ON-HUMBER, HULL.

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

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

THOMSON'S VINE AND PLANT MANURE.

The very best for all purposes.

The result of many years' experience. Largely used both at home and abroad.

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Sole Makers:—WM. THOMSON AND SONS, LTD., Tweed Vineyard, Clovenfords, N.B.

Price Lists and Testimonials on application.

Analysis sent with orders of ½-cwt. and upwards.

SOLD BY ALL SEEDSMEN.

HORTICULTURAL BONES.—Pure Bones, in ½, ¾, 1-inch, and meal, specially prepared. For particulars and price apply to—
E. S. WILES AND LEWIS, Bone Works, St. Albans.

SAVE HALF THE COST.

GARSDIE'S BEDFORDSHIRE COARSE AND FINE

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

SILVER SAND

Consumers should Buy Direct from the Owner of these Celebrated and Extensive Pits, which contain a practically inexhaustible supply of Splendid Sand, and thus save half the ordinary cost.

Apply direct to the Proprietor for Samples and Price free on Rail or Canal. All Orders executed with the utmost promptness and under personal supervision. Special Railway Rates in force to all parts. All kinds of PEAT supplied at lowest possible prices. Sample Bag sent on application to

GEO. GARSDIE, Jun., F.R.H.S., Leighton Buzzard, Beds.

ORCHID PEAT.—Dry and prepared, 5s. 3d. per bag, on rail; 15s. per cubic yard, in 12 yard trucks.
BROWN FIBROUS PEAT, 3s. 3d. per bag; 10s. per cubic yard.
WALKER AND CO., Poole, Dorset.

STOVES!—STOVES!

ROBERTS'S (IMPROVED) PATENT.
Terra-Cotta! Portable! For Coal!

Pure and ample heat, 24 hours for about 1d., without attention.

For Greenhouses, Bedrooms, &c.

Pamphlets, Drawings, and authenticated Testimonials sent See in use at Patentee's,
THOMAS ROBERTS, 34, Victoria St., Westminster.



STOCK SIZES—in inches.

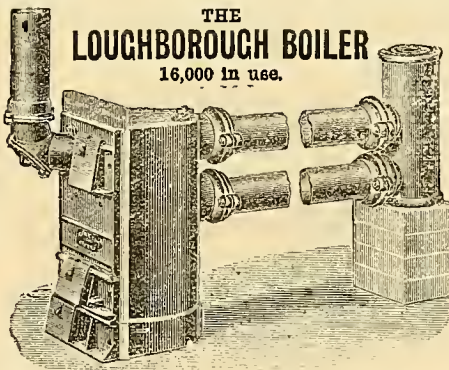
12x10	14x12	18x12	18x14	20x14	20x16	24x16	24x18
14x10	18x12	20x12	18x14	20x15	22x16	20x18	24x18

21-OZ. Foreign, of above sizes, 100 and 200 feet boxes, 3rds and 4ths qualities, always in stock. 15-OZ. Foreign similar current sizes in 200 feet boxes.

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

PROPAGATING and CUCUMBER GLASSES, &c. PUTTY, WHITE LEAD, PAINTS, OILS, BRUSHES, &c. PIT LIGHTS, cheap line of 21-oz. 200 feet, 9 inches by 7 inches, and 10 inches by 8 inches.

GEORGE FARMLOE & SONS,
34, St. John Street, West Smithfield, London, E.C.
Stock Lists and Prices on application. Please quote Gard. Chron.



THE LOUGHBOROUGH BOILER
16,000 in use.

The Pioneer of cheap, simple, and effective heating for small Greenhouses.

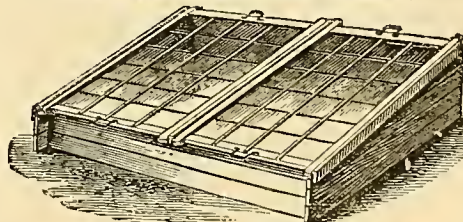
REDUCTION IN PRICES.

Owing to improved facilities for the manufacture of these Boilers, and a consequent cheapening in the cost of production, we are enabled to reduce the prices as follows:—

No. 1, £2 12s.; No. 2, £3 15s.; No. 3, £5; also larger sizes. Complete Apparatus from £4 8s. Lists and Estimates on application.

MESSENGER & CO., Loughborough, Leicestershire.
London Office: 163, Palmerston Buildings, Old Broad St., E.C.

GREAT REDUCTION IN FRAMES OUR WELL-KNOWN MAKE.



PORTABLE CUCUMBER FRAMES.

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

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

Larger sizes at proportionate prices.

R. HALLIDAY & CO.,
ROYAL HORTICULTURAL WORKS,
MIDDLETON, MANCHESTER.

London Agent, Mr. H. SKELTON, Seedsmen, &c., 2, Holloway Rd., N.

THE GARDENERS' CHRONICLE

PUBLISHER'S NOTICES.

GARDENERS' CHRONICLE TELEGRAMS.—The Registered Address for Foreign and Inland Telegrams is "Gardchron, London."

ADVERTISEMENTS.

SCALE OF CHARGES FOR ADVERTISING

HEAD LINE CHARGED AS TWO.			
4 Lines ..	£0 3 0	15 Lines ..	£0 8 6
5 "	0 3 6	16 "	0 9 0
6 "	0 4 0	17 "	0 9 6
7 "	0 4 6	18 "	0 10 0
8 "	0 5 0	19 "	0 10 6
9 "	0 5 6	20 "	0 11 0
10 "	0 6 0	21 "	0 11 6
11 "	0 6 6	22 "	0 12 0
12 "	0 7 0	23 "	0 12 6
13 "	0 7 6	24 "	0 13 0
14 "	0 8 0	25 "	0 13 6

AND SIXPENCE FOR EVERY ADDITIONAL LINE.
If set across two Columns, the lowest charge will be 20s.
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Page, £8; Half Page, £4 10s.; Column, £3.

GARDENERS AND OTHERS WANTING SITUATIONS.
26 words, including name and address, 1s. 6d., and 6d. for every additional line (about nine words) or part of a line. These Advertisements must be prepaid. This scale does not apply to announcements of Vacant Situations, which are charged at the ordinary scale.
Births, Deaths, and Marriages, 5s. each insertion.

POSITION.—Advertisers are specially requested to note, that under no circumstances whatever can any particular position be guaranteed for advertisements occupying less space than an entire column.

NOTICE TO ADVERTISERS.—In many instances Remittances in Payment of Repeat Advertisements are received without name, address, or anything beyond the postmark on envelope by which to identify the sender; this in all cases causes a very great deal of trouble, and frequently the sender cannot be identified at all.

Advertisers are requested when Remitting to give their Names and Addresses, and also a Reference to the Advertisements which they wish repeated.

POSTAL ORDERS.—To Advertisers, Subscribers, and Others.—It is very important in remitting by Postal Order that it should be filled in payable at GREAT QUEEN STREET, London, W.C., to H. A. STRATTON, as, unless the number of a Postal Order is known, and it has been made payable at a particular office, and to a particular person, it is impossible to prevent any person into whose hands it may fall from negotiating it.

N.B.—The best and safest means of Remitting is by POST-OFFICE MONEY ORDER.

Advertisements for the current week MUST reach the Office by first post, Thursday morning.

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements,
41, WELLINGTON STREET, STRAND, W.C.

SUBSCRIPTIONS.

All Subscriptions payable in advance. The United Kingdom, 12 months, 15s.; 6 months, 7s. 6d.; 3 months, 3s. 9d. All Foreign Subscriptions, including Postage, 17s. 6d. for 12 months. Post-office Orders to be made payable at the Post-office, Great Queen Street, London, W.C., to H. A. STRATTON.

Subscribers who experience any difficulty in obtaining their copies regularly, are particularly requested to communicate with the Publisher (in cases of delay in the delivery by post, the cover should be forwarded with complaint).

HILL & SMITH, BRIERLEY HILL, near DUDLEY;

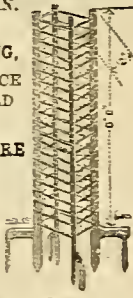
And at LONDON & DUBLIN.



Made 6 feet high by 12 in. square, in halves.

Price, 9s. and 10s. 6d. each.

IRON BAR FENCING,
IRON ENTRANCE PARK & FIELD GATES.
STRAINED WIRE FENCING.
GALVANISED WIRE NETTING.
BLACK VARNISH.



As above. The Famous PORCUPINE TREE GUARD.
 Price Lists Free on Application.

THE IMPROVED GARDEN GULLY

Supersedes the ordinary Garden Grating, and is especially suitable for hilly walks and drives.

They are never stopped up by rubbish and sand, and effectually prevent the gravel being washed away in heavy storms.

PRICES:—5-in., 2s.; 10-in., 3s.; 12-in., 6s. 6d.
 (The largest size is for Carriage Drives.)

Full Particulars and Testimonials on application.

Estimates given for Draining and Laying-out Grounds, &c.

VINCE & VINE,

16, Chester Road, Upper Holloway, London, N.
 (And at Marden Park Nurseries, Caterham Valley.)

The "DENNIS"
HEATING APPARATUS.

Complete, 50s.



1895-6. NEW CATALOGUE GRATIS. 1895-6.

HOT-WATER PIPES, BOILERS,
 SPOUTING,
 LAMP POSTS, &c.



THOS. W. ROBINSON,
 DENNIS FOUNDRY,
 STOURBRIDGE.

HEAD GARDENERS AND NURSERYMEN

who use BONES, should apply for price and particulars to
 E. S. WILES AND LEWIS, Bone Works, St. Albans.

EPPS'S selected PEAT.

A specially good stock now on hand of ORCHID PEAT, in good condition; also for Stove, Greenhouse, and Hardwood Plants, Rhododendrons, &c. in large or small quantities.

Rich Fibrous LOAM, SILVER SAND, excellent LEAF MOULD, C. N. FIBRE, SPHAGNUM MOSS, CHARCOAL, &c. Special cheap through rates to all parts.

EPPS & CO., The Peat Depot, Ringwood.

MASON'S WINE ESSENCES. NON-INTOXICATING

I LIKE THEM AND AM A GOOD JUDGE

A SIXPENNY BOTTLE will MAKE a GALLON of DELICIOUS WINE.

Sample Bottle post-free for 9 Stamps.

A LADY writes: "The 6d. bottle of Ginger Wine Essence made several bottles of most delicious wine, far better than what we have paid 2s. a bottle for. It is most suitable for children's parties."

NEWBALL & MASON, NOTTINGHAM.

MASON'S EXTRACT OF HERBS, for making delicious Non-intoxicating Beer. A 6d. bottle makes 9 gallons. Sample bottle, 9 stamps; or a sample of both, post-free, for 15 stamps.

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GLASS! CHEAP GLASS!

In Stock Sizes.

15-oz. 21-oz. (12x10, 18x12, 18x14, 24x14
 4ths 7s. 6d. 10s. 0d. 14x12, 20x12, 18x16, 24x16
 Per 100 ft. Box. 16x12, 16x14, 20x16, 24x18, &c.
 1/4 x 3 Prepared Sash Bar at 5s. per 100 feet.
 Flooring, 5/9 per square; Matching, 4/3; 2 x 4, at 1/2d. per
 foot run. Garden Utensils, Trellis, Ironmongery, Paints, &c.
 Catalogues free.

THE CHEAP WOOD COMPANY,
 72, BISHOPSGATE STREET WITHIN, LONDON, E.C.

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

SEND FOR A PRICE LIST

From the Largest Manufacturer in the Trade,

H. G. SMYTH,

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

THE SYDNEY MAIL,

AND

NEW SOUTH WALES ADVERTISER.**CONTENTS:—**

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 SPORTING and the FIELD, in which is incorporated BELL'S LIFE in SYDNEY.
 RECORD of RACES and NOTES on the TURF.
 CRICKET and AQUATICS.
 THE FLORA of AUSTRALIA. (Drawn and engraved especially for this Journal.)
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 STOCK and SHARE REPORTS.
 ORIGINAL and SCIENTIFIC ARTICLES.
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 The SYDNEY MAIL has a wide circulation throughout the Australian Colonies, New Zealand, Polynesia, &c. It contains a large amount of information on a great variety of subjects.

Subscription in Advance, £1 6s. per Annum.

Single Copies, 6d.; Stamped, 7d.

Publishing Office—Hunter Street, Sydney, New South Wales.

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The undermentioned Newspaper and Advertising Agents are authorised to receive ADVERTISEMENTS for the SYDNEY MORNING HERALD and SYDNEY MAIL:—

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 Mr. F. Algar, 8, Clement's Lane, Lombard Street, E.C.
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 MANCHESTER... James and Henry Grace, 73, Market Street.
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Any one desirous of

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SUPPLIED FREE FOR SIX WEEKS,

on stating the purpose for which the paper is required, forwarding Name and Address, and six halfpenny stamps for postage, addressed, "Midland Counties Herald Office, Birmingham." The Midland Counties Herald always contains large numbers of advertisements relating to Farms, Estates, and Residences for Sale and to be Let.

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(Trade supplied on best terms.)

A large stock of the finest quality ORCHID PEAT. Also for Stove and Greenhouse Plants, Ferns, Rhododendrons, &c. By the sack, cubic yard, ton, or truck-load. Can be seen in bulk at London Wharf. Immediate despatch by any Rail or Steamer. Prompt and Special Quotations for delivery to any Station.
 G. H. RICHARDS, Old Shot Tower Wharf, Lambeth, London, S.E.; Peat Grounds and Depôts, Ringwood and Wareham. Address all letters to London Wharf.

**FLOWER POTS and HORTICULTURAL POTTERY.**

CONWAY G. WABNE (Ltd.),

ROYAL POTTERIES,

WESTON-SUPER-MARE.

THE LARGEST MANUFACTURERS OF GARDEN POTTERY IN THE WORLD.

MILLIONS IN STOCK. CONTRACTORS TO H.M. GOVERNMENT.

30 Gold and Silver Medals Awarded.
 Price Lists free on Application.

ESTABLISHED 1851.

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TWO-AND-A-HALF per Cent. INTEREST allowed on DEPOSITS, repayable on demand.

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HOW TO PURCHASE A HOUSE FOR TWO GUINEAS PER MONTH.

BIRKBECK FREEHOLD LAND SOCIETY.

HOW TO PURCHASE A PLOT OF GROUND FOR FIVE SHILLINGS PER MONTH.

The BIRKBECK ALMANACK, with full particulars, post-free.
 FRANCIS HAVENSCROFT, Manager.

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WM. CUTBUSH & SONS, Highgate Nurseries, London, N. — Carnations, Pinks, Peonies, Pyrethrums, &c.

SHUTTLEWORTH, LTD., Fleet, Hants—Roses, Fruit, Hardy Perennials, Conifers, &c.

AUSTIN & MCASLAN, Glasgow—Forest, Fruit, and Ornamental Trees, Rhododendrons, Azaleas, Roses, Orchids, Carnations, Herbaceous Plants, &c.

OTTO PUTZ, Erfurt—Trade List of Seeds.

PERKINS & SONS, Coventry—Floral Arrangements.

GARDENING APPOINTMENTS.

MR. JOHN WILSON, from Messrs. THOMAS METHVEN & SONS Edinburgh, as Gardener to Mrs. MERRY of Belladrum Beauty, Inverness-shire.

MR. E. MARSHALL, late Gardener at Mount Ballan, Chesham, as Gardener to D. C. APPERLEY, Esq., Hethersett, Reigate, Surrey.

MR. G. B. HEALE, for the past 36 years Gardener at Sezincot, Glos., as Overseer to Mrs. MACPHERSON, of the Blairgowrie Estates and Fruit Farm, Perthshire.

MR. T. MOORHOUSE, formerly of Lockinge and Chatsworth Gardens, as Gardener to A. H. MILLS, Esq., Mapledurham House, Reading.

MR. ALEXANDER PHICAITHELEY, Head Forester to ARTHUR HEYWOOD, Esq., of Sudbourne Hall, Wickham-Market, Suffolk, to be Head Forester to the Earl of MANSFIELD, Scoote Palace, Perth, N.B.

The Best Present for a Gardener.

VINES AND VINE CULTURE.

The most complete and exhaustive Treatise on

Grapes and their Culture ever published.

Third Edition just out.

Price 5s.; post free, 5s. 6d.

A. F. BARRON, Royal Horticultural Society, Chiswick.

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OF GARDEN OPERATIONS.

Will be useful to Lecturers and Students in the above subject.

Price 3d.; post-free, 3½d.

41, WELLINGTON STREET, STRAND, W.C.

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E P P S ' S

GRATEFUL-COMFORTING.

C O C O A

BOILING WATER OR MILK.

MR. HOLMES, Beechen Cliff, Bath, BEGS to THANK those who kindly enquired his advertisement for a Gardener, and to SAY HE IS SUITED.

MR. JONES, Abberley Hall, Stourport, begs to THANK the NUMEROUS INQUIRERS for the post of HEAD GARDENER, and to say that the same IS NOW FILLED.

WANTED, for the Tea Gardens in India (Syhet), a SCOTCH GARDENER, about 25 years of age; one who has held a Foreman's situation and an abtainer preferred. Five years' engagement. Salary to begin at 2000 rupees per ann., rising to 2500 rupees the fifth year, with house, &c., found. Second-class passage paid out. (This term is considered as an apprenticeship, after which services are more valuable, and paid according to merit.) To enterprising young men this offers an excellent opportunity of improving their position.—Apply, stating height, chest-measurement, enclosing copies of testimonials, with short history of Gardening career, to ALEX. WRIGHT, 241, South Norwood Hill, London, S.E.

WANTED, a GARDENER.—Thorough knowledge of Kitchen and Flower Garden, acquaintance with Greenhouse, Charge of Pony and Trap. Wife Assist in House. No children. Write, stating wages, with testimonials.—C. READ, The Lawn, Romford.

WANTED, December 28, a SINGLE-HANDED GARDENER, wages £52 per annum and a good house; must understand Glass.—Apply to MAJOR LANG, The Gables, Lewes.

WANTED, a thoroughly experienced KITCHEN GARDENER, for large Kitchen Garden. No Botby; 25 to 30 years of age; must have good character.—Apply by letter, with full particulars, to Mr. BOND, Head Gardener, The Grove, Streatham, S.W.

WANTED, as FOREMAN, in Plant Department, under Glass, a thoroughly capable MAN, who has had experience in large establishments.—Apply, giving references, and stating salary expected, to JNO. COWAN AND CO., Ltd., The Vineyard and Nurseries, Garston, near Liverpool.

WANTED, FOREMAN for the Houses, well up in all departments of Fruit and Plant Culture, and able to manage men. Also a young man as Rose-grower, who has had several years' experience in a first-class Rose establishment. Apply to—W. MEASE, The Gardens, Downside, Leatherhead, Surrey.

WANTED, WORKING FOREMAN for Nursery, must have a thorough practical, up to date knowledge of Tomatos, Vines, and Greenhouse work generally. Forcing, a specialty. Apply by letter, with testimonials, to—D., 1, Wyndham Place, Brynaston Square, W.

WANTED, young MAN, well up in Cucumbers, Tomatos, Mushrooms, and forcing for Market. Capable for Glass and Outdoor Work of small Nursery. Reply, stating salary, E. W., Ridgway Park Nursery, Upper Eastville, Bristol.

To Nurserymen, Florists, and Market Gardeners.
WANTED TO APPRENTICE A LAD, aged 15 (indoors), as above, for a term of three years. The Youth is healthy, active and intelligent, and willing to make himself generally useful. A small Premium can be paid if required; and it is expected that the Apprentice shall be suitably boarded and lodged by his Employer during the term. References required.—Address, giving Full Particulars, S. & Co., 12, Fenchurch Avenue, London.

WANTED, a trustworthy smart young MAN, as SHOPMAN, where brisk Counter Trade is done. Must have general knowledge of Plants and Nursery Stuff.—Apply, with full particulars, stating age, wages required, and experience, JAMES WRIGHT, Nurseryman and Seed Merchant, Leicester.

WAREHOUSEMAN.—WANTED for a London Wholesale Seed Warehouse. Age about 30. Must have had some experience in Agricultural Seed.—Apply, by letter, to Q., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

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

FSANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—F. SANDER AND CO., St. Albans.

Gardeners, Farm-Bailiffs, Foresters, &c.
DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the highest respectability, and thoroughly practical at their business. All particulars on application.
Telegraphic and Postal Address—"DICKSONS, CHESTER."

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

GARDENER (HEAD).—Age 28; thoroughly practical in all branches of Gardening. Leaving through place being sold. Excellent testimonials.—LAMPARD, Basque Merrow, Guildford.

GARDENER (HEAD); age 40.—A Gentleman strongly recommends his late Head Gardener, who has been in his service fourteen years, to anyone requiring a thoroughly practical and experienced man in all branches.—G. N., Messrs. E. S. Williams & Sons, Upper Holloway, N.

GARDENER (HEAD, or good SINGLE-HANDED); well up in his work, both inside and out. Wife good laundress. Both good characters.—GARDENER, North Avenue, Maesywmmwr, Cardiff.

GARDENER (HEAD); age 30.—CHAS. HORN seeks situation as above. Over three years General Foreman at Temple House Gardens; previously four years Foreman at Spye Park, Wilts. Excellent references. Strongly recommended by G. Groves (Head Gardener), Temple House Gardens, Great Marlow, Bucks.

GARDENER (HEAD); age 37, married, no family.—Gentleman with confidence recommends his late Gardener; life experience in large establishment; thoroughly practical.—G., 2, Southwood Lane, Highgate, N

GARDENER (HEAD).—Age 30; has had good practical experience in good Gardens. Well up in the growing of Fruit, Plants, Flower, and Table Decorations. Three and a-half years in present place as Foreman. Good character from present and previous employers.—F. JOHNSON, Elvetham Park, Winchfield, Hants.

GARDENER (HEAD).—Age 38, married, no family.—A LADY giving up her establishment, wishes to recommend her Head Gardener. Over twenty years practical experience in good establishments. Excellent references. Five years in present situation.—W. WAINWRIGHT, The Gardens, Fernclough, Bolton.

GARDENER (HEAD WORKING).—Age 34, married, one child; thoroughly experienced in his work, inside and out.—J. A. THOMAS, The Lodge, Childown, Chertsey, Surrey.

GARDENER (HEAD WORKING), age 34, married; understands Vines, Peaches, Tomatos, and the general routine of gardening; wages 22s. a week and house.—GARDENER, Epperstone, Notts.

GARDENER (HEAD WORKING), in good private establishment.—Age 36; married, no children. Life experience in good all-round gardening; four years in present situation; excellent testimonials and references.—R. F., 41, Wellington Street, Strand, W.C.

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GARDENER (HEAD WORKING).—Age 32; thoroughly experienced in Orchids, Stove and Greenhouse Plants, and Fruit, Flower and Kitchen Garden. Excellent testimonials.—J. BROOKS, Hallow, near Worcester.

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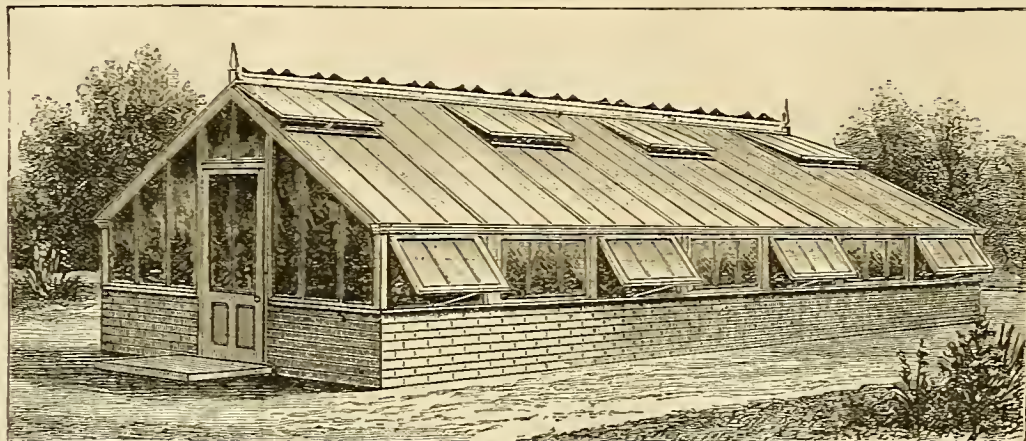
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ESTABLISHED 1841. No. 2869.

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NOTICE TO ADVERTISERS.

It is particularly requested that all Advertisements intended for next week's issue, should be addressed to the Publisher, and should be so despatched as to reach this Office not later than **TUESDAY MORNING NEXT.**

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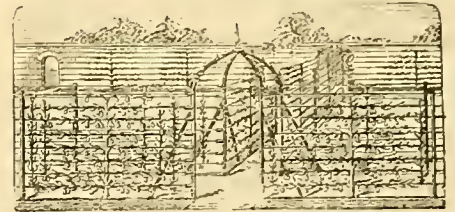
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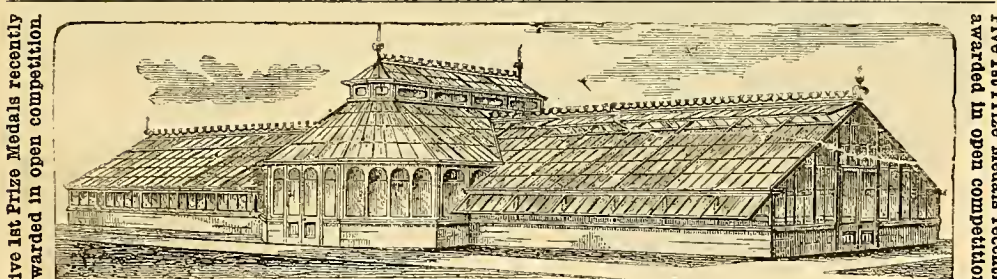


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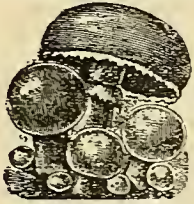
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THE
Gardener's Chronicle.

SATURDAY, DECEMBER 21, 1895.

ENGLISH GARDENING.

MISS AMHERST is well known to all lovers of old gardening literature for her publication in last year's *Archæologia* of the fifteenth century treatise on gardening by "Mayster Ion, Gardener," and the careful way in which that interesting treatise was edited by her, showed that she was well capable of larger efforts in the literature of gardening. The handsome volume now before us bears ample testimony not only to her skill and perseverance, but to her power of massing together a very large amount of petty details into a book that is throughout very pleasant reading.* The foundation of the book was laid by some excellent papers "On the History of Gardening in England down to the reign of Elizabeth," by Mr. Percy Newbery, which appeared in these pages in 1839; and on this foundation Miss Amherst has made a continuous history of English gardening, starting from the thirteenth century and reaching down to our own day. It is almost a pity that she did not tell us more of the earlier periods, even starting from the departure of the Romans, for though the accounts of gardening in the days between the sixth and thirteenth centuries are very meagre, there is yet enough to show that from the very first the English were a nation of gardeners; and there is a good record that in the eighth century, when the Anglo-Saxons were using the Latinised names, of which Miss Amherst gives a list on p. 3, there was a far larger number of true native British names of plants, showing that the Englishmen of that date were sufficiently acquainted with plants to give them distinct names. But English gardening, as indeed must be the case in all nations, is largely interwoven with English history, and this Miss Amherst brings out very well; her first sentence is, "The history of the gardens of England follows step by step the history of the people. In times of peace and plenty they increased and flourished, and during years of war and disturbance, they suffered." And so she shows what difficulties there were in the way of good gardening till the end of the fifteenth century, when, in "the comparative peace which followed the termination of the Wars of the Roses . . . the gardens were no longer of necessity confined within the embattled castle walls . . . and the custom came in of having gardens beyond it. With this additional space, there was more scope for play of fancy, and before long several changes in design came in." From that time to our own the progress of gardening has been uninterrupted, and Miss Amherst takes us through the gardens of the

* *A History of Gardening in England.* By the Hon. Alicia Amherst. London: Quaritch.

different periods; the Elizabethan gardens, which owed much of their beauty to the refugees from the Continent, who "brought with them some of the foreign ideas about gardening, and thus helped to improve the condition of horticulture"; through the stiff gardens of the seventeenth century, which were so largely destroyed (but of which, there are, fortunately, so many good remains) by the so-called natural gardening, or landscape gardening, down to the "bedded-out" gardens of our own day, and their partial destruction leading to the wild gardens and rock-garden, which are now the fashion.

One great value of Miss Amherst's book is, that she has brought together into one volume an immense mass of information of which very little is new, but which was scattered through many different publications. The labour that she has spent in finding out these different sources of information must have been very great, but the result is excellent. She has searched old cartularies, pipe-rolls, surveys, and probably hundreds of books, more or less bearing on her subject; but perhaps the most interesting extracts that she has given us are those from the different accounts of garden expenses at various times, and in different parts of the country, and the bills for fruit and other garden produce supplied to Royal and other great houses and she has shown that, from the first, the gardener was an important personage in all great establishments, and that the body of gardeners of London were of such strength that they could defy even the Lord Mayor of London, and could demand and obtain a charter of incorporation which was far more in accordance with their own demands than with the wishes of the Lord Mayor.

We must pass by with merely a word of notice the chapter on monastic gardening, though it contains much of interest, to say something of the chapter on the literature of English gardening. The literature on any art or science must always be an index to the existing condition of the art or science, and it is so in English gardening literature to a very marked extent. Nothing shows better the state in which gardening was at different times than the books which appeared from the sixteenth century downwards; and, therefore, Miss Amherst has done well to give very full accounts of gardening literature, with a long list of the writers. The value of these chapters is that they are placed side by side with the accounts of the gardens, and so far they have a distinct value; but here, too, there is nothing new, and she does not seem to be aware of the many similar lists given by other writers, as by Pritzel, Miller, &c.; nor does she seem to be aware of Pulteney's *Progress of Botany in England*, 1790, an excellent book, though now almost forgotten, which may be Miss Amherst's excuse for not mentioning it.

We had noted several other points on which we should have liked to have said more, but space forbids. We must, however, find room for a few points on which we do not altogether agree with Miss Amherst; and we note them, not for the purpose of fault-finding, but in the hopes of helping her in preparing for a second edition. She is so laudably particular in giving full references for all her statements, that we should like to know the authority for the statement (p. 23) that "rosary," in some old documents of Ely, is not a Rose garden, but "a bed of Reeds and Rushes." It is so, no doubt, in the French cartularies, being derived from *roseau*; but we should question its being so used in English cartularies. We are sorry that she adopts (p. 137) the exploded fallacy that the Jerusalem Artichoke is so called from the Italian *girasolo*, for which there is no authority whatever, and her own quotation about "Jerusalem Pears" might have shown her the mistake; and we think she is mistaken in saying that 1722 was "probably the last serious attempt at Vine culture." There is full evidence that excellent wine was made in large quantities at Claverton, in

Somersetshire, and tithes on Grapes were taken later than 1722 at Cromhall, where are still very complete remains of the old vineyard. But leaving all these small deficiencies, we gladly conclude with thanks to Miss Amherst for the very pleasant book she has given us, and with congratulations to her for having brought her long labours to such a satisfactory conclusion. A word of praise also is due to the getting up of the book; paper, print, binding, and illustrations are all that

colour of an ordinary good *L. anceps*. The front lobe of the lip is of a glowing crimson, and the side-lobes are veined and striped with a similarly bright hue, but the chief distinguishing feature consists in the sepals being white at the base, the outer half of each and the margins being rose-crimson, the white basal halves having some clearly-defined chocolate lines on them as though drawn with a pen, constituting a very peculiar and distinct feature. *J. O'B.*

CONSTANTINOPLE

ANONA CHERIMOLIA.

ALLOW me to highly recommend this to the notice of your readers as being a fruit-plant, well worth cultivation. I am surprised that the plant does not meet with general approval in England, for the exceedingly choice fruits are obtainable from December to about February—a time when other fruit is necessarily scarce. I myself have only one plant, planted out in a house with other semi-tropical fruit trees, and although the position is not of the best, I obtain every year about a dozen fruits each, the size of a Pear. By the same post I am sending you a fruit and a photograph of the tree as it stands (figs. 121, 122). Next to this plant we have planted out *Anona squamosa*, *A. Cherimolia Loxensis*, which have also fruited this year. *Anona squamosa* is generally well known, but *A. Cherimolia Loxensis* is much more rare, and the fruit, according to Linder, must be superior to that of *Anona Cherimolia*, which it resembles in shape and size, but it has the skin raised all over the surface so as to form little spines. *Joh. Dekkers, Gardener to His Excellency Aristakes Azarian, Buyukdere, Constantinople.*

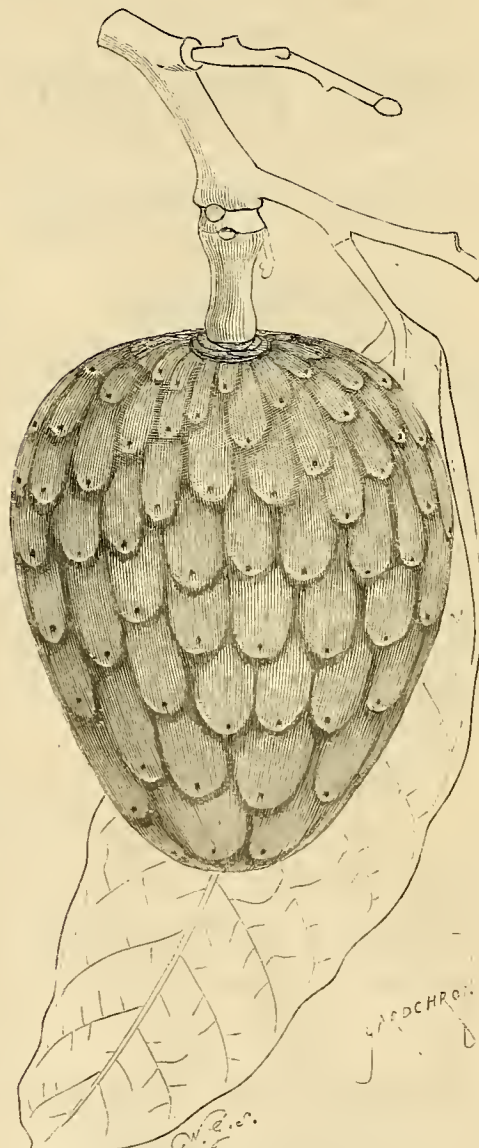


FIG. 121.—ANONA CHERIMOLIA: FRUIT REAL SIZE, COLOUR GREENISH.

can be desired, and it closes with two good indexes—good, that is, as far as they go, but the book itself is so full, that a much fuller index would be very acceptable in a second edition.

NEW OR NOTEWORTHY PLANTS.

LÆLIA ANCEPS VAR. LINEATA, new var.

IN Lord Rothschild's gardens at Tring Park, Tring (gr. Mr. E. Hill), the houses filled with the now numerous and beautiful varieties of *Lælia anceps*, both white and coloured, annually make a fine show, and are counted among the most useful of winter-flowering Orchids. Among them is a remarkable variety, flowering for the first time. The petals are of the size and rich rose-crimson

THE ROSARY.

STOCKS.

THE operation of budding is so pleasant and striking in its results, that even where exhibiting is not thought of, many amateurs practise it; ladies especially are fond of it, and their deft and delicate handling makes them very successful operators. Of course, no amateur can contend with the professional budder, who rattles them off in less than no time, and whose quickness seems to many almost incredible. These amateurs, then, will have to determine what stocks they will use, and how they will use them.

The question of stocks is one which has always exercised the minds of rosarians, and while one is advocating one kind, and another a different sort, I fear that judgment will have been formed in many cases without due consideration for the character of the soil for which they are required, or for the varieties of Roses to be budded on them. Various kinds have been from time to time recommended, but for all practical purposes account may be taken of only four. De la Grifferaie, Napoleon, Celine, and other kinds, have been from time to time recommended, and our late Japanese Polyantha has been highly spoken of for Tea Roses, but I think that few amateurs will try experiments, and therefore I shall confine myself to the four kinds most generally used.

The Briar.—The Dog Briar, or wild Rose, of our hedge-rows and woodlands; the Saedling Briar, the Briar cutting, and lastly, the Manetti. The Dog Briar is used almost exclusively for standards and half-standards. The introduction of dwarf Roses has considerably altered the practice in this particular; standards are very much gone out of fashion, and the Rose amateur uses them only for his Teas and Noisettes—he is still firmly persuaded that in no other way can he get such exhibition blooms as from half standards, and therefore the "Briar man," of whom Dean Hole so humorously writes, is still in requisition. All Briar stocks should be planted about this time; of course, as they are received there is very little

fibrous root, and beginners might wonder where the roots were to come from—but so little stress is laid upon these that I know one friend, at any rate, who pares off all the fibrous roots which are on the stock when he receives it, for he does not believe that the roots which are on the stock when he gets it are of any value. It is somewhat curious that, notwithstanding these stocks are obtained from our own hedge-rows, they easily succumb to hard frost, and during the earlier part of this year I know that 70 per cent. in some cases were killed; and I recollect seeing some years ago a splendid piece in the neighbourhood of Paris, of some 30,000 which had been budded the year before, and were grand plants of all the best kinds, but every one of them perished. For these reasons I think all beginners, and all new exhibitors, ought to avoid a standard Rose. It is

with care the hips of those varieties which he knows to be most useful. The process for preparing the seed for sowing &c. is somewhat tiresome, and few amateurs would care to go in for such large quantities; and seedling plants which will be fit for budding can now be obtained at any of our nurseries, and should be planted in rows, the plants being about 6 inches apart and so placed that the portion for budding should be covered during the winter, which covering may easily be removed when the time for that operation comes on.

Briar cuttings has been of late years much in use; it has its advantages over seedling Briar—it is, indeed, suited for a different kind of soil. The seedling Briar sends down its roots, and is suitable for stiff soils—indeed, Mr. Prince says for all soils; but the Briar cutting spreads out its roots, and is therefore more

Botanic Gardens of Mouza. That it has been a great boon to nurserymen and to all growers of the hybrid perpetual class there cannot be the slightest doubt it is too vigorous for Teas, and there has been much heartburning in consequence of the attempt to bud them on it—in fact, it is too vigorous for many of them and the stock overpowers the scions. It has another disadvantage, too; if all the eyes are not carefully cut out below the bud, they are apt to start into growth, and many and many a time have I been asked to account for a Rose not blooming, when on looking at it I have found that the Manetti had completely overpowered the bud, and the foliage being somewhat like that of the Rose, the grower had allowed it to develop itself, leaving him with a fine bush of the stock instead of a Charles Lefebvre or Marie Baumann, which he looked for. Manetti plants may be now easily procured from a nurseryman, but it is very easily propagated from cuttings. These should be prepared as follows: the cuttings should be about a foot long, and should be cleanly cut just below a bud, in a straight line; all the eyes should be carefully cut out except a couple at the top, the cutting should be cut in a slanting direction just above a bud. Mr. Rivers gives the following directions as to planting them, and I do not think that the directions of that Rose-wise Neator can be improved upon: "In planting, the sections of a ridge has to be formed, the cutting placed against it, and the earth dug up to it and firmly pressed; when finished the row of cuttings should stand in the centre of a ridge about 8 inches high, and only one bud of the cutting above the surface. From being thus mounded up, no exhaustion takes place during the dry frosts of winter and spring, and every cutting will grow; in July or August of the following season they will be fit to bud. The ridge must be levelled so as to expose the main stem of the cutting; and, in this, at about 3 or 4 inches from the bottom, the bud must be inserted. The stocks should be budded as soon as possible after being uncovered, or the bark will become rigid and will not open freely." As I have already said, care should be taken about shoots coming from the stock, for however carefully the eyes have been cut out, some will probably have escaped notice. Let me also say that care should be taken as to the varieties which are used: for all weak-growing hybrid perpetuals the Manetti should be avoided, for though, as a rule, it is well adapted for that class, it is idle to attempt to grow some of them on it, such kinds as Horace Vernet and Louis Van Houtte, which are short-lived on all stocks, very soon succumb to the vigour of the Manetti; and experience will perhaps teach the grower that there are some other sorts which in his soil and situation will not succeed on it. In fact, this experience is a subject which greatly enters into the secret of successful Rose-growing, and it is perhaps only after some failures that wished-for results can be obtained. *Wild Rose.*



FIG. 122.—ANONA CHERIMOLIA, IN FRUIT AT CONSTANTINOPLE. (SEE P. 734.)

not a thing of beauty in itself, and for years past I have not grown one. It is true I am not an exhibitor, but I fancy that I have from dwarfs had as good blooms as could well be desired. I may say that where standards are used it must never be when the soil is light, as they are apt to throw out suckers a long way from the plant, and so cause a good deal of trouble.

The Seedling Briar.—Some years ago Mr. Prince, of Oxford, brought forward the seedling Briar, which had been previously used a good deal in France, especially for grafting in pots, but he used it out of doors for Tea Roses, and it has unquestionably become to be the recognised stock for that beautiful class. It is not too vigorous in growth, so that it does not overpower the scion; it is not so early as the Manetti, and so consequently better escapes frosts. It is a somewhat difficult stock to bud as the stems are so small, but it is pretty sure to take if properly managed. Mr. Prince is of opinion, I think, that all Dog Roses are not equally valuable, and so collects

suited for light soils. Both of these stocks do, I believe, equally well for the Teas and Noisettes, and no one I think now-a-days thinks of using the Manetti for that purpose.

The Manetti.—I now come to consider the Manetti, the introduction of which, by the late Mr. Rivers, of Sawbridgeworth, has so largely contributed to the increase of Rose culture in this country. Some few years ago there was a great outcry against it, all kinds of evil practices were ascribed to it, and its days were said to be numbered. This was in itself ridiculous, for it must ever be borne in mind that the amateur champions of former days, such as Mr. Baker of Exeter and Mr. Jowett of Hereford, grew all upon the Manetti, whilst some of the finest blooms of the present day are exhibited from the same stock. Mr. Rivers received this stock some fifty years ago from Signor Crivelli, of Como, who recommended this as the best stock for all Roses (in this he was mistaken). It was stated by him to have been raised from seed by Signor Manetti, of the

THE PLANTS OF THE BIBLE.*

WE are frequently asked to recommend some book on the plants of the Bible, and if the questioner is not a professed botanist, we have some difficulty in giving a satisfactory reply. Some are too costly, some are too superficial, most are written by authors whose botanical education has been neglected. Neither of these charges can be brought about the present little volume. It may be had for a shilling. The information it contains is trustworthy, the author is an accomplished botanist, and familiar with the Mediterranean flora. Professor Henslow has solved our difficulties, and we shall confidently recommend his little book to those seeking information. The interest of the subject never flags, and owing to the configuration of the country, the flora of the Holy Land, as of Egypt, is pretty much what it was in those far-off times with which the earlier as well as the later chapters of the Bible are concerned. Looking at the matter from a purely botanical point of view, we may point out the difficulty, nay, in some cases,

* *The Plants of the Bible*, by the Rev. George Henslow, M.A. (The Religious Tract Society.)

the impossibility of assigning to any particular word a specific interpretation. The names are often used in a broad generic sense, and although we are told that Solomon "spake of trees from the Cedar tree that is in Lebanon, even unto the hyssop that springeth out of the wall," we are not told that he wrote of them, still less, that he formed a herbarium by means of which we moderns could determine what the trees were of which he spake. In the verse quoted, there is of course no doubt as to what Cedar that is intended. It is in Lebanon still; but what was the hyssop? and what was "the thistle that was in Lebanon and sent to the Cedar that was in Lebanon"? The words in the last citation are doubtless used in a metaphorical sense; but with reference to Hyssop, some eighteen aromatic Labiates and one Casper have been mentioned, as in the opinion of divers commentators representing what is translated Hyssop!

In the present little treatise, we have first an introduction, and then, in succession, chapters on textile materials, herbs used for culinary or medicinal purposes, fragrant gums and perfumes, fruit trees, timber trees, desert trees, and aquatic plants.

To show how mistakes may arise, and be perpetuated, we may mention how Gerarde, following De L'Obe^l, figures pitchers of the North American *Sarracenia* as the leaves of the Frankincense tree! The mistake is the more interesting, as this is the first notice of the *Sarracenia* that exists. The whole story was given in our column, Jan. 7, 1893, p. 11, and form, we venture to say, one of the most curious instances of "jumping at conclusions" that could be cited. The origin of the *Sarracenia* pitchers was forgotten, their nature undetected, and so, by mischance, they got taken for the leaves of the Frankincense tree. It is needless to say, Professor Henslow falls into no such blunder, but similar errors in the determination of other Biblical plants might probably be cited. Guido depicts the crown of thorns as composed of the stout spines of the *Gleditschia*—like the *Sarracenia*, an American plant. Others more reasonably, suggest the *Palurus*, which is common in Palestine, or the dwarf *Poterium spinosum*.

The "Willow" by the rivers of Babylon was presumably not, as Professor Henslow supposed, a Willow, but what we now know as *Populus euphratica*. *Salix babylonica* is of Chinese or Japanese origin, and if the Weeping Willow exists now in the valley of the Euphrates, it has probably been introduced. Boissier does not mention it as a native of Mesopotamia, but says that probably some other species has been mistaken for it. But the subjects for comment suggested by Mr. Henslow's book are far too numerous for us to dilate upon. We have indicated the general nature of its contents, and we cordially recommend all those interested in the subject—as who is not?—to make themselves the possessors of this suggestive little book.

CHRISTMAS ROSES.

In the hardy plant garden at this season of the year, we have no flowering plant of such beauty and worth as the Christmas Rose, producing regularly, as it does at this dull season of the year, fine masses of flowers, of perfectly hardy and enduring character. To the gardener and cultivator generally the plant need present no great difficulty, if only a few essentials receive attention. When very near to large manufacturing centres, they frequently suffer from the effects of smoke, and the plants lose much of their foliage. Where this is the case, the flowers are sure not to be satisfactory; but when grown in pure country air, the plants attain a vigour and luxuriance which is a pleasure to behold. In many parts of Gloucestershire they are usually excellent, and equally so in many parts of Cheshire. In one instance, in the first-named county, in an ordinary market garden, I have seen an acre or more of them in fine clumps; and around Bath one may see many good clumps in the cottage gardens. In private gardens, where they

can be given special treatment, very few plants indeed more fully repay it, or more quickly.

The soil should be of good depth, and fairly rich. In Middlesex, on a light soil, which in summer frequently becomes dust-dry several inches deep, the plants suffer a good deal, and in these instances shade is of considerable service. Where possible, 2 feet, or even 3 feet, deep of good soil should be given them, as the deeper the rooting medium, the less will the plants suffer from excessive drought. It is surprising the depth to which their roots descend when opportunity is given them, and the benefit they thus obtain is equally marked. Hellebores, and those of the niger section in particular, are impatient of frequent removal, and care should be taken to treat them well when transplanting is rendered necessary.

The best time in the year for dividing and replanting them is in early autumn. Of course, to split up large plants at this time incurs a sacrifice of flowers, and for this reason only a limited number should be broken up at one time. If carefully done, however, one large specimen may readily be broken into a dozen and often a score of pieces. Those who do not care to break up plants in the autumn will find the next best time to be when flowering is complete. It is a common practice at this season of the year to lift good flowering roots and pot them for decoration in the greenhouse and conservatory. All such plants, when flowering is past, should be broken into smaller pieces, and replanted, and on no account let them be planted back in the old clump, as when this is done they invariably decline in vigour. Beside planting them in a variety of positions, it is a good plan, if cut flowers are largely in demand, to plant some in specially-prepared beds, and in such a way that the blooms may be protected at flowering time. If lights are placed over them, blossoms of greater purity result, and sometimes increased length of stem also. A very fine effect may be produced by growing Christmas Roses in large pots, or even tubs, plunging them their full depth in the open ground during summer, and supplying them plentifully with water and liquid-manure throughout the growing season. In this way their handsome foliage would be for the most part retained, and it would add greatly to the general effect. J.

THE FLORA OF BOURBON.*

Dr. CORDEMOY's new book on the flora of this beautiful island fills a gap in botanical literature, and is one of the most interesting contributions to systematic and geographical botany of recent years. Baker's *Flora of Mauritius and Seychelles* appeared nearly twenty years ago, and the botany of Madagascar is now fairly well known, although there is no consolidated descriptive account of the 5000, or thereabouts, species of plants, published and unpublished, known to inhabit that country.

Commerson botanised Bourbon about the middle of the last century, and made very extensive collections, supplemented by copious notes and drawings; but he died before he had completed his work for publication, and his plants have, to a great extent, like the fruits of many other French expeditions, lain undisturbed in the rich national herbarium at Paris. Aubert du Petit-Thouars went to Bourbon in 1795, and remained there three years. After his return to Paris, he published several important works on the botany of this and the neighbouring islands, including Madagascar, notably his *Histoire Particulière des Plantes Orchidées recueillies sur les trois Iles Australes de l'Afrique: de France, de Bourbon, et de Madagascar*.

Gandichaud, another French botanist of eminence, visited the island in 1818, but his collections were lost in the wreck of the *Uranie*, near the Falkland Islands. He returned to the island in 1837, in the *Bonite*, and subsequently wrote the botany of the voyage. This is incomplete, yet it is one of the most interesting of the earlier contributions to insular floras.

* *Flora de l'Isle de la Réunion* [Bourbon], par E. Jacob de Cordemoy, Paris, 1895.

Several other botanists have visited the island, and many of the peculiar plants have been described and figured in various publications. For the first time an attempt has been made to give the world as complete an enumeration of the plants as the author could, under the circumstances in which he is placed. Unfortunately, Dr. Cordemoy had to work as best he could, on the spot, or not at all; consequently the very extensive old collections in the herbaria of Europe could not be utilised, or only to a small extent by friends at home comparing odd specimens for him. He therefore does not pretend to completeness; and as the greater part of the original forests have disappeared in Bourbon, just as they have done in Mauritius, it is probable that many species that formerly inhabited the island, no longer exist. Nevertheless, a comparatively rich flora is described in the book under notice.

Bourbon is about the same size as Mauritius, from which it is now separated by about 100 miles of sea, though it seems probable that they were joined at some remote period. The mountains rise to an altitude of more than 9000 feet, or nearly three times the height of the highest summits in Mauritius, and the island presents a great variety of climatal conditions. Rain is abundant during the summer months—November to April, and the mean temperature at St. Denis, on the coast, during this season is about 26°·5 (80° Fahr.), sometimes rising to 32° (90° Fahr.). In winter the mean is 20°·5 (69° Fahr.), and at St. Benoit 12° (54° Fahr.). On the Plaine des Palmistes, at an altitude of 3000 to 3500 feet, the thermometer drops in mid-winter to about the freezing point, and very rarely 6° Cent. (22° Fahr.) below. At 7000 to 7500 feet ice is sometimes found as late as November.

Formerly nearly the whole island was covered with forest from the seashore up to an altitude of about 6500 feet. But for half a century all the available land in the lower region has been cleared for cultivation, and the native vegetation is replaced, where not actually under cultivation, by foreign weeds. At the present day the forest region commences at 600 to 2500 feet.

Most of the prominent and useful forest trees are common to the Mauritius, as are all of the Palms. But what is more remarkable, few of them are found elsewhere, though many of the genera of the region extend to Madagascar. In fact, there are very few genera peculiar to either Bourbon or Mauritius, but several restricted to the two, indicating that these islands are separated remnants of a formerly more extensive area of land. On the other hand, peculiar species are very numerous in both islands. Dr. Cordemoy and his collaborators, for he has not worked out all the orders himself, describe upwards of 200 species of flowering plants as new, in a total of less than 1000. More than seventy of these new species are Orchids, and the author expresses his conviction that many terrestrial species yet remain undiscovered, as they are, many of them, very small and inconspicuous, and their period of vegetation is of very short duration. Indeed, as it is, the number of species of Orchids enumerated is 172, or more than double the number of any other order of flowering plants! The island is also exceedingly rich in Ferns and Lycopods, which number together about 220 species. It is true that the author takes a narrower view of species than he probably would do if he were dealing with the Ferns of the whole world; but even after deducting 20 per cent. on this account, there remain nearly a third more than there are in the Fern-flora of New Zealand. Not only are the species numerous, but between thirty and forty genera are represented. Tree and Filmy Ferns are present, though they do not abound to the extent they do in the far-away southern country.

Returning to the Orchids, we find that epiphytal and terrestrial species are both abundant, though the latter preponderate numerically as to species; yet, as they are less conspicuous individually, and many of them are exceedingly small and rare, they are less evident than the former. Among epiphytes the genus *Angraecum* stands first, numbering about thirty species, including

the showy *A. superbum*, *A. eburneum*, *A. gladiifolium*, *A. fragrans*, and *A. palmiforme*. To these Dr. Cordemoy adds the following Orchids as noteworthy for their ornamental character: *Æonia macrostachya*, *Æ. erostria*, *Æ. brachystachya*, *Phejus longibracteatus*, *Calanthe sylvatica*, *Corymbis corymbosa*, *Cryptopus elatus*, *Eulophia scripta*, *Habenaria præalta*, *H. ventricosa*, *Satyrium anæonum*, *Amphorchis discolor*, *Saccolabium squamatum*, and *S. striatum*. Cordemoy also mentions *Amphorchis discolor* and *Arnottia mauritiana* as remarkable for their highly curious dimorphic flowers, "like the flowers of distinct genera on the same spike;" but he gives no description of them.

The intermediate and upper zones of vegetation comprise species of *Phillipia*, dwarf shrubby *Ericaceæ*, *Hypericum*, *Phyllica* (very numerous in South Africa), *Psidium*, and shrubby species of *Senecio*, prominent among which is the endemic *S. Ambavilla*. *Favajasia* and *Eriothrix* are other characteristic

over, and a "perfect terror to evil-doers," be they beasts or human beings. The fruit which we show (fig. 123), was sent us by Commendatore Hanbury, from his rich garden at La Mortola on the Riviera. Its general appearance is shown in the figure the colour and surface resemble those of an Apricot. The juice is intensely acid, but if the fruit is allowed to become a little over-ripe, the flavour loses much of its acidity, and develops an aroma which is delicious. Few people like to eat the fruit raw, but the jam, writes Professor Macowan, is first-rate. A proportion of Kei-Apple with Tomato would, he says, make a good jam.

Cocos australis (?)—We are sorry to be obliged to put a query to this name, as we have received fruits from three different sources, each with different names. The first to send it was our venerated correspondent, M. Charles Naudin, of Antibes. Then Mr. Hanbury kindly furnished us with some; and lastly, Prof. Petzig, of Genoa, obligingly supplied us with speci-

to be in a position to state which is the correct name. In the meantime, the plant may be recommended for planting in our sub-tropical colonies and under glass in this country. The fruit would be very acceptable on the table of the connoisseur. We append Professor Petzig's note on this Palm:—"I read in a recent number of the *Gardens' Chronicle* a short communication made by you upon the ripe fruit of *Cocos australis*, sent from Antibes and La Mortola. I think it is not the true *Cocos australis*, but that it is *Cocos leicopatha*, Barb. Rodrig., a very hardy Palm, which grows in the open air perfectly in Genoa, and throughout the whole Riviera, and which resisted a cold of 2° Celsius, without any harm in spite of a very strong northern wind. I think it is one of our most hardy Palms. We have in our Botanic Gardens, and in the public gardens of Genoa, numerous specimens of this fine *Cocos*, and we have had flowers and ripe fruit of it these five years."

Lastly, we may mention the *Cherimolia* (*Annona Cherimolia*), one of the so-called Custard-apples, specimens of which have been sent to us from Constantinople, see fig. 121. We may refer for details of cultivation to the letter of our correspondent at p. 734. The plant occurs from Ecuador to Peru, according to Von Mueller, is hardy in the mildest coast-regions of Spain, and also in Chile, whilst in Jamaica it is cultivated up to 5,000 feet.

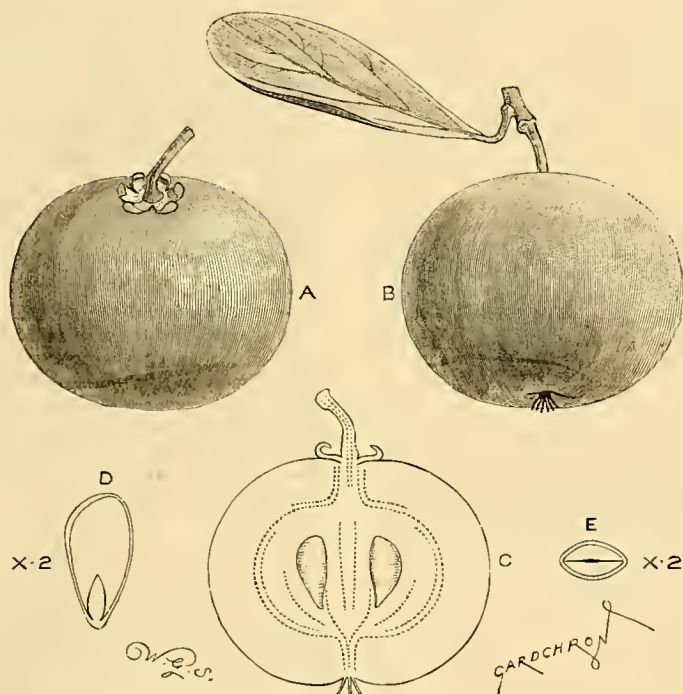


FIG. 123.—*ABERIA CAFFRA*.

A, B, fruit of the natural size; C, section; D, vertical, and E, transverse section of seed, magnified.

shrubby *Compositæ*. Plants of an alpine character are entirely wanting. *Cardamine africana* is the only native Crucifer, and *Stellaria villosa*, the only member of the *Caryophyllacæ*. There are, however, two endemic species of *Ranunculus*, high up on the mountains. *Agauria salicifolia* is an ericaceous shrub or small tree common to Bourbon, Mauritius, Madagascar, and the mountains of Tropical Africa. Altogether it is an exceedingly interesting flora. *W. Botting Hemsley.*

NEW FRUIT AT CHRISTMAS.

Nor Oranges, nor Apples, nor Grapes, form the object of our present note, but a few less widely-known fruits, which have come under our notice lately, and which would be well worth the trouble of growing here under glass. The first we shall mention is the Kei-Apple. This being a popular name, it will occasion no surprise to hear that it is essentially, if not superficially, as unlike an Apple as any two fruits could be. It is, in fact, the berry-like fruit of *Aberia caffra*, a Bixaceous plant, native of Natal and Caffraria, and which is recommended by Professor Macowan as a good hedge plant. It is a sturdy, stocky, short-jointed grower, an evergreen, and with thorns which grow to 6 inches long and

mens, telling us at the same time that the Palm had fruited annually for some years past. *Cocos australis*, if that be really its name, extends, says Baron Von Mueller, from Brazil to Uruguay and the La Plata States. It is one of the hardiest of all Palms, hardier even than the Date Palm, withstanding unprotected a cold at which Oranges and Lemons are injured or destroyed. It remained perfectly uninjured at Antibes at a temperature of 15° (Naudin).

Cocos australis is a pinnate-leaved species, with elegantly recurved leaves, as may be seen from the figure in Count Kerchove's useful work, *Les Palmiers*, and with strong spines on the leaf-stalks, as are manifest in some specimens before us. The fruits are, as will be seen from our illustration (fig. 124, p. 739), of the size of Hazel-nuts, globular, golden-yellow, with a pulp of a delicious flavour, comparable to that of a fine Pine-apple, and suitable for preserves, or even for making wine. In the centre is a spherical hard stone, which, when cut across, reveals three cavities, each with a single seed. Now, in *Cocos* usually two of the three carpels are suppressed, and one only goes on to maturity.

Other names we have heard applied to this Palm are *C. campestris*, *C. ericopatha* of Drude, and *C. leicopatha* of Berlona. We hope shortly

THE CULTIVATION OF LIQUORICE-ROOT IN THE UNITED STATES.

In consequence of the increasing use of Licorice in America in the preparation of chewing-tobacco, the prospect of the cultivation of the plant in America has occupied the attention of landowners in that country for some time past. Under the title of "The Cultivation of Licorice-root in the United States," Mr. Henry N. Rittenhouse contributed a valuable article on the subject to a recent number of the *American Journal of Pharmacy*. So much valuable information is contained in this paper, that we offer no apology for giving the gist of it for the benefit of our readers. The author points out that Licorice-root (*Glycyrrhiza glabra*) is cultivated, in the true sense of that word, in so few places in the world, and to so small an extent as an article of commerce, as to be hardly worth mentioning, one or two places in England, and a like number in France and Germany, embrace all the localities where actual cultivation is carried on, and the area of land under cultivation varies from a few rods to an acre or two, 5 acres being an exceptionally large field.

The large amount of Licorice imported into America—indeed, the needs of the world in this article are mostly supplied by plants which grow wild without any cultivation whatever. Italy and Spain supply a small percentage of the total amount, probably 5 to 8 per cent.; while Southern Russia, along the line of the Trans-Caucasian Railway, supplies two-thirds of the remainder, and Asia Minor and Syria the other third. The average total amount per annum of all kinds imported into the United States is about 80,000,000 pounds, and the consumption is still increasing.

The Licorice plant grows over an area extending from the shores of the Mediterranean on the south, to Siberia on the north, and from the western shores of Europe, to the plains of Persia and farther India, and from low levels to 1,500 feet above the sea, showing the wide area of land, and the variety of soil and climate over which the plant will grow vigorously. It is hardy, and so tenacious of life, that it is almost impossible to eradicate when once it has established itself.

As found in commerce, Licorice-root is dried and pressed in bales. When freshly dug, it contains on an average 50 to 60 per cent. of moisture. This must first be dried out, which is done by exposure to the air, much as hay is made, requiring frequent turnings and handling to prevent as much as possible, heating, fermenting, and darkening during the drying as well as the wetting by rain or snow, which

may be frequent before the root is dry enough to press for shipment. When nearly dry, and danger from damage from the presence of moisture is passed, it is piled up in large stacks until ready to be pressed. Around these stacks are dug ditches for draining the ground, and after a heavy shower or prolonged period of rain or snow, these ditches will fill with a black water having a very strong taste, and containing a high percentage of the extractive matter of the root; this, of course, detracts from its name, and is itself waste. When sufficiently dry it is pressed in powerful hydraulic presses worked by steam, so as to reduce the bulk to a minimum and to save freight. The bales are bound with iron straps, and sometimes covered with canvas.

Some of the roots as imported are so thick that they indicate a probable growth of, perhaps, twenty years. These very thick pieces are, however, usually rejected as being worthless for making extract, three or four years being the age at which roots are dug up in the plantations about Pontefract, where the best Liquorice-root is grown; after this age it becomes too woody and fibrous to be of much value in making extract.

Of course, a very small proportion of the Liquorice-root of commerce is grown in this country, and in consequence of the expenses attending the digging, drying, curing, pressing, baling, freight, insurance, and other items connected with the produce of Asia Minor and Russia, attention has been directed to the possibility of growing the plant in the United States for the purpose of supplying its own demand. The consumption of the extract in America is now so large and important, especially in the manufacture of chewing tobacco, that it is stated that in case of a European war, a blockade of the Black Sea at the Dardanelles, or the Mediterranean at Gibraltar, the world's supply would be effectually blocked, and the large American industry of tobacco-manufacturing thrown into confusion, as Liquorice has become a more or less important ingredient in most brands of chewing tobacco, and the present generation of chewers has become accustomed to its use. New brands omitting this ingredient might be unseizable.

Considering the great variety of soil and climate in the United States, as well as the cheapness of land and labour, together with the large tracts of land available which are comparatively easy of access for the transportation of the produce, it is estimated that the cultivation of Liquorice would form a profitable industry in America, and would, in time, pay better than either Sugar-cane, Sugar-Beets, Rice, or Cotton, although the industry would not be so large or important as any of these.

Liquorice extract can be made as well or better from fresh root than from the dry, and is so made in the countries that furnish the root, but the duty on it of 5 cents per pound largely restricts its importation, while the root is free.

It is suggested that by introducing the cultivation of Liquorice into America, the extract may be made on similar lines as those now adopted in the manufacture of sugar from cane and Beets, that is, to have large tracts of land devoted exclusively to the growth of the plant, with the factory for making the extract from the fresh root in or near the fields. The present sugar-factory, too, could easily be adapted to the manufacture of the Liquorice extract, the apparatus required being simply suitable crushers or shredding machinery, the diffusion battery and vacuum pans for evaporating. Sugar factories, too, could be utilised when not running on sugar, as the proper time for digging the root is from October to April, and if the root is not needed one year it can be left in the ground until the next, not only without deterioration, but to its increased value and weight. It is not well, however, to allow the root to exceed five years in growth; three or four-year root is the richest in extractive matter. Frost or drought do not injure the root when once well established, though young and tender plants are liable to injury.

After selecting a suitable tract of land, the following is given as the best means of cultivation: "It need only be ploughed once to turn down the

grass and weeds, harrowed, then laid out in furrows about 25 to 30 inches apart, and the beds or cuttings set in the rows 6 or 8 inches apart, and covered by a plough throwing a furrow over the beds from each side, or even cover them 3 or 4 inches with a hoe. This is all. From time to time during the growing season a cultivator should be run between the rows to keep down weeds or grass. The tops at the end of the growing season should be cut off; this could be done with a mowing machine. The second and third year the treatment would be the same. In the fall of the third year the crop would be ready to harvest. The cost of the harvesting would be the most expensive part of the business." As the roots penetrate to a great depth, a good deal of labour is required in digging them up, but it is suggested that this hand-work may be supplanted by some mechanical means of extracting them from the ground.

Mr. Rittenhouse points out that the idea of growing Liquorice in America is not a new one, and that in 1886 several acres were very successfully grown near Sacramento, California, but that its growth was not persevered in. He further says:—"My own experience in growing the plant in the United States has thus far been very moderate in results, owing to causes that might have been prevented, viz., inundations, unsuitable beds for planting, and possibly a want of care or interest or experience on the part of those in charge, to say nothing of the effect of unusually hot and dry weather on the young plants before they had become acclimatised. I have grown the plants in several places in New Jersey, Pennsylvania, Louisiana, and Florida, and still have some growing in the different localities, and believe it to be quite a feasible matter to introduce the industry on a large scale.

In connection with the cultivation of the Liquorice-plant, and the manufacture of Liquorice confectionery at Pontefract, the *Chemist and Druggist* states that at a recent confectioners' dinner at the Holborn Restaurant, a town-councillor of Pontefract, as representing the Liquorice manufacture, stated that the trade had considerably developed during the past few years, and had it not been for this trade Pontefract would have been much less known, and in a much less flourishing condition. Thousands of tons are manufactured annually, and distributed at home and abroad. A large number of work-people are employed, and the money thus circulated contributes materially to the prosperity of the town. A distinct feature to which the trade owes its origin is the great depth of soil in the district, which makes it possible to grow Liquorice, this being the case in only one other part of the country, namely, Essex.

MATTHEW ARNOLD AS A LOVER OF FLOWERS.

Much that is interesting has been written of late regarding the genius and characteristics of this great poet, essayist, and critic, in connection with the recent publication of his letters, which, however, do not give much insight into his life; but I have not discovered in any of these reviews a single reference to what I always deemed—especially after visiting him at his beautiful Surrey residence—his predominating passion, the love of gardening. There can be no question, that Matthew Arnold was intensely fond of flowers. In one of the most valued of his many letters to myself, he says of that exquisite vernal flower, which, rising as if from the grave of winter, seems ever to anticipate—so early is its advent—the coming of spring: "I do not know that I have ever mentioned the Snowdrop in my verses, but I have been planting it round my shrubberies, and I admire it greatly." He had, however, in his classical poem entitled "Tristram and Isolt," sung of his heroine as a "Snowdrop by the sea." I did not fail, subsequently, to remind him of this.

In another of his letters, he says of one of the sweetest and most unobtrusive of flowers, with special reference to a poem I had written upon the subject, "Your poem on the Wood Sorrel shows

very considerable command of thought and expression; but I could wish that you had said more regarding its special self, as I am particularly fond of the flower."

Many incidental allusions to flowers indigenous to Greece are discoverable in his *Merope*, a work which, written after the manner of *Euripides*, has been highly eulogised by Algernon C. Swinburne, a poet of whom Arnold has expressively said, with reference to the terribly diffuse style of his contemporary, "Mr. Swinburne writes a hundred words where one would suffice." The floral passages in this poem are chiefly found in the choruses, many of which are highly suggestive of the scenery of Greece. But Arnold's finest flower-inspirations occur in another and more-impressive poem, his deeply thoughtful and memorable "Thyrsis," written to the memory of a beloved college friend, Arthur H. Clough. Therein, addressing the too-early vanishing cuckoo, he sings:—

Too quick despairer, wherefore wilt thou go?
Soon will the high midsummer pomps come on;
Soon will the Musk Carnations break and swell;
Soon shall we have gold-dusted Snapdragon,
Sweet William with his homely cottage smell,
And Stocks in fragrant blow;
Roses that down the alleys shine afar,
And open, Jasmine-muffled lattices,
And groups under the dreaming garden trees,
And the full moon, and the white evening star."

Matthew Arnold was, of course, an admirer of such splendid flowers as the Carnation, the Begonia, the Lily, and the Rose; but I have an idea that, like his great Teacher, the "High Priest of Nature," he loved much more than these, the humbler beauties of the woods and fields. In "Thyrsis" and the "Scholar Gipsy," which may be regarded as his most characteristic lyrical achievements, the flowers which cling so fondly to his memory, as the alpine *Linaria* adheres to the wall, are the purple *Fritillaries* of the Oxfordshire meadows; the *Orchises*, the *Daffodils*, the poet's *Narcissus*; the *Primroses* gleaming by the hidden brookside; and above all

"Dark Blue-bells drenched with dew of summer eve."

The fair flowerets that gladden the vast solitudes of Nature, those that "die unseen, and waste their sweetness in the desert air," were dearest to his heart. Not of ambition were his songs begotten, whose happiest theme was love. He was himself a child of Nature, and he loved her meekest children best. And hence he could say with his predecessor, William Wordsworth, to whom he was nearest of all his great contemporaries in nature and in life:—

"Thanks to that human heart by which we live,
Thanks to its tenderness, its joys, its fears;
To me the meanest flower that blows can give,
Thoughts that do often lie too deep for tears."

—David R. Williamson.

WINTER CUCUMBERS.

In order to maintain a regular supply of Cucumbers during the interval from the end of November to the end of March, it is necessary that the cultivator should be provided with suitable accommodation in the way of a low-roofed light and air-tight house, supplied with top and bottom-heat, so that a minimum temperature of 60° to 70° can be maintained in all kinds of weather. To do this in very severe weather, it will be necessary and advisable to cover the glass at night with mats; indeed, this practice, on the score of economy, as well as a means of securing a more genial atmospheric temperature in the house, is to be commended during the winter months.

The plants should receive careful attention in the matter of watering, as well as moist air, this last being regulated in accordance with the condition of the weather and the plants, but a humid rather than an arid atmosphere should be maintained. Hence, during mild weather, and consequently slightly heated hot-water pipes, there will be no occasion for syringing the plants, as doing so under the circumstances described, would undoubtedly favour

the growth of mildew. On the other hand, should the nature of the weather be such as to necessitate severe firing to maintain the minimum temperature given above, a slight distribution of moisture in the house in the morning and afternoon, will be necessary to counteract the somewhat parching influence of the highly-heated pipes, and to avoid infesting the plants with red-spider.

When water at the roots is needed, it should have a temperature of about 80°, and afforded in accordance with the requirements of each plant, bearing in mind that too much at one time cannot well make up for a deficiency at another, hence the necessity of knowing when to apply and when to withhold water at the roots, a knowledge only acquired by experience. If the Cucumber-houses are heated by their own boiler, the fires should be banked up by 8.30 or 9 o'clock on bright mornings, by which time sun will have rendered much artificial heat unnecessary. This should be done on bright mornings, even though the thermometer does not register the minimum degree of heat referred to above, for the obvious reason that if the fires had been pushed on till a mid-day temperature be attained, the sun, meanwhile, as well as the fire-heat, would have increased in force, thereby rendering almost immediate ventilation necessary, thus letting out the very thing (heat) upon which labour and fuel have been wasted in getting up in the house, and admitting cold.

The fires should be re-started in the afternoon, as soon as the sun goes off the house, so that by the time the sun-heat has fallen to 65°, the heat from the hot-water pipes will suffice to maintain the proper degree of warmth during the night. In the event of severe frost, a night temperature of 60° will be ample for the time being, but 65° should be the normal degree. To obtain and keep up even this amount of warmth in a house of a moderate size, the supply of hot-water piping must be liberal, and the fuel and stoking good. And with a view to ascertain the degree of heat in the Cucumber-house without letting in a volume of cold air whenever the door is opened for that purpose, the thermometer should be placed in such a position in the house as to enable the degree of heat to be read by the gardener from without, with the assistance of his bull's-eye lantern at night. The above remarks are applicable to all forcing-houses.

Should green or black aphid attack the plants, fumigate with one of Luff's fumigators a couple of evenings in succession when the weather is mild and the plants are damp. This fumigator has a shut-down lid, and two rows of circular holes about half an inch in diameter immediately below it, for the emission of the nicotine fumes. It is supported by three legs sufficiently long to allow of the necessary current of air for slow combustion. Should mildew appear, dust the leaves affected with it with flowers-of-sulphur when damp, and keep a drier atmosphere. The evaporating-troughs on the flow-pipes should be filled with liquid-manure water, unless mildew be present. But should red-spider establish itself on the plants, notwithstanding the application of the antidote, the pipes should be painted with flowers-of-sulphur when the plants and house are dry in the evening, letting the temperature run up to about 83°, so as to fill the house with the sulphurous fume thrown off by the highly-heated pipes, airing the house more freely the two following days, or the plants may be sponged over (both sides of the individual leaves) with soft-soapy water. Crop the plant rather light than heavy, cutting the fruit as soon as they have attained to proper size, and stand them on their ends in saucers containing a little water in a fairly warm room (55° to 60°). Keep all male blossoms picked off the plants, as the necessary complement of fruit for a crop has been secured, and encourage a free though consolidated growth in the plants. Lay a top-dressing of good fibrous loam to the thickness of about 2 inches on the roots once between this date and February, the mould having been placed in the house twenty-four hours before being used, to become slightly warmed. H. W. Ward.

FLORISTS' FLOWERS.

MARGUERITE CARNATIONS.

I READ in the *Gardeners' Chronicle*, at p. 615, "Marguerite Carnations were perfect, and it has never fallen to my lot to see a finer show of bloom in all shades of colour." May I be allowed to remark upon two words used in the above quotation—"perfect," and "all"? Dealing with the last one first, may I venture to ask if yellow and orange colours were represented? So far, I have not observed flowers of these tints, nor, indeed, anything like so many beautiful shades of colour as may be found in a bed of seedlings of our own old-fashioned border Carnations, nor any flaker, bizarrer, or Picotee. I fear the words "all shades of colour" include too much, as does the word "perfect," as applied to Marguerite Carnations. They are yet far from perfect—but this does not detract from such merits as they possess; but these merits are very much obscured when the seed is sown, so as to produce plants in bloom during the months of July or August, as at that season the finest Carnations are in full beauty. In summer the blooms of the Marguerites are extremely fugacious, and the flowers not being very double, pollen is plentiful, and fertilisation takes place as soon as the blooms open,

planted in large 60's, and into 32's about the end of July or early in August. The plants are kept out-of-doors all the time, and are freely syringed and watered. It may be remarked that neither section will produce flowers at the same time, as quite half the number of plants will not show flower-buds, so that the probabilities are this late lot will continue to flower until May and June. When in flower, the plants should be afforded a dry air, and a temperature of about 50° at night, the ventilators being opened daily for several hours. Should aphides appear, fumigate the plants with tobacco. J. Douglas.

[A fairly rich sandy loam suits the Carnation at all seasons; and when making its growth, an occasional pinch of salt strewn on the soil will aid them greatly. Never let the plants get drawn by any of the usual causes, viz., crowding together with other plants, lack of light, or keeping them in the early stages whilst under glass far from the roof of the pit, frame, or greenhouse. Afford good but not excessive drainage; pot firmly, but never use a rammer, and always stand the pots on coal-ashes, or in some other way endeavour to keep worms out of the pots. Ed.]

FORESTRY.

PRICES OF BRITISH-GROWN TIMBER.

THERE can be little doubt from carefully-compiled statistics obtained from almost every part of the country, that the value of home-grown timber has rather decreased than otherwise during the past twenty-five years. This is especially the case with the Scotch and Spruce Fir, and markedly so with the Oak, the latter due in great measure, no doubt, to the substituting of iron for wood in ship and boat-building, and to other minor causes which need not here be noted. Scotch Pine, owing in great part to the amount of wind-fallen trees that has ever since the memorable "Tay-bridge gale" been placed on the market, has, perhaps, more than any other timber, decreased in value, and plenty can now be obtained north of the Tweed at prices varying from 4d. to 6d. per cubic foot. The large acreage of this Pine as well as Spruce in the middle and northern Scottish counties, acts too as a powerful means of keeping the price of the timber at the lowest possible ebb, aided of course by heavy railway or shipping rates, and the amount that has been laid low by our curiously erratic storms of the past few years. Larch being much in demand, and but little grown comparatively speaking, is rather rising than falling off in price, and from 1s. to 1s. 4d. per foot is now frequently obtained for that of fair quality. The Larch disease, too, has acted as a friend of the seller in sending up the price of the timber, but the comparative scarcity and many uses to which it is put, are no doubt the greatest and chief causes why the timber either remains quiescent or rising in value. It is certainly to be regretted that more of the Larch is not planted, especially in Ireland, where the fell disease is [at present] quite unknown, and where thousands of acres of waste land, peculiarly suited for its culture, could be profitably utilised in the growth of the tree. Good Oak timber now fetches readily enough from 1s. 3d. to 2s. per foot, and the demand is brisk; though, in years gone by, when the "wooden walls of old England" were maintained, the price was nearly three times what it is at present for the best trees. The cultivation of Oak, however, pays well enough at present, far better, indeed, than that of most other trees bar the Larch, and it has never, and will not likely become a drug in the market. Sycamore, if large and good finds a ready market at very varying prices, according to locality—from 2s. 6d. down to 1s. 6d. per foot. It is a tree of rapid growth, wonderfully free from disease, and by no means exacting as to the quality of soil in which it is planted. Even hedgerow and field specimens turn out surprisingly good, and only a short time back we cut fully £200 worth on a farm of 150 acres in extent. The largest tree contained 90 feet, and fetched 2s. 6d. per foot.

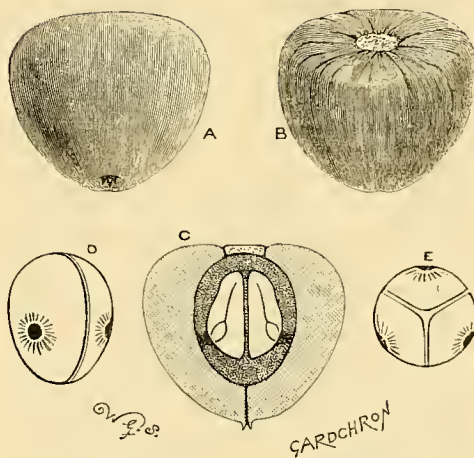


FIG. 124.—COCOS AUSTRALIS. (SEE P. 737.)

A, B, fruit real size, orange-yellow; C, vertical section, showing pulp, stone, and seed, with a cavity in the centre; D, E, stone.

causing them to fade the next day. Of course, if seed saving is the main object, that is attained. The best time to sow Marguerite Carnation seed is, I consider, the last week in March or the first in April, and the plants if well managed will produce a wealth of bloom in October, November, and December. I have hundreds of the plants which have afforded cut blooms since early in the month of October, and the plants look as if they would continue in bloom till March or April. I recommend them for the reason that their flowers are the very opposite of what the florist terms perfect, being mostly fringed. To compare with these, there are seedlings raised at the same time of winter-flowering varieties, viz., Uriah Pike (a good seeder), Middle Carl, Miss Joliff, and others of that type of flower. It may be all a matter of taste, but I prefer the seedling Tree Carnations, and it is quite as easy to have these in flower if seed be sown at the same time. My method of raising Carnations from seed is very simple: the seed is sown in flower-pots or pans, which are plunged in bottom-heat of 75°, and in less time than a week the seedlings appear. The seed pots or pans are then placed in a greenhouse near the glass, or in a cold frame if the weather is not unfavourable. When large enough to handle, the plants are pricked an inch apart into shallow boxes, and kept rather close in the cold frame until rooted into the fresh mould, and about the end of May, or early in the following month, they may be

Elm is most difficult timber to deal with, it varying so in price, according to the part of the country where it is offered for sale. We sold a quantity, not especially good, at fully 1s. per foot; but in some parts of Kent and Surrey, *7d.* is nearer the selling price, and it is even difficult to get rid of at that amount. Bat Ash, above almost every other tree, is the one for the speculative planter to go in for in quantity, the ever-increasing demand clearly showing that we have not one tithe of the quantity that is annually required. The best fetches quickly fully 2s per foot, and there is not a stock noisid from one end of the land to the other, unless indeed, under very peculiar circumstances.

We would strongly urge on intending planters the necessity for growing the Ash in quantity, and any dampish loam suits it admirably.

Beech, if grown on chalky or gravelly soils, finds a ready market at from 10*d.* to 1s. per foot, that off the Chiltern hills and chalky reefs of Herts being quickly picked up, even at a trifle over 13*d.* per foot.

"Maiden" Willow cannot be got for love or money, and the demand for cricket-bats will be sure to increase with the Grace memorial.

Birch, Alder, Poplar, and woods of a like kind vary a good deal in value, and around some of the Welsh towns for clog-sole making from 8*d.* to 10*d.* is seldom refused.

Much of the home-grown timber is of very inferior quality, which fact tends directly to keep down prices; but, indeed, it can hardly be expected that the output of woods and plantations that are cultivated mainly for game rearing, shelter, and ornament can be either sufficiently clean or straight to fetch anything like a remunerative price. *A. D. Webster.*

BOOK NOTICE.

SYNOPTICAL FLORA OF NORTH AMERICA.

ONE great object of the late Asa Gray was the accomplishment of a complete Flora of the United States. Many years ago, in conjunction with Dr. Torrey, he published the beginning of such a flora. Five or six editions of a Manual flora of the northern States also passed through the press. In 1878 appeared a volume of the *Synoptical Flora of North America*; in 1884 another similar volume. The publication of these instalments showed clearly that the task was beyond the powers of one man, even though that man was Asa Gray. The States themselves multiplied, collectors became increasingly numerous, and their gatherings proportionately extensive and varied. And so it came to pass that the great and good man who is venerated in this country as he was at home, died when only a fragment of his projected work was done. Now, three years after his death, comes another portion of the work (to be had of Wesley & Son, 28, Essex Street, Strand). It has been compiled from the notes left by Dr. Gray, and by his successor, Dr. Sereno Watson, also deceased, and their work has been continued by the present curator of the Gray Herbarium, Dr. Robinson. Great features of Dr. Gray were his excellent judgment, the perfect clearness, and admirable method of his descriptive work. It redounds highly to the credit of Dr. Robinson that the present instalment, which begins with the Ranunculaceæ and ends with the Frankeniaceæ, presents the same admirable lucidity, terseness, and excellence of arrangement that characterized the portions produced by Dr. Gray. It is a source of satisfaction also to find that in matters of nomenclature Dr. Robinson has followed the plan till lately adopted by almost all descriptive botanists, and has not been led away by the specious arguments of some of his countrymen, who regard nomenclature not merely as a convenient means to an end, but as in itself an end. With the *Genera Plantarum* the *Index Kewensis*, and now, the *Synoptical Flora*, we can but think that the majority of systematists will, in the interests of science, continue to employ the most convenient and the most widely-accepted system rather than adopt others which entail so much confusion and useless synonymy.

WEST INDIES.

PARTIALITY OF CATS TO THE AVOCADO PEAR.

It may be interesting to place on record my experience in Grenada, so far as concerns the fondness cats have for the fruit of the Avocado Pear (*Persea gratissima*). I was puzzled one day to know what to give two kittens which had just previously been presented to me, when it was suggested by one of my men that a piece of Pear would be relished by them. This suggestion I accepted with some amount of reservation, but it was not long before I saw myself that the Avocado Pear was eaten up by them as a dainty morsel. Since this occasion, I have seen the same two kittens, when milk and Pear have been placed before them at the same time, to leave the former and eat the Pear voraciously. This incident appeared to me singular, and worthy of notice in your columns, as it had hitherto been my impression that cats were rather antagonistic to vegetarianism. It may not be generally known at home, that Avocado Pears are always eaten in a raw state with bread-and-batter, or with other things according to taste. *W. E. Broadway, Botanic Garden, Grenada, B.W.I.*

THE WEEK'S WORK.

THE ORCHID HOUSES.

By W. H. WHITE, Orchid Grower, Burford, Dorking.

DENDROBIUMS.—For flowering during the late winter and early spring months, few Orchids are more useful or appreciated than Dendrobiums. At the present time, many species and varieties are showing their flower-buds, and some of them, viz., *D. Wardianum*, *D. crassinode*, *D. micans* × *D. Wardiano-japonicum*, and a few others are starting into growth, but that notwithstanding, the cultivator must not be tempted to afford them much water at the root, or subject them to a high temperature, or the growths will grow too rapidly, and prevent the flower-buds coming to perfection. These premature growths generally remain almost stationary for a long time if the plants are kept moderately dry, cool, and in a well-ventilated house. When the flower-buds have reached full development, take the plants, after gradually inuring them to the change, to a warmer house. *D. nobile*, *D. tortile*, *D. aureum*, *D. moniliforme*, *D. signatum*, and the garden crosses, *D. Cassiope* × *D. Aspasia* × *D. Barfordiense* × *D. Ainsworthii* × *D. Dominianum* × *D. splenoidesimum* × *D. endocharis* × *D. Schneiderianum* × *D. Leechianum* × *D. Cybele* × *D. Carysodicus* × *D. melanodiscus* × *D. Juno* ×, &c., not having the propensity to start prematurely into growth when their flower-buds show, may be brought from the cool resting-house into a house somewhat warmer. The Cattleya or intermediate-house forms a suitable place for them till the flower-buds are well advanced, after which remove them to the lightest available position in the East Indian-house. From the present time, and till the flowers open, water should be very sparingly afforded at long intervals of time in sufficient quantity to keep the pseudo-bulbs plump, and induce the slow advance of the buds. The species *D. crepidatum*, *D. cretaceum*, *D. primum*, *D. Boxalli*, *D. transparens*, *D. lituiflorum*, *D. Pierardi*, &c., still at rest, should be kept at rest till the flower-buds show, when more warmth should be afforded them. *D. chrysanthum* is a free-flowering handsome species, which as a basket-plant is much admired for its golden-yellow blossoms. As it is just starting into growth, the rooting material, if it has become in the least degree decayed, should be picked out and replaced with fresh. It succeeds if hung up near the roof in the East Indian-house; and till the young roots have a firm hold of the compost, water should be very sparingly afforded, or the new growths may damp off. When the plant is in active growth, thoroughly water the compost when it has become dry. Keep the plants of *D. Johnsonæ*, *D. speciosissimum*, *D. taurinum*, *D. undulatum*, *D. velutinum*, *D. Amboinense*, *D. Huttoni*, and others that are growing in the warmest house, and water them liberally till the growth is quite mature.

CATTELYAS.—Among those which flower late in the spring and early summer, *C. labiata* Warneri is one of the handsomest, and any plants now starting to grow should be hung up, or elevated on inverted pots so as to be brought close to the roof at the warmer end of the Cattleya-house, affording them water in sufficient quantity to fairly moisten the compost till growth is fully completed. Plants of *C. Warneri* newly imported, on being received will need to be cleaned, dead roots trimmed off, and then placed in pots which will just hold the roots and no more, nearly filling up the pots with crocks, making the plants steady by tying two or three of the pseudo-bulbs to sticks. Do not excite the plants into growth quickly, but place them in the intermediate-house, and surround them with a moist air, and moisten the crocks two or three times a week. When growth has fairly begun, some lumps of peat and sphagnum-moss may be packed firmly around them in the usual manner, and let them be placed with the established specimens in the Cattleya-house, where, with the proper kind of treatment, they will soon become established, and sometimes make stronger growth in one season than plants which have been in the collection for years.

THE KITCHEN GARDEN

By JOHN LAMBERT, Gardener, Fowls Castle, Welshpool.

HORSE RADISH.—Preparations for planting a bed of Horseradish may now be made, and if the demand is large and regular, a bed should be planted every year. Horseradish is one of the most neglected of garden crops, being usually left to take care of itself in some out-of-the-way corner of the kitchen garden. A piece of ground should be selected sufficient to supply the demand, and trenched 2½ to 3 feet deep, if it will allow of this being done; a thick layer of rich manure being laid at the bottom of the trenches, and plenty of manure worked into the upper two spits, leaf-mould being freely used if the land be of a heavy nature. It is important that the bottom spit should be the richest, therefore the original top spit should always be placed at the bottom. The top spit may be left rough. Crowns or nice young thongs about 3 or 4 inches make the best sets, and these should be prepared when dug up from the bed in use. Full instructions were given last spring on the best method of planting Horseradish.

CARROTS AND TURNIPS.—Where early crops of these roots are required, pits should be filled with fermenting materials similar to those suitable for Potatoes. The soil for the Carrots, however, should receive more attention than that used for the Potatoes, or the roots may be disfigured by insects. A light, sandy soil is to be preferred, mixed with soot, lime, and charred earth. It should be passed through a ½-inch screen or sieve to take out clods and stones. The surface of the bed should come within 12 inches of the frame or pit-light when pressed down and finished off ready for the seed being sown. When it has become warmed throughout, sow the seeds in rows 9 inches apart. Good varieties for frame work are Parisian, French, and Sutton's Inimitable Forcing, and Early Nantes Carrots. The Extra Early Milan Turnip is a good variety for frame use, but it is no earlier than the old flat Dutch.

RADISHES.—A pit or some frames with a sufficient number of lights should be prepared, as for Carrots, putting from 3 to 4 inches of soil on the hotbed materials. A pit of three lights will keep up a succession of Radishes for a long time, by sowing one-third of the area at a time, and not letting the tops get crowded. The best manner of sowing Radishes is to take three or four seeds between the fore-finger and thumb and press them into the soil about a quarter of an inch, making the bed level with a piece of board or back of the rake, and patting it evenly all over with a bright spade. Improved French Breakfast is one of the best for early work.

PARSLEY.—The mildness of the weather has caused Parsley to grow considerably of late, and it will be very necessary to cover it up on the approach of sharp frost; also to pull off all of the outside leaves of the plants, a proceeding which will have the effect of giving more light to the young growth. Hoops and mats, or old lights resting on boards, and other contrivances, may be used for protecting the plants. Even a mulching of fresh gathered-up Oak leaves, worked in among the foliage carefully, assists in screening the plants from frost, besides supporting the leaves under plants of snow,

which would otherwise break the leaf-stalks down, and thus cause rotting. The Oak leaves can be kept in place by putting a small quantity of litter along the outside of the beds. The Parsley which is planted in pits and frames should always be left to form a supply in hard weather.

FRUITS UNDER GLASS.

By RICHARD PARKER, Gardener, Goodwood, Chichester.

POT VINES.—Vines that were started in a steady bottom-heat last month should now be showing signs of growth, and a gradual increase of atmospheric heat must be afforded as this advances. Train the canes to the trellis in their permanent positions as soon as the buds have started to grow evenly. The young shoots grow very quickly, and there is a danger of breaking them off if the operation be delayed. Small weakly growths which form at the base of the main shoots may be rubbed off at once. The main buds will also require to be reduced in number when growth is sufficiently advanced that those which are likely to produce the best bunches may be selected. The bottom-heat should range from 70° to 75°, and for this purpose a good heap of stable-litter and leaves must be kept in readiness to be packed round the pots as required. As the roots become additionally active each day, more frequent applications of water will be necessary. Weak liquid-manure may be afforded, but it should always be used at a temperature several degrees higher than that of the house. Continue to syringe the canes at 9 A.M. and 2 P.M. on bright days; but if the weather be dull and frosty, it is better to slightly dew them over only once, at about 11 A.M. No ventilation may be afforded, unless external conditions are very favourable; and the heat in the hot-water pipes should be regulated carefully, so that the day temperature may be about 65°, which may be increased to 70° as the sun strikes the house. Do not over-heat the pipes at night, as this practice tends to greatly weaken the growth; a temperature of 60° will quite suffice for the present.

FIGS IN POTS.—The earliest trees may now be housed, and growth hastened by plunging the pots in a mild hot-bed, and further treated similarly to pot Vines. Syringe the trees slightly once or twice a day, and do not afford a great deal of water at the roots. For the first fortnight, the day temperature should not rise greatly above 55°, but after that time and as growth proceeds, gradually increase it.

PEACHES.—Trees in pots now coming into flower must be kept as near the glass as possible. The trees may be syringed until the first flower opens, but afterwards a drier atmosphere should be maintained. Sudden changes of temperature must be carefully avoided, and a day temperature given of 62° to 65° during mild weather, when air can be admitted with safety, and a fall of 2° or 3° during severe weather. The night temperature may be kept about 60°.

FRUIT TREES IN POTS which are still plunged out-of-doors must be carefully protected from birds, as these have already commenced on the forwardest buds of Cherries and Plums. Dust the trees over when wet with lime and soot, or protect the trees with Strawberry-nets.

THE FLOWER GARDEN.

By BAILEY WADDS, Gardener, Birdsall Gardens, York.

PELARGONIUMS which are being wintered in pits and frames to which no fire-heat can be applied, may be stored away in pots or boxes, or even laid-in by the heels, and will require to be kept as dry as possible. Strict attention must be given to covering them up with dry materials in case of severe frosts. Dry hay or Fern may be put next the glass and laid on thickly, then this should be covered with tarpaulin and well secured to keep all dry. Old plants of scarce varieties that have been laid-in for stock should be potted off, and placed in an earlyinery or other warm-house where they will commence to grow, and produce shoots fit for cuttings. Give store cuttings in boxes or pots plenty of air. If they are on shelves in houses that can be heated, they will require just sufficient water to keep them plump and fresh. Variegated and Ivy-leaved Pelargoniums require less water during the winter than zonal varieties. Sweet-scented varieties, especially Lady Scarborough, require very careful watering, and a pure, dry air. Place them on a wooden shelf, or if they are put on a slate or iron staging, it should be covered with rough sand, that the water may get

easily away. Give abundance of air and a little fire-heat at times in mild weather. If green-fly appear, fumigate the plants at once.

FUCHSIAS.—When cuttings are required of select varieties for bedding purposes, old plants which were lifted from flower-beds in the autumn and stored away in sheds should be potted in good rich soil, well watered, and placed in a warm house, such as an early Peach-house orinery. Thin out the weak shoots, and prune back those remaining to three or four eyes. These will quickly give a good supply of cuttings, which will strike freely under bell-glasses in a gentle bottom-heat.

MISCELLANEOUS BEDDING PLANTS.—Verbenas, Heliotropes, Gazanias, Agatheas, Lobelias, Nierembergias, and other bedding plants of the same class, require a cool airy house and careful watering. Tender plants such as Coleus, Iresine, and Alternantheras must be kept in a warmer temperature. If the stock requires increasing to a great extent, propagating may be commenced at once. Cuttings will strike very freely in a warm, close house at this season. Mignonette and other annuals that are being wintered in pits and frames should have abundance of air given them during fine weather, and they must not be over-watered. Calceolarias in frames require abundance of air during mild weather, and it will be well to cover them up against sharp frosts. If it is thought necessary, cuttings may be put in at once, and may be taken from the tops of those that are growing freely. They will strike readily in a close and shaded frame. Sweet Pea sowings should now be made in 6 inch pots, to be planted out at the end of January should weather permit. A sowing was made here in 12-inch pots in October; they have been kept in a cool house, and are looking strong and well. Dahlias, Cannas, Begonias, Gladioli, and other flower-roots which are stored away in sheds will need to be protected from frost, and they must not be allowed to become over-damp; so far, this has been a season of sudden changes, from heat to cold, but on the whole favourable for outdoor garden operations. Every advantage should be taken of fine days to push on with the planting and re-arranging of all kinds, bearing in mind the weather we had to contend against during the early months of the present year.

PLANTS UNDER GLASS.

By W. H. SMITH, Gardener, West Dean Park, Chichester.

THE GARDENIA.—Plants required to flower in quantity early in the new year should have the old material in which they are plunged removed and renovated with this year's Oak or Beech leaves. A top-dressing of rich loamy soil, and a slight dressing of an approved artificial manure should be applied. The house or pit in which the plants will stand should be made clean, also the plants, paying great attention to the destruction of mealy-bug and brown scale, two very noxious pests infesting Gardenias. The best means to use against them is petroleum, in the proportion of one wine-glassful to three gallons of soap-water, at a temperature of 95°. If the Gardenias are syringed once a month with this mixture it will clean the leaves and free the plants from mealy-bug and brown scale. Of course, during the flowering season this could not be done. A good method of having Gardenia bloom at every season is to plant them out in a pit or house where there are ample means of heating, and the plants should not be pinned, except just to thin the shoots when crowded. At this season they would require plenty of heat, abundance of water at the roots, and syringing twice daily.

WINTER-FLOWERING CARNATIONS.—Cuttings to supply plants to flower early next winter may now be struck in the stove or propagating-pit. Take strong, short shoots, and insert seven or eight in a 3-inch flower-pot, in a compost of sandy loam and peat. Much care must be exercised while in process of striking, to prevent the damping-off of the cuttings; but this can usually be averted by wiping the glass dry on the handlights or *o'choe* night and morning. A few new varieties worth cultivating are Madame E. Bergman, Mrs. Finet, La Villette, Lada, and Primrose Day; the latter has a dwarf habit, resembling Winter Cheer, and yellow flowers. Yellow-flowered varieties of winter-flowering Carnations are scarce, and this is a very acceptable novelty.

BOUVARDIAS, as fast as the plants go out of flower, should be placed in a cooler house, and be

afforded less water at the root. A warm frame would suit them, as they could be enabled to obtain abundant light and air to mature their growth before water is entirely withheld.

CYCLAMENS.—Forward plants now flowering freely should be afforded weak manure-water, such as Clay's, making an occasional change with a weak mixture of soot in rain-water. When the plants are at their best, the air of the house may be kept a little drier and cooler, say 53° by day, to 50° by night, with artificial heat, and a trifling amount of top and bottom ventilation at all times, excepting in very severe weather. The fumigation of the plants is desirable once a month as a preventive of attack of green or black aphid and thrips. Some seedlings may now be ready for potting-off into thumbs. As a potting-mould, use finely-sifted loam, peat, leaf-mould, and sand; pot them with moderate firmness; place on a shelf near the roof, and lightly syringe them twice daily. After potting, afford a light watering to settle the soil about the roots. Examine the plants for aphid, and use a soft brush to dislodge them when found. Those seedlings which are too small to be potted-off, may be pricked-off into other pans to grow stronger; they will form a succession to the earlier-potted ones. I usually find that the last seeds of Cyclamen to germinate bring the best flowers.

THE HARDY FRUIT GARDEN.

By W. POPE, Gardener, Highclere Castle, Newbury.

THE TREATMENT OF OLD FRUIT TREES.—If any aged fruit trees are fit to be retained for some years longer, it will be well that something should be done to improve the fruit and the quantity of it. With this intent, top-dressings of well-decayed vegetable refuse, which has been turned once or twice, and quicklime added to it at such times, wood-ashes, and especially charred garden rubbish. These top-dressings should be supplemented by copious applications of liquid-manure from the farmyard or stable, which, now that the trees are at rest, may be used without dilution. The good effects of these dressings will be increased vigour, clean growth, and improvement in the quality of the fruit. In the case of rank-growing barren trees exceptions must of course be made, and instead of affording nutriment, root-pruning should be resorted to, which is best done early in the autumn, but it may be done at any time during the winter in open weather. Root-pruning must be cautiously carried out, and halfway round and under a tree will be sufficient for one year. Begin by opening a trench 4 feet from the stem, and sever the strong tap and main descending roots, but preserving all that are near to the surface. A few wheelbarrow loads of fresh materials will be of great use, placed round the roots in encouraging the growth of small feeding-roots. It is often the case that partial root-pruning has the effect of checking rampant growth and inducing fruitfulness, but it it have not the desired effect the remaining portion should be root-pruned the next season. Trees of inferior kinds, if healthy, should be headed back preparatory to grafting them with scions of better varieties, for which purpose the latter may be taken now and laid in under a north wall, or in some damp cool place. Old Peach and Nectarine trees with cankered branches, or which are unhealthy, will be greatly improved by being cut back to within a foot or so of the stem, carefully shortening the roots, and laying them in maiden loam. The usual result of this kind of treatment is to refurbish the trees with abundance of healthy, fruitful wood, often superior to that of newly-planted young trees. Old Pear and Plum trees on walls crowded with clusters of long spurs, and bearing, perhaps, only a few worthless fruits, should have the spurs freely thinned here and there all over the trees, and about one third be cut back to within an inch or so of the branches. A strong shoot or two will generally spring from the base of each, which, with proper attention paid to stopping once or twice during growth, will develop into new fruit-spurs lying close to the branches. In three or four years, by thus annually taking out some of the remaining spurs, the full benefit of the wall as a shelter for the blossom will be secured, with a corresponding improvement in the fruit in regard to quantity and quality.

THE GLASTONBURY THORN is in full flower and leaf in the Botanic Garden of Trinity College Dublin.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Letters for Publication.—All communications intended for publication, as well as specimens and plants for naming, should be addressed to the Editor, 41, Wellington Street, Covent Garden, London. Communications should be WRITTEN ON ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.

APPOINTMENTS FOR THE ENSUING WEEK.

SALE.

MONDAY, DEC. 23. { Plants, Roses, Hardy Bulbs, &c.
at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—38° 4'.

As our tastes and interests are varied, equally so is the standpoint from which we individually view the Christmas season. With all its inconveniences, the season is by no means an enemy to commerce. During its observance trade is hopelessly disorganised, but the extraordinary impetus every branch experiences in preparation for the festivities more than compensates for this. At Christmas we all seem to gain, and all to lose. If we receive more than usual, we also spend more, and the manifestation of spending power is greater than occurs at any other part of the year. So far, therefore, as we can see, the observance of this festival is not likely to be diminished, though naturally the methods by which it is celebrated will alter slightly with every decade. The noisy, riotous scenes and indulgences that were once characteristic of the season, do not now obtain in the same degree, and we have reason to be thankful that the case is so, and that the money once expended in such a manner is now free to purchase more rational comforts, and time can be given to the pursuit of more reasonable methods of enjoyment.

Looking at Christmas from our own particular standpoint, we find that the resources of horticulture are more and more freely drawn upon. Every class of the public spends more of its money upon plants and flowers. The ancient custom of associating the Mistletoe, the Holly, and other berried plants with Christmas, for many long years has been encouraged by the absence of any other natural material wherewith to decorate our homes or our churches. Of evergreens even, there was not the variety at the commencement of the century that we have now, owing to the introduction to this country of species and varieties of Conifers, peculiarly suitable for Christmas trees, &c. As long as the season has any charm for us, we are not likely to despise the Mistletoe, Holly, and Ivy, which for centuries have been associated with its observance. Indeed, berried plants of all descriptions appeal to us in December with quite irresistible fascination. We continue to welcome these, but our sympathies are not the less able to embrace the abundance of flowers that modern horticulture has made possible to us. The former are now largely supplemented in our decorations by a variety of plants and flowers that

we, by reason of our hot-houses, are enabled to enjoy at a time when formerly they were not procurable. When we think of what has been accomplished, of the advantages we possess that our forefathers knew nothing of, though we see little to boast of, there is plenty of interest—and even to astonish us!

Half a century ago the amount of "glass" in our gardens was small, only the largest of them possessed facilities for the growth and production of exotic plants and flowers, and the forcing of these in December was but little practised, and as little understood. The strides made since then have been rapid and long, the increased facilities for the production of flowers has encouraged the desire for them, and the demand and supply have both increased at a prodigious rate. It is little exaggeration to say that now we cover half our gardens with glass, and we gather some of the choicest of our flowers at Christmastide.

CHRISTMAS PLANTS.

Of flowering plants we now obtain, in December, in succession to Chrysanthemums, four of the best-known in the market, i.e., Heaths, Solanums, Primulas, and Cyclamens. The Heaths, once grown by nurserymen, such as Messrs. Hugh Low & Co., of Clapton, and Messrs. Cutbush & Sons, Highgate, for distribution to gardeners only, have, for a number of years past, been taken in hand by the market growers, and they have treated many of them with remarkable success, placing them upon the market at popular prices and in quantity, similar to the fancy Pelargoniums. None of the Heaths, however, can be said to be exactly Christmas plants; Erica gracilis (the red Heath) is now almost past, being frequently in bloom in October; E. hyemalis and E. h. alba may be seen in the market, but not in great quantity, nor have we seen many plants of it in flower when visiting some of the market nurseries during the past week. What are now to be bought have been specially kept back for this week's sale. E. Wilmoreana, a larger and more showy plant than E. hyemalis, cannot be had soon enough, but comes in nicely during the earlier months of the year.

Mr. Sweet, of Finchley, is known as one of the best Heath-growers for market, and his plants are pictures of successful culture, compact, shapely, and covered with abundance of bloom. Messrs. J. & J. Hayes, Edmonton, Mr. J. Fraser, Messrs. Gregory & Evans, Sidcup, Mr. Ladd, Swanley, Mr. E. Rochford, and others, have grown them largely also. We recently noticed at Messrs. Hugh Low & Co.'s nursery a quantity of E. melanthera, which had been forced into flower, the blooms being white, instead of the light purple they usually are when produced in spring. It is not of much service, however, for such early forcing, and the plant is less popular in spring than it used to be, though Mr. Sweet has been selling plants of E. melanthera with better-coloured flowers. Most of the varieties are pretty and effective plants to put into vases, and obtained through the market they are very cheap, but they are little understood by many who buy them, and they may be frequently seen in restaurants, hotels, and house-windows, with the points of their shoots hanging hopelessly down, languishing for water.

Solanum capsicastrum is essentially a winter plant, and many—almost all—market-growers cultivate them but we have never seen any so fine as those grown by Messrs. J. & J. Hayes, Edmonton. Their plants are remarkable for the small size of the foliage, and the extra large size of the berries. They grow them in thousands, and were amongst the first to cultivate a large number annually from cuttings. Mr. E. Rochford, Cheshunt, raises about 10,000 plants annually. Solanums sell more readily than other plants during the present week and part of next; but, as several growers have remarked to the writer, "Come Boxing-day, and buyers won't look at them."

Primulas are pretty and useful for warm rooms, but are too delicate to be placed in draughts or cold

places at this season. They have long been market plants; but we are inclined to think the trade in them is less than formerly. Messrs. Williams and others are selling very well-grown and pretty plants in several colours.

Cyclamen.—A more popular and a hardier plant is the Cyclamen, especially as the foliage is less liable to injury. There are more annually forced into bloom during the present month than was ever the case, and usually the sale is easy. At Mr. Whiteley's, Hillingdon, there was recently a wonderfully large display of pure white ones; and the St. George's Nursery Co., Hanwell, grow many thousands for market. We noticed some of a very good strain at Messrs. Low's, but of course these are not put upon the market, being all sold to private customers. By the way, if we do not have an opportunity of seeing German Cyclamens in the meantime, there will be plenty in England next year, for we have reason to know that since the letter from Berlin on the subject appeared in these pages, one firm at least has possessed itself of a good quantity of seed from first-rate German collections. As to whether the blooms will be so much better than such a strain as Messrs. Sutton's or Messrs. Williams', our German friends will excuse us being a little sceptical.

Besides these plants, there are Richardias, Poinsettias red and white, white Marguerites about 14 inches high, in 5 inch pot, and literally covered with blossom, and Mignonette. In addition, there is the usual large and varied supply of well-grown foliage plants, Palms, Ferns, Dracenas, Asparagus, Smilax (Myrsiphyllum), &c.

The new race of Cannas will make a valuable and distinct addition to the flowering plants that may be had in bloom during the present month. Messrs. H. Cannell & Sons succeed in obtaining flowers throughout the year, and are able to exhibit them in fair quantity at the present date. Of course, they are unsuitable for market work, but a group of them in flower at this season in our conservatories would be the most lovely and striking addition to zonal Pelargoniums and the like, than we have had for years.

CUT FLOWERS.

Of cut flowers there is much greater variety than one sees in the plants; indeed, we need not lack these, for the market is well supplied. For the purpose of preparing this note, we attended one of the early morning wholesale markets at Covent Garden, and the impression the visit gave is that the last days in the year are now certainly not flowerless ones. Yet, in some instances, at least, the supply in this particular year is not exceptional. For instance, a visit to the large establishment of Mr. George May's, at Upper Teddington, showed that he has practically no Eucharis blooms to cut. Here is the largest and best collection of Eucharis plants we have ever seen, and during the same week last year, Mr. May was marketing scores of dozens of blooms each day. He will have plenty later though, and they promise to be of excellent quality. Abundance of Bouvardia blooms may be seen in the market. The plants are grown much more largely for the supply of cut bloom than to sell as plants; and Roses also are plentiful. Mr. May has a good supply of the latter. That a variety of cut bloom is at hand is proved by the following list, most of which are in the market in considerable quantity:—Chrysanthemums of late sorts, such as L. Caning, Princess Blanche, Princess Victoria, and W. H. Lincoln, a variety which can be had early or late; Liliun lancifolium, L. longiflorum, and L. l. Harrii; Roses, Carnations, Eucharis, Cyclamens, Lapagerias, double Primulas, Azaleas, especially the capital white one, Deutsche Perle; Richardias, Camellias, Taberones, Gardenias, Pancratiums, Freesias, Roman Hyacinths, Talips, Lilies of the Valley, yellow and white Narcissus, and Violets. The Narcissus is imported from France, so also are numbers of Violets, the former may be forced into flower here by this date, but they come very much less kindly. In addition to these, a good supply of Rose buds,

Staphylea colchica, white-flowered Lilac, and yellow Marguerites, may be had from the foreign flower stalls, and a very small quantity of Acacia sprays. There were some excellent Christmas Roses (*Helleborus niger*) at last Tuesday's early market, but less in quantity than one would expect.

A few days since we saw at Mr. Iceton's nursery at Putney Park Lane, an astonishing quantity of Lily of the Valley, ready for cutting. This bloom is the product of new crowns or buds, not retarded ones, and they were very fine, many of the spikes having fifteen good-sized bells upon them. Do what the grower will, however, it is impossible to get much foliage from these early-forced buds, and relatively to this, a batch of retarded buds are useful. The flowers are less fresh-looking, and of weaker quality, but there is plenty of foliage, and this has to be used sparingly when marketing the finer blooms from the new buds. The retarding

varieties were Chrysolora, Yellow Prince, White Pottebakker, and red Duc Van Thol.

From the above will be seen there is ample material for the making of bouquets, button-holes, and the furnishing of ball-rooms. We have not mentioned Orchids, because there are few sold in the wholesale market, and they are always scarce at Christmas; *Cypripedium insigne*, though, may be had in some quantity.

The difference in quantity of the flowers and plants now available at this season, compared with, say, thirty years ago, is not greater than the difference in the prices they realise; some of them sell now for less than one-third of what was given for them then. The public is the gainer, and apparently the growers, by dealing with a large quantity, manage to make them pay well. One of them remarked to us, anent this, that "The growers grumbled then, they only do that now!" P.

alpines, &c., will be held from May 1 to October 15. Temporary exhibitions will also be held from May 1 to 15, June 10 to 15, July 15 to 20, August 15 to 25, and September 22 until October 15.

OUR ALMANACK.—Secretaries of Horticultural Societies and others, are earnestly requested to forward *immediately*, the dates of Show Fixtures and of Meetings of Botanical and Horticultural Societies of any kind for 1896, for insertion in the Almanack, to be published in our issue for January 4.

GARDENERS' ROYAL BENEVOLENT INSTITUTION, CONCERTS AT ALTRINCHAM.—The members of the Altrincham and District Gardeners' Improvement Society have always taken a deep interest in the welfare of the Gardeners' Royal Benevolent Institution and of the Royal Gardeners' Orphan Fund, and the efforts made on behalf of these deserving



FIG. 125.—MILTONIA VEXILLARIA, IN MAJOR JOICEY'S GARDEN, SUNNINGDALE PARK.

system by means of a refrigerator has been practised for many years, and with other plants beside Lilies of the Valley, though the method was inaptly described by the *Times* last week as a totally new departure in horticulture. As a matter of fact, it is fifteen to twenty years since Mr. Iceton, and Mr. Jannock of Dersingham, both of whom were living then at Barnes, together made experiments in this matter, and the system has proved to be a useful one by which to obtain flowers in late autumn. It is only now at the end of December that the produce from crowns so treated can be beaten by early forcing. At Tuesday's market there was some bloom of *Astilbe (Spisæa) japonica* on the stand belonging to Mr. Thos. Rochford, of Broxbourne, which we were informed was from last year's clumps so treated. The reserve was nearly exhausted however.

In addition to the Lilies at Mr. Iceton's were good supplies of Roman Hyacinths and Tulips. The last named take badly to such hard forcing, and always at this date have the appearance that they have been yoked from their natural rest cruelly soon. The

MILTONIA VEXILLARIA.—Our illustration above, fig. 125, represents an unusually fine specimen of a large-flowered type of the species, as it appeared this year in Major Joicey's garden, Sunningdale Park. The plant was then growing in an 8 inch flower-pot, and carried thirty-nine flower-spikes, each of which bore on an average seven blooms. We think, and our readers will doubtless agree with us, that no finer specimen of this beautiful species has been seen under cultivation, and that it reflects much credit on Mr. F. J. THORNE, the gardener at Sunningdale Park.

GHEENT.—A great Chrysanthemum exhibition will be held at Ghent, under the auspices of the Royal Society of Agriculture and Botany, from November 15 to 17, 1896.

NATIONAL SWISS EXHIBITION, 1896.—In connection with the exhibition to be held in Geneva next year, we are informed by Mr. MAAC MICHELI that a permanent exhibition of trees, perennials,

institutions have been supported in a generous manner by the public. The concerts were commenced in 1892, and have been continued annually since. This year it was decided to give two concerts, this special effort being made with the object of establishing a local orphan fund for the purpose of granting immediate relief if occasion required. The attendance on both evenings was very large, every available portion of the large hall of the Literary Institute being occupied. Programmes of more than usual excellence had been prepared for each evening, and the services of several capable artistes retained. The committee were also fortunate in securing the services of the Sale and Ashton Amateur Orchestral Society of forty performers, and the Veronese Mandoline and Guitar Band, whose selections were quite a feature of the entertainments. The amount realised, after paying expenses, was a little over £56, forty guineas of which goes to the Gardeners' Royal Benevolent Institution, and the remainder is retained for the local orphan fund. Since 1892 the amount of £161 has been raised in this way, £105 of which has been sent

to the Royal Gardeners' Orphan Fund—not a bad record for a small country town. Other Gardeners' Improvement Societies please make a note. CHAS. HEWITT, Hon. Sec. and Treasurer.

MEETING OF THE BRUSSELS ORCHIDÉENNE.

—At the last meeting of the Brussels Orchidéenne, on December 8, some fine collections of Cattleyas and Cypripediums from l'Horticulture Internationales were shown. Few persons would have thought, even five years ago, that Cattleyas would ever form a feature at an exhibition held in December. A First-class Diploma of Honour was awarded to M. Linden for a group of eight Cattleyas; also one for Cypripedium \times capartianum with a very large standard, broadly oblong and entirely of a purplish-red colour, abating at the base into blackish-purple. Dr. van Cauwelaert obtained a similar award for Cypripedium \times Allianum. A First-class Diploma of Honour was allotted to M. Warocqué, for a hybrid Cypripedium (C. Lowi \times C. villosum), with a standard like that of the latter parent, unfortunately much bent, and with petals like those of C. Lowi very narrow at the base, bent back, very wide at the tip, and there tinted violet-rose. First-class Certificates of Merit were awarded as follows:—To M. Linden, for Cypripedium \times Leeannum; to M. Warocqué, for C. Curtisi \times C. Lawrenceanum, flowers very large and massive, resembling those of the latter parent with the petals dotted with numerous black warts tinged with red at the tip, the slipper very large; to M. Van Imshoot, for C. callosum \times C. Argus Mœnsis, most resembling the first parent, but with petals spotted somewhat as are those of the other; to M. Madoux (*à l'unanimité*) for Vanda Amesiana, very well-flowered; to M. A. Van Imshoot (*à l'unanimité*), for Odontoglossum crispum; to M. Madoux, for Cattleya Warocqueana and for C. Harrisonæ (*both à l'unanimité*), the latter with two flower-spikes bearing very pale rose-coloured flowers with a white lip bordered with very pale rose and shaded with primrose-yellow round the entrance of the throat. Similar awards were made (*à l'unanimité*) to Mr. H. Knight, for Cattleya maxima Leopoldi, with very large deep red flowers; to M. de Lombaerde (*à l'unanimité*), for Oacidium varicosum Rogersi, very fine, with large, richly-coloured flowers; to M. T. Pauwels (*à l'unanimité*), for Phalænopsis rosea, rare, and with a fine floral raceme; to M. de Moerloose (*à l'unanimité*), for Cattleya Warocqueana; to M. Madoux and to M. Pauwels, each of whom showed a plant of C. Warocqueana, the latter a very curious one with a large straw-coloured lip, faintly bordered with very pale rose, and with a little red spot in the middle. Other First-class Certificates were won as follows:—By M. F. Pauwels, for Phalænopsis Schilleriana, bright rose-coloured; by M. Van Imshoot, for Odontoglossum crispum; by Dr. Capart, for Lælia Gouldiana, deep purplish-red; by Mr. H. Knight, for Cattleya Warocqueana; by M. Van Imshoot, for Lycasta Luciei; by Dr. Capart and M. Madoux, each for Cattleya Warocqueana; and by M. F. Pauwels, for Phalænopsis grandiflora. Second-class Certificates of Merit were awarded to Dr. Van Cauwelaert, for Cypripedium \times Leeannum, with a very large and almost wholly white standard; and two others to M. Madoux, for two more specimens of Cattleya Warocqueana. M. Linden won two First-class Certificates for flowering; one for Cattleya maxima gigantea, the other for Vanda cœrulescens.

THE ROYAL BOTANIC SOCIETY.—A meeting of the Fellows of this society was held in the Museum at the Royal Botanic Gardens, Regent's Park, on Saturday afternoon, 14th inst., Mr. G. R. RYDER presiding. Lady TWEEDMOUTH, Mr. R. HEAP, Mr. P. S. MAYHEW, and Mr. JOHN RUSSELL were elected Fellows. The receipt of the following donations was reported: Specimens of the flora of Havana, presented by Señor J. I. TORREALAS, of Havana; flowering specimens of the Bush Gum (Eucalyptus globulus) and Acacia from Cannes, presented by Miss LEIGHTON. The secretary called the attention of the Fellows to some specimens of the society's unique collection of

economic plants growing in the garden, including Zamia integrifolia, West Indies; Caryota urens, India; Tapioca (Manihot utilisissima), South America; Arrowroot (Maranta arundinacea), West Indies; and Canna edulis, India. There were also on exhibition a number of artificial Orchids and other flowers forwarded by Mrs. EMERY. The specimens, which were exquisitely formed of a composition of wax, were so true to nature, that it was only by a close inspection and comparison with real varieties that any difference could be detected.

THE NATIONAL CHRYSANTHEMUM SOCIETY.

—At the Grand Jubilee Celebration, to be held at the Royal Aquarium, Westminster, on Tuesday and three following days (November 3 to 6) next year, we learn from a preliminary schedule of special Jubilee prizes now issued, that these prizes are offered in addition to those which are usual at the November exhibition, and that these classes will be repeated in the schedules to be issued at the end of the month of March next. Amongst the prizes is an open one for a group of Chrysanthemum plants in pots, to consist of any variety, mingled with foliage plants (the foliage plants not necessarily to be grown by the exhibitor), to be arranged for effect in a circle of 12 feet in diameter. This prize will consist of the Jubilee Medal in gold, and money prizes as well. Another Gold Jubilee Medal and money awards are offered for nine trained specimen Chrysanthemums, incurved reflexed or Japanese, distinct; and a Silver-gilt Jubilee Medal and money prizes for six trained Specimen Pompon Chrysanthemums, distinct. These are likewise open competitions. In the cut-bloom classes, Gold Jubilee Medals and money prizes are offered for sixty Japanese Chrysanthemums, distinct; and for sixty incurved Chrysanthemums, no fewer than thirty-six varieties, and not more than two of any one variety. Good prizes are offered for thirty-six Anemone-flowered Chrysanthemums, one bloom of each, distinct; and twelve Pompon, three blooms of each, distinct; twelve varieties of reflexed Chrysanthemums, three blooms of each; and twelve varieties of Pompon Chrysanthemums, six blooms of each (Anemone Pompons excluded); twenty-four varieties of single Chrysanthemums, twelve large-flowered, and twelve small-flowered, three blooms each of large varieties, and six blooms each of small ones. These are open competitions. There are competitions for growers for market in collections of fruit; special Jubilee prizes, by various nurserymen, for cut blooms; and for collections of vegetables, &c.

HORTICULTURAL CLUB.—The monthly dinner and *conversazione* took place at the Hotel Windsor on Tuesday evening, 17th inst. There was a large attendance of members and visitors. The chair was occupied by Mr. HARRY J. VEITCH, and there were present amongst others, the Rev. W. Wilks, Messrs. Philip Crowley, James Walker, George Monro, A. H. Pearson, George Paol, Peter Kay, H. Selge Leonard, James Webber, J. Ashbee, and Arnold Moss. A very interesting and instructive address was given by Mr. Geo. Monro on "The Fruit Supply of Covent Garden." It was thoroughly practical, and was much appreciated by all present. It also originated a brisk discussion, during which many subjects of great importance were touched upon. A hearty vote of thanks was given to Mr. Monro for his admirable address. Mr. Peter Kay, of Claiqmar, Finchley, sent a basket of very beautiful Alicante and Canon Hall Muscat Grapes; and Mr. Shea also sent a dish of very beautiful samples of Gascoigne Scarlet Apples.

MR. GEORGE SUCH.—American papers record the death of Mr. SUCH, of Amboy, New Jersey, a well-known horticulturist, the fame of whose collections travelled to this side of the Atlantic.

COLOURS OF FLOWERS.—The Scientific Committee of the Royal Horticultural Society is desirous of carrying out some experiments upon the effects of ingredients in the soil upon the colours of flowers. The Secretary will be glad to receive any information about accidental or other results which florists or

other cultivators have met with. Any reference to published accounts of changes of colours in flowers will be thankfully received. Address, Rev. G. HENSLOW, Drayton House, Ealing, W.

MR. C. L. ATKINSON.—The death at Portsmouth, on the 18th ult., of Mr. C. L. ATKINSON, is announced. According to *Garden and Forest*, he for many years had charge of Mr. JOHN L. GARDNER'S estate in Brookline, Massachusetts, and was one of the best known and most skilful gardeners that America has seen. Not only was Mr. ATKINSON a remarkably good gardener in all branches of the profession, but he was a genial, generous, and intelligent man, full of interesting information about gardens and gardening in this country and in his native England, which in conversation he was always willing to impart in a picturesque, and often highly entertaining manner. An honour to the profession, he will be missed and sincerely mourned by his friends and associates in the neighbourhood of Boston.

AYRSHIRE GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—At the monthly meeting of this Association, held in the Carrick Street Hall, Ayr, on Thursday evening, the 5th inst., the Secretary read a paper written by Mr. D. MACKIE, Montgomerie Gardens, Tarbolton, entitled "Climatic Influences in Relation to Practical Gardening." At the conclusion, Mr. MACKIE was accorded a vote of thanks; as was also Mr. M. GANLY, Glendoon, who presided during the evening. The next meeting will take place on January 2, 1896, when Mr. A. H. SCOTT, Cambusdoon Gardens, will read a paper on "Flowering Trees and Shrubs."

"CULTIVATED PLANTS."—In correction of a statement that we made in our issue for December 7, Messrs. WILLIAM BLACKWOOD & SONS, 45, George Street, Edinburgh, desire to call the attention of our readers to the fact that this excellent and most useful book, by Mr. F. W. BURBIDGE, is still in print, and can be obtained through any bookseller.

THE DEVON AND EXETER GARDENERS' ASSOCIATION.—The annual dinner of this body of Devonshire gardeners will be held on Friday, January 3, 1896, at Martin's Castle Hotel, Castle Street, Exeter, at 7 o'clock. In order that proper arrangements may be made for the comfort of those attending, tickets must be taken not later than December 27. ANDREW HOPE, Hon. Secretary.

NEWCASTLE AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.—The monthly meeting of this society was held at 25, Westgate Road, on Tuesday, December 10; Mr. JNO. BULLOCK presided over a good attendance of members. Mr. LAWSON, gr. to W. J. SANDBSON, Esq., Heathdale, Gosforth, exhibited a few well-grown Chrysanthemum blooms; and Mr. LARKER, North Dene, Gateshead, Chrysanthemum and Pelargonium blooms. In the absence of the writer, the Secretary read an excellent paper by Mr. KEELING, Ista of Willywood, Riding Mill, on "Herbaceous and Alpine Plants," which was much appreciated, and favourably criticised in the discussion that followed.

BOTANICAL GARDENS, MOSCOW.—Mr. C. MÜLLER, formerly horticulturist to the Arch-Duke SERGIUS ALEXANDROWITSCH, has been appointed successor to Mr. WOEST, deceased.

PUTNEY, WANDSWORTH AND DISTRICT CHRYSANTHEMUM SOCIETY.—The annual dinner was held on Tuesday evening, 17th inst., at the Railway Hotel, Putney. There was an exceptionally good attendance of members, and the proceedings throughout were enthusiastic and cheery, most of the speeches being full of hope that the society has started upon a period of greater success than it has previously enjoyed. In this respect considerable satisfaction was expressed that the recent show was one of the most successful yet held, but it was unfortunate that the attendance suffered through the inclement character of the weather on the occasion.

NEW LILIES.—In the November number of the *Giornale Botanico Italiano*, are described and figured, by Signor BABONI, two new species of *Lilium* from China. *Lilium chinense* and its variety *atropurpureum* flowered in the Florence Botanic Garden. *L. chinense* has linear spreading leaves about 4 inches long; recurved, orange-coloured flowers about 3 inches across; segments oblong lanceolate, strongly recurved, and marked with purplish spots. *L. Biondi* has also linear leaves, but shorter than in the preceding plant; flowers of the same general character and colour, but rather smaller; segments reflexed, orange, faintly spotted, and with a few warty prominences near the base. Both species come from mountains in the northern part of the province of Suen-si.

CHISLEHURST GARDENERS' ASSOCIATION.—There was a good muster of members on Tues-

days also of *Equisetum*, *Lycopods*, and hardy *Selaginellas*. (Publisher, OCTAVE DOIN, 8, Place de l'Odéon, Paris.) The author deals first with the botanical structure, fertilisation, variation, and hybridisation, and geographical distribution of Ferns, then of the peculiarities of the several species treated of. The second branch of his subject is similarly arranged. There is a full index of names, and the text is plentifully interspersed with small illustrations.—*The Agricultural Annual* and "*Mark Lane Express*" Almanac for 1896. This periodical contains much of interest to those interested in agriculture, as it includes reports of the past year, a calendar of events for the coming one, and many hints on such subjects as Potato blight, cider, butter, &c. Postal information and similar general contents are included, as usual in such publications, amongst which this should take a good place.—*Christmas Numbers*. The Christmas Number of the *Queen* is,

a catalogue of seeds gathered this year, and offered for distribution to immediate applicants.—*Bulletin de la Société Française d'Horticulture de Londres*. This is the record of a flourishing society of French horticulturists who have found the convenience of having a common bond and meeting-place in England. Their meetings are held on the first Saturday in each month at 4, Old Compton Street, and their *Bulletin*, besides chronicling lists of members and other matters relating especially to the society, contains notes on the cultivation of some of the less-understood plants, and suggestions for improving upon old methods of culture.—*Cider*. This monthly journal, "devoted to the interests of cider and perry," is directed and edited by Mr. E. SAMSON. It should do much to increase an already thriving industry by attracting more wide-spread notice to a palatable and wholesome beverage still comparatively neglected in some localities.



FIG. 126.—A DISH OF THE CATILLAC PEAR, GREATLY REDDED.

day, December 10, when Mr. W. CUTHBERTSON, F.R.H.S. (of Messrs. DOBBIE & Co.), gave an interesting and instructive lecture on "Pansies and Violas." The lecture was greatly enhanced by a number of coloured plates and drawings.

GARDEN DIRECTORIES.—The new issues of those very acceptable publications to gardeners, editors of gardening journals, and others connected with horticulture, *The Horticultural Directory and Year Book*, published at 171, Fleet Street, E.C., and *The Garden Annual Almanac and Address Book*, published at 37, Southampton Street, Covent Garden, are now before us. They are, as usual, replete with useful information of a varied kind, including a list of new plants of the year. The portion dealing with gardeners' names and addresses appears to have been carefully brought up to the present date, so far as is possible in books of this magnitude.

PUBLICATIONS RECEIVED.—*Les Fougères de Pleine Terre (Hardy Ferns)*. This book, written by our correspondent, M. H. CORREYON, of Geneva,

as usual, rendered both weighty and bulky by the number and variety of its contents, both literary and pictorial. The *Hobby Home* also issues an excellent Christmas Number, full of interesting and amusing articles and pictures appropriate to the season. *Nature Notes* for December contains, in addition to other papers, a charming article by JOHN D. BATTEN on "Bats."—*Sutton's Amateurs' Guide to Horticulture*. Messrs. SUTTON may be congratulated on substituting photographic reproductions for the glaring and misleading chromo-lithographs once so popular. The photograph blocks of vegetables are beautiful in their rendering of texture and veining.—*Muséum d'Histoire Naturelle*. From this institution comes the *Catalogue des Graines et Plantes Vivantes offertes pendant l'hiver, 1895—1896, aux établissements publics d'instruction*. This is a list of many species, some comparatively little known, save by specialists, and which, as the above words testify, are offered to certain applicants. Such plants as are not hardy in Paris are indicated by an asterisk. From the *Jardin des Plantes*, Montpellier, comes

CATILLAC PEAR.

ONE of the best known and most useful culinary Pears is Catillac, which, when carefully plucked and properly kept, remains in good condition till the spring. Although not particular in regard to soil, the tree does best in rich, fairly deep soil.

The finest espalier-tree I know of, grows in the garden of Mr. Joseph Ham of Budlake Farm, Broadclyst, near Exeter. This same garden, in the early years of the century, was in the possession of the great-grandfather of the present head of the Exeter firm, Mr. Peter Veitch, and it is one of the best fruit-gardens in a district noted for fruit. The Catillac was, twelve years ago, grafted on to a Beurié Rance planted against a stone wall, with a south-western aspect; the Beurié Rance having done badly. The tree has for its size, borne well, and this year it carried from sixty to seventy fruits, which were ultimately reduced to twenty. Five of these, weighing 9½ lb.—the heaviest weighing 2½ lb.—were shown at the fruit show at Exeter,

taking the 1st prize for culinary Pears (fig. 126). It is a remarkable fact that for nine years in succession, this tree has produced the 1st prize dish of Catillac at the Exeter show. Last year the weight of the five fruits shown was 8 lb. 12 oz., and the year before almost the same. *L. ca.*

PLANT PORTRAITS.

ALLAMANDA VIOLACEA, *Revue de l'Horticulture Belge*, December.

ARCTOSTAPHYLOS DIVERSIFOLIA, *Meehans' Monthly*, December.

ASPIDIUM MARGINALE, *Me hans' Monthly*, December.

BERBERIS HETEROPODA, *Garden and Forest*, November 13.

CALOCHORTUS LUTEUS CONCOLOR, *Garden*, December 7.

CHRYSANTHEMUM CAPTAIN LUCIEN CHAURÉ, *Moniteur d'Horticulture*, December 10.

ECHIDNOPSIS DAMMANIANUS (*Schweinfurth*), *Gartenflora*, p. 635.

FOTHERGILLA GARDNERI, *Garden and Forest*, November 6.

HEMITELIA LINDENI, hort. Linden (dwarf Peruvian Tree Fern), *Lindenia*, t. 48.

HYBRID WILLOWS (*Salix alba* × *lucida* and *S. nigra* × *alba*), *Garden and Forest*, October 23.

KALMIA CUNRATA, *Garden and Forest*, 435.

ODONTOGLOSSUM CITROSMUM, *Revue de l'Horticulture Belge*, December.

PHYLLOCACTUS HILDMANNI ×, hort. (a hybrid between *P. Wrayi* and *P. crenatus*, colour yellowish), *Gartenflora*, t. 1421.

PHYLLOCACTUS KERMESINUS, hort. (colour carmine), *Gartenflora*, t. 1421.

YUCCA WHIPPLEI, *Garden and Forest*, October 18.

ONION HIGHCLERE TANKARD.

THE Onion Highclere Tankard (fig. 127, on p. 747) is the result of a cross between Ailsa Craig and Pinefield, the latter being the seed-bearing parent; my idea being to combine size and better-keeping qualities, many of the larger varieties of Onion being somewhat deficient in this latter respect. The seed of the Onion mentioned above was sown early in February, and grown on for a time in a little heat, the plants being pricked off into boxes when large enough, hardened off in due course, and planted out-of-doors about the middle of April. Water was given to each plant singly with a spout-can, and the Dutch-hoe used to loosen the soil as soon as possible afterwards; no more water was afforded them, and about the middle of the month of May a mulch of spent Mushroom-dung was applied to check evaporation from the soil. *W. Pope*. [We selected this Onion not only for its intrinsic merit, but also for its symmetrical flagon-like form. Consumers will not consider this matter, but those who like to know "why and how" will feel an interest in speculating as to the why and wherefore of this shape. *Ed*]

HOME CORRESPONDENCE.

A BRITISH FERNERY.—As it is quite impossible, in or near large centres of labour, to get together a decent representative collection of our native Ferns without the aid of artificial means, it follows that a house of some kind is, absolutely, a *sine quâ non*. The form that house shall assume and the best way to go to work to construct it is, perhaps, the next important point, and I think that question has been very carefully and satisfactorily solved by Mr. Chas. T. Drury. Personally, I am under an obligation to him for the details therein applied, although I cannot now bring my own little fernery into a semblance of its more magnificent rival. But that, perhaps, is hardly necessary, as, even in the matter of ferneries, variety is charming. Having, then, fixed upon the most available spot, according to the exigencies of the surroundings, and the capacities of the purse, the next thing to do is to go in search of those lovely ferny forms for which we have lately contracted such an intense desire to possess. There are sure to be plenty of disappointments in store to damp one's ardour, but the quest, nevertheless, and the wholesome exercise, and the sweet fresh air, will do much to compensate one's inability to record a "find." Since addressing my queries to Mr. Drury, I have been

to North Wales and South Dorset. In the former place, I hunted high and low, mountain and moor, river and rock, but I could not find a variety worth recording. The common Polypody (*Polypodium vulgare*) in many places was simply innumerable, but there was no trace of the Welsh one (*P. v. cambricum*). The Parsley Fern (*Allosorus crispus*) disputed with ranker "weeds" the right to occupy whole acres of Snowdon's craggy heights; but never a created form to greet one's gaze. The Hard Fern (*Blechnum Spicant*) was also there, stunted and abnormal, it is true, but that was only due to elevation and exposure, for in the valleys nestling beside some quiet pool, its fertile fronds attained the length of fully 3 feet. In point of numbers then, the normal forms were *ad libitum*, while the varietal ones were, unfortunately, "conspicuous by their absence." And so with some other Ferns—species galore; varieties *non ulla*; i.e., not sufficiently distinct to warrant recognition as such. The ordinary Fern-hunter, then, will have to be content with species; the more-highly developed forms must be sought in other quarters. When, however, the Ferns have been acquired by hook or by crook, they must be either potted up or planted out, and this will be largely dependent upon the construction of the house. If they be transferred to pots, they will require constant supervision. If, on the other hand, they be planted out in a good body of suitable soil, they will not only give infinitely less trouble, but will remain in finer condition over a longer period. As an instance, I may mention *Athyrium f.-f. Elworthii*, which persists, with me, three or four weeks after a duplicate in a pot has died down, and so with the species. But it may be here remarked that deciduous varieties generally seem to have a tendency to live or, more or less, long after their progenitors have gone to rest. *A. f.-f.* gives up its aerial existence about the end of October; *A. f.-f. cristatum* continues for another month; whereas *A. f.-f. plumosum Druryi* persists till Christmas, and so with *Osmunda* and its varieties. The type goes first, then *cristata* follow, while *plumosum* is practically evergreen. Of course, I refer to plants under glass, and I agree with Mr. Drury that the less artificial heat the better. All I aim at is the exclusion of frost, and for this purpose I use, in severe weather, a Wright & Butler's hot-water oil-stove. Thus I am enabled to preserve the fronds of the evergreen species and varieties all through the winter, and they become not only things of beauty, when everything else has failed, but perpetual joys. A neighbour of mine is fond of twitting me about the time and labour I give to British Ferns, when, he says, you can go to Kew and see a far better collection. My reply is, "True; but those are not mine: these are." Possession is better than desire; but somehow or other one is always wanting what one has not got. Moreover, it often happens that the best varieties fetch the highest prices, and are consequently without the reach of those with limited means. That "man wants but little here below" is quite a fallacy—he is always running after "good things;" and Mr. Drury refers me to some good things when he suggests a perusal of his article for August 27, 1892. Mr. Drury may be pleased to learn that the accompanying illustration of his decorative Fern-house occupies a neat little Oak-frame on the wall of my sitting-room, and often inspires me to higher aims. *C. B. Green, Myrtle Road, Acton, W.*

CATTELEYA BOWRINGIANA.—For the information of your correspondents who have written about this species of *Cattleya*, it may be mentioned that recently a plant here produced a spike with twenty-four flowers. I cannot think that there is anything remarkable about this, as seven plants of this species are nearly the total number of our *Cattleya* plants, and the plant in question has been here seven or eight years, and subjected to a temperature considerably above that usually recommended for *Cattleyas*. Years ago I had some experience amongst this genus, and judging from observations made at that time, I believe *C. Bowringiana* to be an easily-cultivated species. It undoubtedly has a good constitution. *Thomas Coomber, The Hendre Gardens.*

LARGE ONIONS.—The fine collection of home-grown Onions exhibited at the Drill Hall on the 10th inst., by Mr. W. Pope, of Highclere Castle Gardens, was one of the best of its kind ever presented from a private garden. There was furnished instructive evidence of the remarkable effects of high culture on these bulbs as compared with what results from ordinary culture. For, in several cases, bulbs of the same variety, but grown under diverse conditions, were shown. The conditions

were, sowing seed in shallow boxes in January, and in gentle warmth under glass, growing the plants on thuly in frames, and when stout and strong, transplanting into well-prepared soil, much more thinly than usual outdoors in April; or sowing seed in shallow drills on soil prepared as usual for Onion, and in the open in the month of March, giving, during the season, such thinning and culture as is common. The transplanted plants mostly escape attacks of the maggot, and being specially thinly planted and robust, usually also suffer less from mildew than plants raised in the ordinary way. As to which method of culture will give the greatest weight of bulbs per rod of ground, there seems to be at present no information. Mr. Bowerman, at Hackwood, who this year grew the heaviest bulbs, grows his transplanted ones every year on the same ground, and finds improvement in weight and substance yearly also. It is worthy of consideration as to whether such splendid bulbs as those shown from Highclere, Hackwood, &c., would not pay to produce as a purely market product. If the public know how superior in texture and flavour they are to any other Onion, imported or otherwise, a great demand for such bulbs would doubtless soon arise. *A. D.* [As products of cultural skill these very large Onions are praiseworthy, and for certain culinary dishes useful, but in general use in the household, they are wasteful to a degree. *Ed*]

THE A. F. BARRON NATIONAL TESTIMONIAL.—I should like to suggest—quite unofficially, of course—that the secretaries or treasurers of the numerous metropolitan and provincial horticultural societies be requested to make some contribution, however small, to the national testimonial now in course of formation for Mr. Barron. It is not so much the amount, as the widely-extended nature of the subscriptions, that is wanted in a case of this kind. Some of us are anxious that it should be really national, as a genial expression of fellow-feeling for one of the most generally respected members of our profession. The act of the Royal Horticultural Society in offering a life-membership to their late garden superintendent, might well be emphasised by the Council making some special grant to this popular testimonial. The Chairman of the Committee is Dr. Masters, F.R.S., the Hon. Treasurer is H. J. Veitch, Esq., F.L.S., and all subscriptions, &c., should be sent to the Hon. Secretary, B. Wynne, Esq., 1 Dane's Inn, Strand, London, W.C. *F. W. Burbidge.*

APPLE NEWTON WONDER.—In answer to Mr. H. Markham's letter in the *Gardeners' Chronicle*, p. 710, respecting Newton Wonder Apple, I wish to say that I was the raiser of the variety, and not Messrs. Pearson & Sons, Chilwell, as stated; and that with regard to its good qualities, it cannot be too highly spoken of. It is an excellent culinary and dessert Apple from the end of the year till June. As a proof of its keeping quality, I have exhibited fruits of the previous year at several shows in the month of July. The tree grows freely, crops well, and is not liable to canker. I have a "flat" of young trees which were grafted three and four years ago which carried a fine crop of fruit this year. The mother tree, now twenty-seven years old, stands in my garden at King's Newton, and, if I remember rightly, it came into bearing in 1876. When Messrs. Pearson became acquainted with the variety they wrote expressing the wish that I would sell the tree; but I declined to do this. Then they inquired if I would sell them fifty trees, which I did; and also gave them a dish of fruit, which they sent or took to the Royal Horticultural Society's meeting at Chiswick, receiving a First-class Certificate on December 13, 1887. *Wm. Taylor, King's Newton, near Derby.*

IMPORTATION OF HORSE RADISH.—I am exceedingly pleased with your remarks on p. 683, respecting the importation of Horseradish, and would very forcibly endorse the remarks that I made at the meeting of the Royal Horticultural Society. The "imported Horseradish" has scarcely any flavour, and may be generally known by its special manner of growth, which is very different from the home-grown roots, which, if properly cultivated, are only one year's growth, while the Dutch is at least two years, sometimes three years old, being grown from what gardeners call "jags," that is, small roots. By this method the sticks are larger, but tough, and almost tasteless. They may be known by the forked rootlets at the bottom of the stick, and their sandy colour. The English produce is cut straight off with the spade, and has no roots at the end of the stick. The sale by the retailers or greengrocers of

the Dutch Horseradish has ruined the trade to a great extent; the public will not use Horseradish because imported roots are generally offered them, and after trying it a few times they "give it up." My advice to lovers of the root is to obtain some of each sort and try the difference, and I am convinced they will not again use other than English roots. The reason the greengrocer prefers to sell the Dutch is very plain; he can buy it at a very low price, and even this is more than it is worth. I often tell my

In June, 1894, I planted some in a very exposed position; after the abnormally severe weather of February last, I fully expected to see them killed, but was agreeably surprised to find them uninjured—whereas the common Laurels a few yards away were severely damaged, and many of them killed. B. Metake is no doubt the hardiest of the species. I find that June is the best time to plant, which should be in well-maured soil, afterwards giving liberal supplies of water. *W. B. G.*

but I have a vivid recollection of what they were fifty years ago, and few indeed of those who had the privilege of nailing those trees can readily forget the appearance of the wall when finished. Under Mr. Dodds, fruit culture was really well done, bush, pyramid, and standard trees were all grown, but the walls were a specialty, and the trees models of neatness. The effect of Mr. Dodds' training on myself was such that, when circumstances placed a wall covered with Morello Cherries under my own care, I made it a point to keep the pruning of the trees entirely in my own hands, and have done so for more than twenty years. The soil in these gardens is a strong loam with a clay bottom, which is unfavourable for the longevity of the trees, as it leads to gumming and canker at the bottom. The Morellos at Scone were certainly at home in the matter of soil, which is fairly strong, as those who had to trench any of it will remember, and in dry weather it was hard stuff to pulverise. *G. Smith, Vice Regal Gardens, Dublin.*

RHODODENDRON CUNNINGHAMI—In a garden in a sheltered part of this village is a bush of this beautiful plant now in full bloom. It has been in this condition all this month, notwithstanding that on three occasions during the last fortnight the thermometer has been down a few degrees below freezing point. The plant is 5 feet high and 6 feet through, and has a truss of six to nine flowers upon nearly every branch. It forms a conspicuous object amongst other shrubs, none of which are in bloom excepting two species of *Chimonanthus*. The only bits of colour near are the scarlet hips of *Rosa rugosa*. The air is highly scented with *Aponogeton* in a neighbouring pool, on the margin of which a strong clump of *Bambusa palmata* is displaying its apple-green broad leaves. *W. T., Bishopsteignton, S. Devon, December 14.*

GAME-COVERT PLANTING—My experience with *Rhododendron ponticum* as a covert-plant teaches me that this rabbit-proof evergreen can be overdone. I have seen it planted thickly for the encouragement of winged game, but in the course of a few years it had grown, and become so dense, that it proved quite the reverse to what was intended. [Why not thin? Ed.] The hybrid *Rhododendrons* I have no experience of for that purpose, but should say these would answer the purpose better, being erect-habited as a rule, less rampant, with more rigid branches, thus allowing the birds to move about freely, and make their escape when molested. I should say that these are alluded to by Mr. Harrison Weir on p. 684. Where suitable soil exists, there is not a more useful and ornamental hardy shrub for covert planting than the *Rhododendron*, but *R. ponticum* should not be too extensively used. Where rabbits are kept down, *Cotoneaster Simonsi* makes an attractive and useful covert-plant, which, when afforded light, grows freely, and is covered in the autumn with scarlet berries, which pheasants eat readily. But this shrub, like so many others, is sometimes destroyed by the rabbits. *Rosa rugosa*, I regret to hear, shares the same fate, which is a pity, as when planted in clumps of moderate size, it would surely be an acquisition. On p. 685 a correspondent asked "H. G. C." if he would give the names of a few plants which he has found to be rabbit-proof, and I hope the latter will be able to do so [see p. 719, Ed.] Now I am writing, I may mention a plant which I have found "rabbit-proof," that is, the common Box; and on a limestone or chalky soil I do not know of a more useful and hardy shrub to plant than Box as a covert plant; its only drawback is its comparatively slow growth. Some years ago I procured a neglected Box edging from an old garden, which, after pulling it to pieces, I planted over a considerable space of wooded ground, mostly Oak. The wood swarmed with rabbits, but to the best of my recollection, not a Box plant was injured by them, and in a year or two the plants had become quite respectable little bushes. I consider this to be the best use to which old overgrown Box edging can be put. Whether the "tree" Box is touched by the rabbits, I do not know. On the same estate, we had one old bush which used to seed freely, young plants coming no on every side. Is not this a very unusual thing? *J. Easter, Nostell Priory Gardens.*

CEPHALOTAXUS DRUPACEA—Referring to the note and illustration of this evergreen shrub at p. 717, I should be glad to know at about what age this plant bears seed. There are several plants in this garden, some of which have been growing in their present sites seventeen years, but as yet show no sign of bearing fruit. I note this plant, like

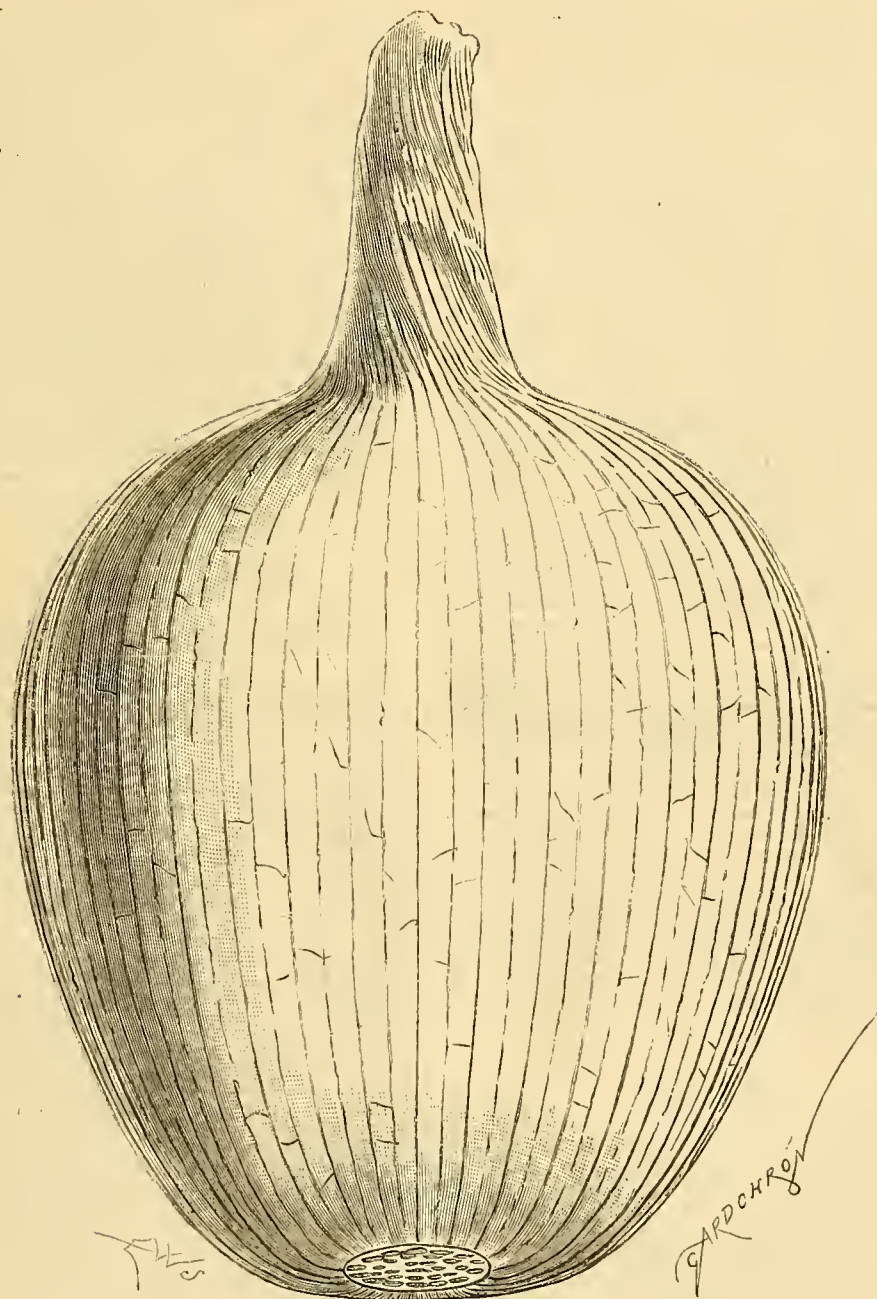


FIG. 17.—A NEW VARIETY OF ONION, RAISED BY MR. W. POPE, HIGHCLERE GARDENS, NEWBURY. (SEE P. 746.)

customers in the market, "You may as well buy Parsnips and scrape them, as use this imported stuff." *J. M. Mason, Market Gardener, East Greenwich, S.E.*

BAMBUSA METAKE.—Considering the limited number of shrubs that thrive well in London and other large towns, where the atmospheric conditions are so very detrimental to many things, we cannot afford to ignore anything that does thrive well. It has often surprised me that *Bambusa Metake* is not much more extensively planted, unless it is that many people imagine it to be less hardy than it is.

MORELLO CHERRY CULTURE.—In these times for reasons of economy in manual labour there is one department of work that remains pretty nearly impregnable to all innovation, and that is the pruning and nailing of fruit trees. Glancing at what our predecessors in the profession did in this line, and comparing it with that of the present, my impression is that it was better done then than now; and the recent remarks in the *Gardeners' Chronicle* by Messrs. H. W. Ward and D. T. Fish, in reference to the Morello Cherries in Scone Palace Gardens, is a notable example of the truth of my contention. I cannot say in what condition those trees may now be,

many others of a similar type, quickly changes the colour of its leaves from a deep to a pale green when growing in soil too heavy and retentive of moisture, or where chalk abounds. *E. M.* [As male and female flowers grow on different plants, your plants are doubtless all of one gender, hence the absence of seeds. *E. O.*]

THE USE OF DECIDUOUS FLOWERING SHRUBS.—"J.," p. 719, in his concluding remarks on the planting of Apple trees in shrubberies, alludes to a much felt want in the beautifying of so many shrubberies. Too often these are planted abundantly with Laurels, Yaws, and other equally common subjects, many of which might well be dispensed with except in special cases such as forming screens to shut out objectionable buildings or obtain privacy. True Portugal and the Common Laurel in its varieties are suitable shrubs for planting in the partial shade where perhaps nothing else would grow. In the open, however, other genera should be employed in preference. In planting shrubberies, whether it be with flowering plants or with evergreens, there is generally far too much of the "dotting" method practised for the planting to be effective, especially when the plants employed are of small size. How much better a group of, say, six to twelve plants of any species would look as compared with the plan of spreading the same number over fifty lineal yards of a border. Take, for instance, the different varieties of the *Pyrus* family, the *Deutzias*, *Broom*, *Syringa*, *Weigela*, *Almonds*, or even the common *Ribes sanguineum* and others, which, if planted in bold masses, afford a much finer effect than in the other manner. Not only to flowering plants do these remarks apply, but to subjects that are planted for the beauty of their branches or foliage. For instance, the common Dogwood, *Cornus sanguinea*, is most beautiful when seen in a mass of ruddy shoots, and the shrub looks well when growing beside water. *E. M.*

I can endorse all that has been said in these pages of the suitability of varieties of Crab for planting in the garden and pleasure-grounds; and when I have been given a free hand, I have done this for some time past, and the effect has been greatly appreciated by owners of gardens. I should, however, plant the large fruiting varieties, beautiful as they are, in the orchard or kitchen garden, the trees lacking the lightness of habit, and the fruits the brilliancy of colouring of the smaller-growing and fruiting ones. *H. J. MacDonald, Chichester.*

THE ROYAL HORTICULTURAL SOCIETY'S COMMITTEES.—Without going so far as to include myself as one of those gardeners in the provinces who do not read the reports of the London meetings, I can cordially re-echo the purport of "J. S. W.'s" remarks (p. 719). For some years past I have met intelligent and respectable members of the horticultural fraternity who have condemned the idea of London alone being thought the "hub of the universe" as to granting certificates to the varied produce of gardens. These persons were not gardeners alone, but include others eminent in the nursery and allied trades connected with horticulture. Personally, I have watched with interest the general good work done by the Royal Horticultural Society, but seeing that we cannot all reside near London, I do not see why it should not extend its influence outwards all round. These are days of decentralisation in many important matters, why not the Royal Horticultural Society follow suit? Surely there is plenty of organising power in the horticultural world to work out a feasible scheme of local government—if it was only put to the test. Of one thing I feel sure, viz., the Royal Horticultural Society will never gain the support of the main body of country horticulturists until its worth is brought nearer to them in a practical form. Why not have local committees near every large city and town, where long and successful exhibitions are held, giving them power to grant certificates for meritorious specimens, as from the Royal Horticultural Society? In districts where gardens are plentiful, quarterly, or even monthly meetings for a portion of the year, might be held for the same purpose. I might say more, but will refrain—first, because others more competent may perhaps take the matter up; and second, I shall be trespassing on your valuable space. *H. J. C., December 16.*

Your correspondent "J. S. W." in your issue of December 14, opens up an important and interesting subject, when he suggests that something might be done to bring the Royal Horticultural Society "into closer contact with horticulturists all

over the country." That there would be some difficulties to surmount goes without saying, but if there is any way by which the society could establish itself in the hearts of the people in the more distant, but yet important centres in the kingdom, these difficulties would soon disappear, and the connection thus formed would no doubt be the means of strengthening the society in various ways. Your correspondent says "that provincial men have not believed that all the talents were confined to London and neighbourhood," and the committees and local men might well reply "so say we all." It is nevertheless true, that were it not for those men who have not "all the talents," the Royal Horticultural Society would cease to be a factor in the horticultural world, for the "provincial" men rarely attend its meetings, and sad to think, some of them do not even read its reports—or when they do so, they give them but small credit. The horticulturists around London and in the nearer counties keep the fortnightly meetings going for the most part, and are rather entitled to the thanks of their provincial brethren than otherwise while to assert that more scant justice is done to distant fellows or to exhibits coming "from afar" is an insult to the committees, which every member of them will resent. An exhibit from Scotland, for example, will have due allowance made for its long journey. But, granting that things are at present well done, is there no possibility of improving them as "J. S. W." suggests, by having provincial committees who would sit in various centres from time to time, and before whom locally raised, but still it may be most meritorious, plants, flowers, fruits, or vegetables might be brought by persons who had no opportunity of placing them before the regular committees in London? By such an arrangement the Royal Horticultural Society would be brought into closer contact with the district, and I am convinced that many persons would become members when they found some of the society's work to interest themselves in. It is, perhaps, not to be expected that those in the immediate neighbourhood of the society's meetings can exactly measure the feelings of those at distant centres; but, speaking for myself, who was, until recently, located on the other side of the border, I have often, in past years, expressed the hope that the time would come when the Royal Horticultural Society would find itself able, like the Royal Agricultural Society of England, or the Highland Society of Scotland, to make a real royal progress through the kingdom from time to time; or if not that, then to have committees at various centres armed with its power and authority. These committees would, of course, be in direct touch with the London centre, and might—to maintain a closer link with the head—be presided over by a capable member of the central body. A glance at the list of Scottish fellows, or even north of England ones, will impress anyone with the idea that something should be tried to make an improvement. A small committee should, at the annual meeting, be appointed to consider the matter. *Robert Fife, Orpington, Kent.*

DRESDEN.

INTERNATIONAL HORTICULTURAL EXHIBITION AT DRESDEN, MAY, 1896.

The Committee of the Second International Horticultural Exhibition to be held at Dresden from May 2 to 10, 1896 has the great regret to announce the death of both the Honorary Presidents, Mr. Alfred Seibel, Mayor of Dresden, and the First President, Mr. Gustav Krantz, Director of the Royal Gardens of Dresden; Both gentlemen have always shown the highest interest in all matters concerning the exhibition. The present advanced state of the undertaking is in a high degree due to the skill and munificence of the deceased, to whom Saxon horticulturists are greatly indebted. Their memory will be held in honour by all who had the pleasure to be connected with them.

The Honorary Presidency has now been bestowed upon the present Mayor of Dresden, Mr. Boutler, Privy Councillor of Finance, while Mr. Rudolf Seidel, nurseryman of Lunzengast, near Dresden, has been elected first President of the Committee; Mr. Fr. Bouché, Director of the Royal Garden at Dresden, and Mr. L. R. Richter, nurseryman at Striesen, Dresden, are second and third.

The works on the exhibition grounds are proceeding satisfactorily. The beautiful main building is nearly ready, so is the surrounding park, which had to be laid out afresh after the designs of Mr. Bertram, Königl. Gartenbau director at Dresden. The annexes to be erected in addition to the main palace will be commenced in the course of this month, and all will be ready in time for the opening. In general everything has been done to make this Dresden Decennial Exhibition a great success.

NEW INVENTION.

SEASELL'S PATENT ORCHID-BASKET.

FASHION asserts itself in most things in some manner or other, and lately it appears either that the Orchid-grower is getting tired of the old-fashioned Orchid-basket, or that the inventors are determined that he shall try others of a different pattern. Several of these new inventions have been advanced lately, and Seasell's Patent Orchid-Basket has new features which warrant its trial in gardens. The inventors, particularising one important thing in its structure, say "the top of our basket being round and saucer-shaped, the water (which can be supplied by a watering-can or syringe whilst the plant is in position) is carried direct to the centre of the compost, wetting it all thoroughly, and the four top corners being left on, prevent rapid evaporation." Many other advantages are claimed which practical test will no doubt soon decide. The basket is neat and seemingly durable, and so, no doubt, will meet at least some of the requirements of the grower.

SOCIETIES.

ROYAL HORTICULTURAL Scientific Committee.

DECEMBER 10.—*Present:* Mr. McLachlan, in the chair; Dr. Müller, Dr. Russell, Mr. Michael, Dr. Bœavia, Rev. W. Wilks, and Rev. G. Henslow, Hon. Secs.

Carnations attacked by Grubs.—With reference to *Dianthus glacialis* destroyed by larvae, brought to the last meeting by Dr. Müller, Mr. McLachlan added to his previous observation that he presumed that they were of the same nature as those brought before the Scientific Committee in 1892. The perfect insect obtained from those grubs was then determined to be *Hylemyia nigrescens*, for many species of black flies infest greenhouses, and it is impossible to distinguish them from the larvae alone; but on one occasion when they were bred they proved to be the species named above.

The Colours of Flowers.—The question was raised whether it would not be possible to carry out some experiments with various substances in the soil to test their effects upon the colours of flowers and fruits. Mr. Wilks remarked upon the effect produced by hoeing in quicklime and soot over the roots of various Apple trees, with the result that a crimson-scarlet hue was imparted to the fruit. With regard to the supposed action, it was a question how far the lime could affect the colour, for if the ammonia was presented in the form of sulphate, it would tend to fix the lime, though the soot itself would certainly be a vehicle for the ammonia. This is a known agent for improving the colour of Balsams, Weigelas, &c.; peat also appears to have a similar effect. Hence the deeper coloration would be due to the enhancing the assimilating powers of the foliage. The case of *Viola calaminaria* was mentioned, a species which absorbed salts of zinc from growing in localities where the carbonate of this metal was abundant; and Dr. Müller alluded to the peculiarity that it did not appear solely as an accidental ingredient in the plant, but that it actually entered into its constitution. Mr. Wilks was good enough to place some Apple trees at the disposal of the committee for experimental purposes, and it is also proposed to use white Hyacinths as soon as the procedure shall have been determined upon by Dr. Müller and Dr. Russell. The committee will be glad to receive information from any correspondent who may have had experience in the changes of colours through the action of the soil in any way.

Cypripedium. Origin of the Slipper.—Dr. Bœavia gave the following possible morphology of the labellum of this Orchid:—"In Canada a wild *Cypripedium* (Selenipedium) acule has a natural slit down the median line on the front of the slipper. This suggests that the slipper may have been originally an open labellum, like that of other Orchids, while the incurving of the edges and their final fusion made a slipper. To-day at the meeting I saw a *Cypripedium* with its slipper open. This may have been an accidental feat; but, supposing this to be so, the fact that the rent occurred down the median line shows a line of cleavage there. Moreover, in several there was a distinct line down the middle, and in some the veins converged towards that line; in others both the veins and median line were obliterated."

EDINBURGH BOTANICAL.

DECEMBER 9.—The monthly meeting was held in the rooms of this society, St. Andrew Square, on the above date, at 8 P.M.; the president, Dr. A. P. AITKEN in the chair. After the conclusion of the private business, consisting of the reports of the council and the election of new members, the first item of public business was the reading of an obituary notice of Professor GEORGE LAWSON, by the assistant-secretary, Mr. J. TERRAS, B.Sc.

The only exhibits were plants from the society's garden, and consisted of *Asystasia scandens*, *Catasetum Christyanum*, *Corynostylis hybanthus*, *Aphelandra chrysops*, *Luculia gratisima*, and others.

A report of the excursion of the Scottish Alpine Botanical Club to Tyndrum last August, was read by Dr. WILLIAM CRAIG, who described the plants found by members of the party. A description was given by Mr. J. H. BURRAGE, B.A. of the male inflorescence of *Nepenthes bicolorata*, with drawings from microscopical sections of the glands.

The curator, Mr. R. LINDSAY, read the report on "Vegetation in the Botanic Garden," and stated the absence of fruits this season was very marked. Mr. R. L. HARROW exhibited the specimens named above, and read a few notes on plants in the plant-houses.

The report of the Meteorological Observations taken at the garden during November, was read by Mr. A. D. RICHARDSON. The maximum of the self-registering protected thermometer was 57.4° on the 11th; minimum 29.9° on the 2nd. Frost occurred on two days. The maximum of the radiation thermometer in the sun was 91.6° on the 10th; minimum on grass, 19.5° on the 2d. Frost on grass occurred on fourteen days. Rain fell on twenty-three days, the total fall being 2.395 inches, and the greatest amount in twenty-four hours, viz., 0.320 inch, fell on the 15th. The mean of the barometer readings at 9 A.M. was 29.717 inches, being 0.113 inch below average for November for five previous years.

COLONIAL NOTES.

NEW SOUTH WALES.

MR. J. H. MAIDEN has published, under the authority of the Colonial Government, a handy little pamphlet on the timbers of New South Wales, and the trees by which they are furnished. It is valuable not only for the practical information it contains, but also as a means of fixing the popular nomenclature, which is very chaotic.

QUEENSLAND.

From the Department of Agriculture, Brisbane, Queensland, comes *Bulletin XII.*, for October, 1895. Its pages deal with Pesticiferous Fungi, by M. C. COOKE, M.A., and Peculiarities of the Queensland Flora, by F. M. BAILEY, F.L.S., both valuable and interesting papers, to which we shall allude hereafter.

JAMAICA.

Mr. Fawcett has issued an interesting report on the work of his department for the year ending March, 1895, and to which we must call further attention later on.

TRADE NOTICE.

THE SAITAMA NURSERY CO.

THE following letter, under date of November 1, 1895, has been received by us from the manager of the Saitama Nursery Co., 26, Nishi-Tateno, Tatinka, Kita-Adachi, Saitama-Ken, Japan:—"I beg to inform you that I have established a company called the Japan Saitama Nursery Co., for purposes of direct exportation to foreign countries of all varieties of plants, seeds, bulbs, and especially Japan Lilies, and if favoured occasionally with your orders, I will esteem myself indebted. The place in which I am now living is the habitat of the Lily in Japan; therefore the species obtainable are much finer than those of any other part of Japan. My own experience as a buyer enables me to purchase the most approved goods as cheaply as any long-established nursery here. I have edited the *Collection of the Lilies of Japan*. I will present you with one volume, and I wish you to send many orders for Lilies!" Our Japanese editor-nurseryman tells us further that he has sent a price-list of the principal species of Liliaceae grown by him, and the prices include packing, boxing, and transportation to the ship. He is decidedly quite up to date.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.				RAINFALL.			BRIGHT SUN.		
	Above (+) or below (-) the Mean for the week ending December 14.	ACCUMULATED.			10ths Inch.	Ins.	No. of Rainy Days since Jan. 1, 1895.	Total Fall since Jan. 1, 1895.	Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1895.
		Above 42° for the Week.	Below 42° for the Week.	Above 42° difference from Mean since January 1, 1895.							Below 42° difference from Mean since January 1, 1895.	More (+) or less (-) than Mean for the Week.
0	1 —	3	37	+ 278	+ 313	1 +	231	48.7	9	28
1	0 aver	2	41	— 4	+ 460	1 —	187	30.3	19	35
2	1 —	4	37	+ 245	+ 285	2 —	180	27.0	13	34
3	1 —	6	42	+ 212	+ 275	2 +	159	23.9	29	40
4	0 aver	8	41	+ 217	+ 352	3 +	157	24.3	16	38
5	1 +	14	34	+ 193	+ 319	1 +	152	23.9	27	40
6	1 +	12	33	+ 147	+ 393	1 +	192	37.4	22	33
7	1 +	11	28	+ 237	+ 298	5 +	178	31.9	7	35
8	2 +	30	13	+ 193	+ 347	1 +	167	34.1	12	42
9	1 —	8	34	+ 48	+ 301	2 +	209	34.3	20	32
10	1 +	32	18	+ 1	+ 200	3 +	183	35.4	21	35
*	3 +	46	0	+ 316	+ 241	1 —	188	28.8	7	49

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

- 0, Scotland, N. Principal Wheat-producing Districts—
- 1, Scotland, E.; 2, England, N.E.; 3, England, E.;
- 4, Midland Counties; 5, England, including London, S. Principal Grazing, &c., Districts—6, Scotland, W.;
- 7, England, N.W.; 8, England, S.W. 9, Ireland, N.;
- 10, Ireland, S. * Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending December 14, is furnished from the Meteorological Office:—

"The weather during this week continued in a very changeable and stormy condition generally. A good deal of rain fell over the Kingdom, but the fall was comparatively slight in the north-east of England. Thunder and lightning were experienced in different localities on the 12th or 13th.

"The temperature underwent considerable and rapid changes, but the average for the week did not differ materially from the normal value; in most of the northern districts it was slightly below, and in the south a little above the mean. The highest of the maxima were recorded on the 11th, when they ranged from 58° in 'Scotland, W.' to 49° in 'England, N.E.' The lowest of the minima were registered either on the 8th or 11th, and ranged from 20° in 'England, S.' and 23° in 'Ireland, N., Scotland, N., and England, E.' to 29° in 'Scotland, W. and England, N.W.' In the 'Channel Islands' the thermometer did not fall below 40°.

"The rainfall was rather less than the mean in 'Scotland, England, N.E., and the Channel Islands;' in all other districts, however, there was an excess.

"The bright sunshine somewhat exceeded the mean in Ireland, the greater part of Scotland, and the south and east of England; but was just equal to or less than the mean in the other districts. The percentage registered of the possible duration ranged from 29 in 'England, E.' and 27 in 'England, S.' to 12 in 'England, S.W.,' 9 in 'Scotland, N.,' and 7 in 'England, N.W. and the Channel Islands.'"

CULTIVATION OF PLANTS UNDER COLOURED GLASSES.

—The September issue of the *Journal de la Société Nationale d'Horticulture de France* contains a note giving the following as the results of M. ZACHAREWICZ's recent experiments on the cultivation of forced Strawberries under different coloured glasses:—1st. The finest and earliest fruit was raised under ordinary glass. 2nd. Orange glass stimulated the vegetation, but was prejudicial to the quality, size, and earliness of the fruit. 3rd. Violet glass yielded a great deal of fruit, but small, inferior in quality, and not very early. 4th. Red, blue, or green glasses proved detrimental to the vegetation of the plants experimented upon.

A DRAWING OF A MODEL OF A BLENHEIM ORANGE APPLE, which, with four others, received the Banksian Silver Medal at the October meeting of the London Horticultural Society in 1822, was exhibited at the recent Oxford Chrysanthemum and Fruit Show by Miss SWANN, niece to the late Professor WESTWOOD, Walton Manor, Oxford. The drawing was accompanied by the following history of the origin of the Blenheim Orange Apple:—"Mr. G. KEMPSTER, who lived at the end of the last century at Woodstock, when a young man, discovered a plant growing in a crevice in the window-sill. He carefully removed and planted it. In due time it became a tree, and bore Apples, which were at first called Kempster Pippins, and which were so fine and of such excellent flavour that they soon became famous. In 1811, Mr. WHITMAN, gardener to the Duke of MARLBOROUGH, placed some on his Grace's table, and the Duke so highly approved of them that they were thenceforward known as the Blenheim Orange. The original tree was standing in 1826. On September 21, 1822, five Apples were gathered from it weighing from 15 oz. to 21½ oz., and measuring from 12½ to 14½ inches in circumference. They were exhibited at the October meeting of the London Horticultural Society in 1822, and the Banksian Silver Medal was awarded to them. A model was made of the largest of these five Apples, which came into the possession of the late Professor WESTWOOD." *Gardeners' Magazine.*

MARKETS.

COVENT GARDEN, December 19.

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

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		d. s. d. s. d.
Adiantum, per doz.	4 0-12 0	Ficus elastica, each	1 0-7 6
Aspidistra, per doz.	12 0-30 0	Foliage plants, doz.	12 0-24 0
— specimen, each	5 0-15 0	Hycinchins, per doz.	9 0-12 0
Chrysanthemums,		Lilium Harrisii, per	
doz. pots ...	6 0-12 0	dozen pots ...	18 0-36 0
— (specimens), p.		Marguerites, p. doz.	6 0-12 0
plant ...	1 6-3 0	Mignonette, p. doz.	6 0-9 0
Cyclamens, per doz.	9 0-18 0	Palms, various, ea.	2 0-10 0
Dracæna, each ...	1 0-7 6	— specimens, ea.	10 6-84 0
— various, p. doz.	12 0-24 0	Poinsettia, per doz.	12 0-18 0
Ericas, various, doz.	9 0-24 0	Primula sinensis,	
Evergreen Shrubs,		per dozen ...	4 0-8 0
in variety, doz....	6 0-24 0	Tulips, bulbs, p. doz.	1 0-2 8
Ferns, small, doz....	1 6-3 0	Solanum, per doz ...	9 0-12 0
— various, p. doz.	5 0-12 0	Spiræas, per doz ...	9 0-12 0

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, Blenheim, p.		Grapes, Gros Colmar,	
bushel ...	3 0-5 0	1st quality, lb.	1 6-2 0
— From Nova		— Gros Colmar, 2nd	
Scotia, per		quality, p. r. lb.	10-1 3
barrel ...	11 0-14 0	— Alicante, 1st	
— Wellington, 1st		quality, p. lb.	1 3-1 6
quality, per		— Alicante, 2nd	
bushel ...	4 6-5 0	quality, p. lb.	10-1 0
— Wellington, 2nd		— Muscat, 1st quality,	
quality, per		p. lb. ...	3 6-5 0
bushel ...	3 0-4 0	Pine-apples, St. Mi-	
Cobs, per 100 lb.	30 0-35 0	chael, each ...	3 0-7 6

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Arums, p. 12 blooms	4 0-5 0	Orchids:—	
Azales, 12 sprays ...	0 8-1 0	Cattleya, 12 blms.	8 0 12 0
Bouvardias, per bun.	0 6-1 0	Odontoglossum	
Carnations, 12 blms.	1 0-3 0	crispum, 12 b.m.	3 0-8 0
Chrysanthemums,		Pelargoniums, scar-	
per 12 blooms	1 0-4 0	let, per 12 bunch	8 0-9 0
— per 12 bunches	3 0-8 0	— per 14 sprays ...	0 8-1 0
Eucharis, per dozen	3 0-5 0	Poinsettia, 12 blms.	6 0 12 0
Gardenias, per doz.	3 0-5 0	Pyrethrums, 12 bun.	2 0-4 0
Hyacinths (Roman)		Roses, Tea, per doz.	1 0-3 0
12 sprays ...	6 0-9 0	— coloured, p. doz.	2 0-4 0
Lapageria, per doz.		— pink, French, doz.	3 0-4 0
blooms ...	0 6-1 6	— yellow (Maré-	
Lilac, French, per		chal), per doz.	4 0-9 0
bunch ...	3 0-5 0	— red, per dozen	1 0-1 6
Lilium Harrisii, do.		— Safrano,	
4 0-8 0		French per doz.	2 0-4 0
Lily of the Valley,		Stephanotis, 12 sps.	6 0-9 0
per doz. sprays ...	1 6-2 6	Tuberoses, 12 blms.	0 3-0 6
Maidenhair Fern,		Violets, 12 bunches	1 6-2 6
per 12 bunches ...	4 0-8 0	— Parme, French,	
Marguerites, per 12		per bunch ...	2 6-4 0
bunches ...	1 0-3 0	— Czar, do. ...	2 6-3 0
Mignonette 12 bun.	2 0-4 0	— Mimosa or Aca-	
Narciss., White,		cia, do. ...	1 0-2 0
French 12 bun.	3 0-6 0		

ORCHID-BLOOM in variety

VEGETABLES.—AVERAGE WHOLESALE PRICES.

s. d. s. d.		s. d. s. d.	
Cauliflowers, p. orate (5 to 8 doz.)	... 10 0-12 0	Tomatoes:—	
Mushrooms, per lb.	0 8-9	— ordinary ..	4 0-5 0
Cucumbers, per doz.	8 0-18 0	— Canary Islands, per case, 12 to 14 lb.	... 5 0-5 6
Onions, Eng. cwt.	5 0-6 0		
Tomatoes, Home-grown, Smooth, p. doz. lb.	... 10 0-12 0		

POTATOS.

Trade quiet; supplies heavy. Seewdrops, 70s. to 90s.; Hebrons, 75s. to 85s.; Bruces, 45s. to 60s.; Black lands, 30s. to 45s. J. B. Thomas.

SEEDS.

LONDON: December 18.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report that as is usual towards the close of the year business in seeds shrinks just now to a very narrow compass. Quotations all round are, in consequence, without any noteworthy change. For white Clover seed, the tendency of values is downwards. Blue Peas and Haricot Beans are held for former rates. The trade for bird seeds is without any special feature. Some Scarlet Runner Beans are now offering on very tempting terms. Other articles at this holiday season being quite neglected, call for no comment.

FRUITS AND VEGETABLES.

BOROUGH: Dec. 17.—Quotations:—Savoys, 3s. 6d. to 5s. 6d. per tally; Cabbages, 2s. 6d. to 3s. do.; Onions, 2s. 9d. to 3s. 6d. per bag; Horseradish, 1s. to 1s. 3d. per bundle; Apples, 2s. to 6s. per bushel; Chestnuts, 6s. to 9s. per bag.

SPITALFIELDS: Dec. 17.—Savoys, 2s. 6d. to 3s. 6d. per tally; Greens, bunch, 1s. to 1s. 6d. per dozen; Turnips, 1s. to 1s. 6d. per dozen bunches; Cauliflowers, 4s. to 6s. per tally; Sprouts, 1s. 3d. to 1s. 6d. per half-sieve; Scotch Kale, 9d. to 1s. per bushel; Turnip-tops, 1s. to 1s. 3d. do.; Carrots, 2s. to 2s. 6d. per dozen bunches; Turnips, 25s. to 30s. per ton; Carrots, 22s. to 30s. do.; Leeks, 1s. to 1s. 6d. per dozen; Beetroot, 1s. to 1s. 3d. per bushel; Horseradish, 1s. to 1s. 2d. per bundle; Apples, cooking, Deux Ans, 3s. to 3s. 6d. per bushel; Northern Greening, 3s. to 3s. 6d. do.; Wellingtons, 3s. 6d. to 4s. do.; Apples, dessert, Bleheim, 4s. to 4s. 6d. per bushel; King Pippin, 4s. 6d. to 5s. do.

STRATFORD, D.C. 18.—Good supplies, but trade slow. Collards, 1s. to 1s. 6d. per tally; Savoys, 2s. to 3s. 6d. do.; Greens, 6d. to 9d. per bag; do., 1s. to 1s. 3d. per dozen; Cauliflowers, 1s. to 1s. 6d. do.; do., 3s. 6d. to 6s. per tally; Scotch Kale, 6d. to 9d. per sieve; Brussels Sprouts, 1s. 3d. to 1s. 6d. per half-sieve; do., 2s. to 2s. 6d. per sieve; Beetroot, 2s. to 2s. 6d. bag; Horseradish, 1s. 1d. to 1s. 3d. per bundle; Parsley, 1s. to 1s. 6d. per dozen bunches; Turnips, 1s. 3d. to 1s. 6d. per dozen bunches; do., 35s. to 40s. per ton; Carrots, household, 25s. to 32s. do.; do., feeding, 23s. to 28s. do.; Mangels, 13s. to 15s. do.; Swedes, 12s. to 16s. do.; Onions, English, 30s. to 70s. do.; do., Dutch, 2s. 9d. to 3s. per bag; do., Port., 5s. 6d. to 7s. per case; Apples, English, cookers, 2s. 6d. to 4s. per bushel; do., dessert, 2s. 6d. to 4s. per bushel; do., Nova Scotian, 12s. to 14s. per barrel; Pears, English, 2s. 6d. to 3s. 6d. per bushel.

FARRINGTON: Dec. 17.—Quotations:—Savoys, 4s. per tally; Cabbages, 2s. 6d. do.; bunch Greens, 1s. 6d. per dozen bunches; Carrots, 2s. do.; Turnips, 2s. do.; Sprouts, 1s. 6d. per half-bushel; Turnip-tops, 1s. per bushel; Leeks, 1s. 6d. per dozen; Onions, 4s. 6d. per cwt. bag (English); Beetroot, 1s. per dozen; Parsnips, 3s. per sack; Celery, 9s. to 10s. per dozen; Parsley, 1s. 3d. to 1s. 6d. per dozen bunches; Apples, Wellingtons, 4s. 6d. per bushel; Bleheims, 5s. do.; Ribstons, 23s. per barrel; Baldwins, 18s. do.; Newtown Pippins, 25s. do.; Greenings, 15s. do.; Grapes, best English, 1s. per lb.; do., Almeida, 10s. per barrel; Chestnuts, 10s. per bag (best).

POTATOS.

BOROUGH: December 17.—Quotations ranged from 35s. to 80s. per ton.

SPITALFIELDS: December 17.—Quotations:—Sutton's Abundance, 50s. to 60s.; Main Crop Kidneys, 50s. to 70s.; Bruces, 40s. to 60s.; Imperators, 45s. to 55s.; Roses, 50s. to 65s.; Fidler's Colossus, 40s. to 60s. per ton.

STRATFORD, December 17.—Quotations:—Bruces, dark soil, 35s. to 40s. do., light soil, 40s. to 50s.; Reading Giants, 40s. to 50s.; Sutton's Abundance, 50s. to 60s. per ton.

FARRINGTON: December 19.—Quotations:—Maincrop Kidneys, 75s. to 85s.; Jeannie Deans, do.; Laxtons, do.; Abundance, 70s. to 8s.; Imperators, 65s. to 70s.; Bruces, 55s. to 65s.; Magnums, 45s. to 50s. per ton.

LONDON AVERAGES: Dec. 13.—Dunbar Regents, 90s. to 100s.; Snowdrops, 70s. to 90s.; Hebrons, 70s. to 90s.; Sutton's Abundance, 55s. to 65s.; Puritans, 60s. to 55s.; Regents, 60s. to 70s.; Magnums, 40s. to 50s.; Imperators, 40s. to 50s. per ton.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending December 14, and for the corresponding period in the previous year:—1895: Wheat, 24s. 9d.; Barley, 23s. 11d.; Oats, 18s. 11d. 1894: Wheat, 20s. 10d.; Barley, 21s. 6d.; Oats, 14s. 3d.

HAY.

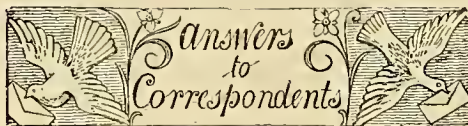
Averages.—The following are the averages of the prices at the metropolitan markets during the past week:—Clover, prime, 80s. to 95s.; do., inferior, 50s. to 70s.; hay, best, 80s. to 90s.; do., inferior, 36s. to 60s.; mixture, 70s. to 89s. 6d.; and straw, 20s. to 42s. per load.

ENQUIRIES.

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

PERFECTION TOMATO.—A correspondent, "S. J. B.," writes:—"I have two hot-houses, 100 feet by 14 feet, with 5 feet by 3 feet beds down each side, and a path between. I intend to crop these two houses with Tomatos. Please tell me how I am to plant them in the beds (5 feet by 3 feet), so as to obtain the greatest number of plants, yet not to overcrowd, so as to get bad crops? Tomatos to be grown on single-rod system. Ought I not to be able to get five rows in the bed (5 feet by 3 feet)?"

APPLES.—Will some of our correspondents oblige "M. E." with the names of varieties of Apples which bloom late; and also kindly afford him any information concerning the times of flowering of Apple trees on grass and on bare soil; or of methods of retarding the flowering beyond the natural time, by keeping the ground above the roots protected from March to May in some manner from sun-heat?



AZALEA INDICA LEAVES BROWNED: P. & S. We should suppose that the insects (thrips and red-spider) were allowed to infest the plant in great numbers, and then that very heavy fumigation was resorted to, to rid it of them; or that the plant was dipped in over-strong insecticide of some kind. The injury is not likely to destroy the plant, but it will cause the loss of the flower-buds.

BOOKS: W. B. E. & F. Spon, Booksellers, Charing Cross, London, W.C.—H. Orm & Sons, The Tomato, with Up to date Cultural Directions, by W. Iggulden (Published at the office of Journal of Horticulture, 171, Fleet Street, London, E.C.)—Young Gardener—How Plants Grow, Plant Life, Fruit Manual, by Dr. R. Hogg; Manual of Stove and Greenhouse Plants, by B. S. Williams; The Orchid Growers' Manual, by B. S. Williams; Horticultural Buildings, by Fawkes; My Gardener, by H. W. Ward; Artificial Manures; How to Lay Out a Garden, by W. Kemp.

CHISWICK CAROL—What! Chiswick without Barron, And Barron without Chiswick? As well have a doctor Without any physic!

CRICKETS: W. W. C. Sprinkle powdered camphor or carbolic acid in their rune. If you can sink good-sized flowerpots, having a piece of tile or slate over the mouth, and let the bottom of the pot be uppermost and level with the floor of the glass-house you will have a capital trap; and if some kind of odorous bait be placed at the bottom, so much the better. Crickets, having a penchant for exploring holes, will descend by hundreds into these traps, and not being able to get out will perish.

ENGLISH TIMBER TREES: T. D. G. The principal kinds planted are Quercus sessiliflora Q. pedunculata, Fagus sylvatica, Ulmus campestris, U. glabra, U. montana, Carpinus Betulus, Castanea vesca, Acer campestre, A. platanoides, Alnus glutinosa, Betula alba and B. nigra; Fraxinus excelsior, Juglans nigra, J. regia, Populus alba, P. canadensis, P. tremula, Salix alba, and others; Tilia vulgaris, T. americana, and others. Among Conifers, Pinus sylvestris*, P. Laricio*, P. austriaca*, P. Cembra, P. Pinaster*, Abies balsamea*, Tenga canadensis*, Pseudotsuga Douglasii*, Picea excelsa*, Abies pichta, A. grandis, Cryptomeria japonica, Cupressus nookatensis, Juniperus virginiana*, Larix europæa*, Sequoia sempervirens, S. gigantea, Taxodium distichum, Libocedrus decurrens. Those having an asterisk attached are the commonly planted Conifer, but there is no reason why the others should not be generally cultivated, being quick growers and the wood

useful for many purposes. There are numerous species of Pinus which might also be planted with advantage in these islands.

NAMES OF PLANTS: Correspondents not answered in this issue are requested to consult the next number.—Mr. Cowles, Newport, U.S.A. The characters agree with a plant in Herb. Kew. from Herb. T. Moore, marked Lomaria gibba, crossed with Blechnum brasiliense, Royal Horticultural Society's Garden, Chiswick, 1876.—L. B. G. Cyrtopodium × Eummannium (Harrisianum × Boxallii.—Wishes to Know. Your specimen of Calanthe, judging by your description, is one of the best.—G. B. 1, Maxillaria rubescens; 2, Croton Weismannii; 3, C. Johannis; 4, Dracaena ferrea; 5, Dracaena regale; 6, Dracaena amabilis.

ORCHID COLLECTING: R. S. Of course, it is beset with dangers of many kinds. We would advise you to read the Orchid Seekers, by Ashmore Rossau and Frederick Boyle; and About Orchids, by F. Boyle, published in 1894 by Chapman & Hall. Both books were reviewed in our issue for January 13, 1894, p. 47. You will find much information about Orchid collecting and collectors at pp. 335, 422, and 487 in the present volume of the Gardeners' Chronicle.

PEACH ROOTS: C. L. C. Very likely the knobs are the result of some injury by a digging-fork or by frequently pulling up the suckers. The knobs are often clusters of buds ready to start into growth when circumstances are favourable.

RETARDING OF LILY OF THE VALLEY ROOTS: Constant Reader and W. G. This is done by large cultivators of the plant, but the exact method we are unacquainted with. The roots are maintained at a low temperature (not frozen) all through the summer and autumn—probably in the so-called cold storage places.



FIG. 128.—STRAWBERRY-LEAF FUNGUS (SPHAERELLA FRAGARIAE).

STRAWBERRY LEAVES DISEASED: L. C. The Strawberry-leaf fungus which may be kept in check by spraying with Bordeaux Mixture.

COMMUNICATIONS RECEIVED.—O. Hewitt, Altrincham.—C. E. F. L.—C. L. C.—W. T. & Sons.—F. W. B.—C. B.—F. W. M.—A. H. K.—L. C.—M. D., best thanks.—W. Day.—G. Hansen, California.—B. & S.—J. B., Utrecht.—W. W.—S. F. H.—J. B., Berlin.—G. S. B.—W. T. & Sons.—A. J.—F. W. M.—Snowdon.—F. A. W.—J. W.—W. H. D.—U. D.—B. W.—C. T. D.—J. K. B.—W. J. H.—H. T. S., Halifax.—J. P.—S. Dobbie.—D. T. F.—R. C.—D.—R. D.—G. D.—H. H. R.—J. E.—P. L. S.—W. J. B.

PHOTOGRAPHS, SPECIMENS RECEIVED.—F. W. B., with many thanks.—T. C. A., Geelong.

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,

Increased to the extent of more than 50 per cent., and that it continues to increase weekly.

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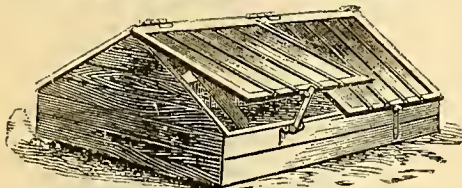


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THE GARDENERS' CHRONICLE

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Advertisements for the current week MUST reach the Office by first post, Thursday morning.

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements,
 41, WELLINGTON STREET, STRAND, W.C.

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THE GARDENERS' CHRONICLE

("THE TIMES OF HORTICULTURE")

A Weekly Illustrated Journal

(ESTABLISHED 1841)

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DEWAR, D., Glasgow.
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JENKINS, E., Hampton.

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EWBANK, Rev. H., Ryde.
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SMITH, W. G.
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WEBSTER, J. B., Gordon Castle.

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CLARKE, Col. Trevor. [Dublin.
CLARKE, C. B., Pres. Linn. Soc.
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STRICKLAND, Sir C., Bart.
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LINDEN, Lucien, Brussels.
LOTHIAN, the Marquis of.
O'BRIEN, James.
PFITZER, Prof., Heidelberg.
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RENDEL, A. B., Brit. Mus.
ROLFE, R. A., Kew.
ROSS, Comm., Florence.

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SMEE, A. H., Wallington.
SWAN, W.
VEITCH, H. J., F.L.S., Chelsea.
WHITE, R. B., Ardarauch.
WHITE, W. H., gr., Sir T. Lawrence.

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BLAIR, T., Shrubland Gardens.
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COLEMAN, W., Eastnor Castle Gardens.
COOMBER, J., The Hendre, Monmouth.
COOMBS, A., Himley Hall.
CROMBIE, D., Powerscourt.
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EVANS, A., Lythe Hill.
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HARROW, W., Sheffield Botanic Gardens.

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HERRIN, C., Dromore.
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LYNCH, B. J., Botanic Gardens, Cambridge.
MACLEOD, Dover House, Roehampton.
MELVILLE, D., Dunrobin Gardens.
MILES, G. T., Wycombe Abbey Gardens. (Fruit).
MILLER, W., Coombe Abbey. (Fruit).
MOORE, F. W., Royal Botanic Garden Glasnevin.
POWELL, D. C., Powderham Castle.
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SAUL, M., York, the late.
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WATSON, W., Royal Gardens, Kew.
WEBSTER, C., Gordon Castle Gardens.
WILDSMITH, the late W.
WILSON, D.
WYTHES, G., Sion House Gardens. And many others.

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BENNETT, H., the late, Shepperton.
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D'OMBRAIN, Rev. H. H., Westwell, Kent.
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FISHER, Rev. O.
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MAWLEY, E., Berkhamsted.
PAUL, G., Cheshunt.
PAUL, W., Waltham Cross.
PIPER, A.
VIVIAND MOREL, Lyons.

VEGETABLE PHYSIOLOGY, &c.:—

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BONAVIA, Dr. E.
BOULGER, Prof.
DARWIN, the late Charles.
DE VRIES, Hugo.
FOSTER, Prof. Michael, Cambridge.
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GOEBEL, Prof., Munich.
GOODALE, Dr., Boston, U.S.A.
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OLIVER, Prof. F. W.
WALLACE, Alfred.
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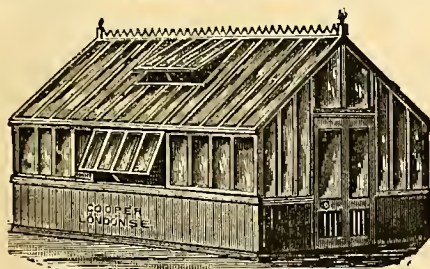
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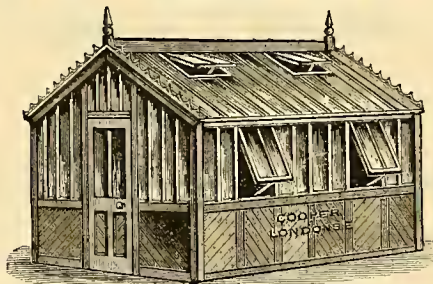
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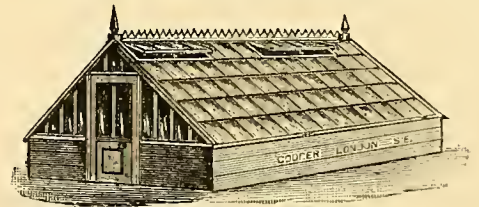
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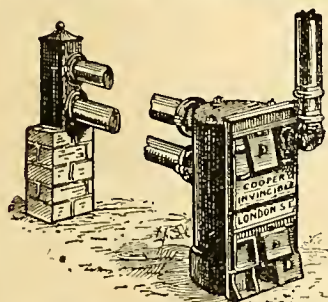
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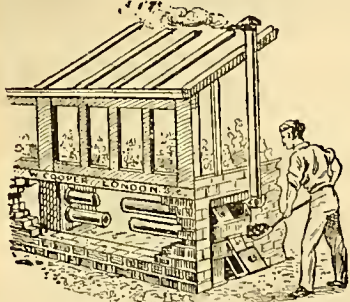
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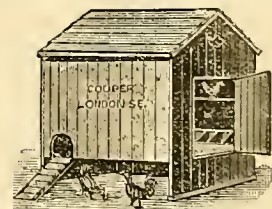
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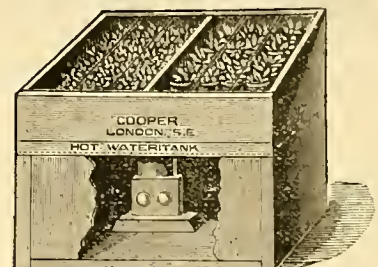
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INCREASED CIRCULATION.

NOTICE TO ADVERTISERS.

THE
 GARDENERS' CHRONICLE

FOR

JANUARY 4, 1896,

WILL

CONTAIN AS A SUPPLEMENT

A
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*As a large Extra Circulation of this Number is guaranteed, it will be
 a very valuable medium for Advertisements.*



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are requested to communicate with "The Publisher" not later than
 MONDAY, December 30, 1895.

THE PUBLISHER, 41, WELLINGTON ST., STRAND, LONDON, W.C.

ESTABLISHED 1851.

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CATALOGUES RECEIVED.

SUTTON & SONS, Reading—General Vegetable and Flower Seed Catalogue.

STUART & MEIN, Kelso, Scotland—Seeds.

J. C. TISSOT ET CIE, 31, Rue des Bourdonnais, Paris—Florists Requisites.

JAS. CARTER & CO., 237, 238, and 97, High Holborn, London—General Vegetable and Flower Seeds.

JAS. VEITCH & SONS, Royal Exotic Nursery, King's Road, Chelsea—General Seed and Garden Implements.

FR. WEBB & SONS, Wordsley, Stourbridge—Seeds and Implements.

MARTIN GRASHOFF (GRUSSDORF & LIESNERBERG), Quedlinburg, Germany—Wholesale Agricultural, Vegetable, Garden, and Flower Seeds.

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MR. GEORGE MULLINS, late of Farnborough Hill Gardens, Farnborough, Hants, as Head Gardener to Lady HENRY SOMERSET, The Priory Gardens, Reigate, Surrey.

MR. THOMAS BOLTON, late Pleasure-ground Foreman at Clumber, Worksop, and previously three years at Milner Field, as Gardener to the EARL OF TANKERVILLE, Coombe End, Kingston-on-Thames.

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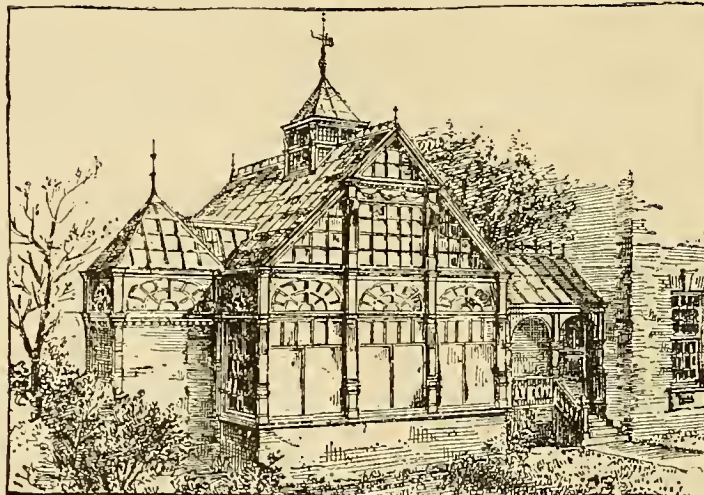
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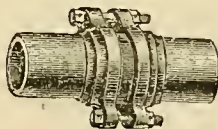
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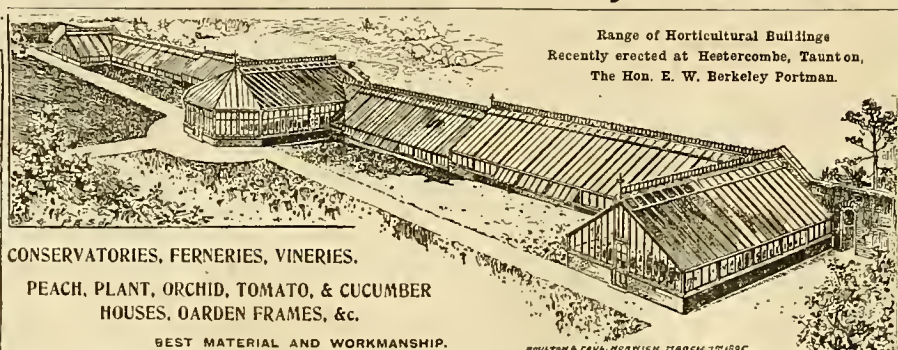
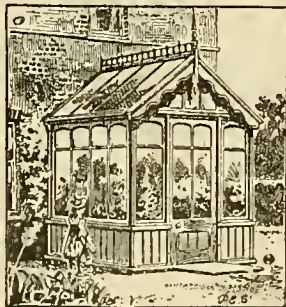
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ESTABLISHED 1841. No. 2870.

No. 470.—VOL. XVIII. { THIRD SERIES. } SATURDAY, DECEMBER 28, 1895.

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ONCIDIUM CRISPUM GRANDIFLORUM, including some monster masses.

SOPHONITIS GRANDIFLORA, &c.

Also ESTABLISHED ORCHIDS, comprising—ONCIDIUM VARICOSUM, O. TIGRINUM, O. CUCULATUM, ODONTOGLOSSUM PESCATOREI, O. CRISPUM (best Pachto type), &c., all in vigorous health.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, January 2, at half-past 12 o'Clock precisely.

FRIDAY, JANUARY 3, 1896.

SALE OF ORCHIDS.

By order of Messrs. F. SANDER & Co., St. Albans.

A fine Consignment of

DENDROBIUM NOBILE, from the Dokela Mountains, probably the finest of all the types yet offered. Gathered in the high unexplored mountain of Dokela, far beyond where any plants have been previously gathered. Most distinct-looking plants, found growing with a variety of D. densiflorum; superb varieties. Confidently expected, we believe, these plants will prove richer in new varieties than any other consignment that has ever reached Europe.

ODONTOGLOSSUM ROSSII MAJUS.—This is a Roezlii type now offered, and is unequalled for size, fragrance, and brightness of blossom. It is one of the most attractive of all the winter-blooming Orchids.

ODONTOGLOSSUM CERVANTIANI.—A splendid companion for O. Rossii majus. The plants come from the same locality which before has yielded decorum, roseum, membranaceum, &c.

LELIA ALBIDA, a lovely compact-growing, winter-flowering species, 8 to 10-flowered racemes of fragrant blossoms. The plants are in grand order, and will probably contain Bella, Marianne, Stobartiana, sulphurea, &c.

CYPRIPEDIUM BELLATULUM, the large-flowered deep maroon-spotted form.

CATTLEYA HARRISONI, the finest type procurable. A fine consignment of

DENDROBIUM DENSIFLORUM, almost unequalled as a decorative Dendrobe.

ONCIDIUM UNGUICULATUM, CATTLEYA CITRINA, LELIA AUTUMNALIS ATRO-RUBENS, the true atro-rubens, the dark large-flowered rich-coloured variety. To be SOLD BY AUCTION by

MESSRS. PROTHEROE AND MORRIS at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, January 3, 1896, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

THE LOST CYPRIPEDIUM

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CYPRIPEDIUM MASTERSIANUM,

Of which not more than a dozen plants exist in cultivation. We shall offer at

MESSRS. PROTHEROE AND MORRIS', 67 and 68, Cheapside, London, E.C., on

FRIDAY, JANUARY 17, 1896,

5000 PLANTS,

In superb condition, without any Reserve.

F. SANDER & CO., ST. ALBANS.

Tuesday Next—December 31.

Great Sale of 790 cases of Japanese Lilies, comprising:—

34,312	LILIU AURATUM.
430	" RUBRO-VITTATUM.
175	" WITTEL.
8,843	" SPECIOSUM ALBUM.
11,955	" RUBRUM.
960	" MELPOMENE.
800	" LONGIFLORUM.
550	" KRAMERI.
180	" TIGRINUM SPLENDENS.
2,400	NERINE JAPONICA.

Also an Importation direct from Japan consisting of 250 plants of

HEMEROCALLIS AURANTIACA MAJOR.

Collected at great expense, and all in good condition; also 300 AZALEA MOLLIS, 200 CAMELLIAS and A. INDICA from Belgium; a choice assortment of GREENHOUSE PLANTS, FERNS, &c.; 200 Dwarf ROSES, Hardy BORDER PLANTS and BULBS, Hardy PERENNIALS, CARNATIONS, and 200 lots of superlative HYACINTHS, TULIPS, and NARCISSUS.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, December 31, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

ABSOLUTE DISPERSAL SALES.

TUESDAY NEXT, DECEMBER 31, at 12.

425,000 FOREST TREES,

At the VRON NURSEY, 3 miles from Gobowen, on the G.W.R., and 5 from Oswestry.

And on THURSDAY, JANUARY 2, at 10.30 a.m.

The GREENHOUSE PLANTS, viz., 2000 Hyacinths and other Bulb Plants; 500 Arum Lilies, 300 Primulas, 300 Azaleas, Camellias, Hydrangeas, and Solanums; 10 Palms, up to 8 feet; 35 Aspidistras, Ficus elastica, &c.; 25 young Vines, 100 Ferns, 300 Geraniums, Fuchsias, &c., 10 months; 7500 Calceolarias, Fuchsias, and other Cuttings; 1500 Geranium Plants, 750 Tomatos, 8 to 12 inches; 8000 Cabbage and Canliflower Plants, 280 Marie Lonise Violets, at—

WHITTINGTON NURSERY,

adjoining G.W.R. and Cambrian Ry. Station, and 2 miles from Oswestry. Sale in Tent at 10.30 a.m.

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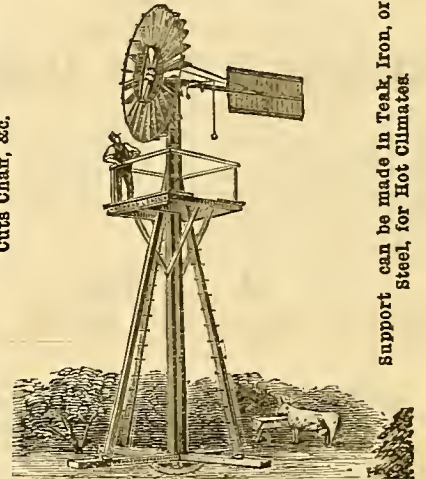
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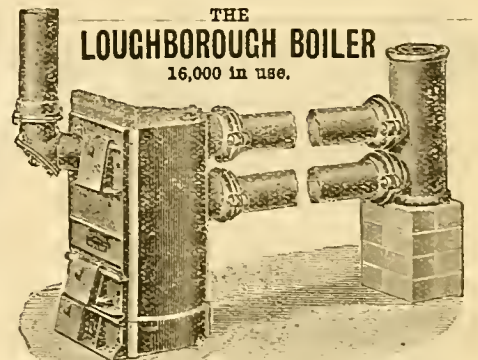
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THE

Gardeners' Chronicle.

SATURDAY, DECEMBER 28, 1895.

PRESERVED FLOWERS, GRASSES AND LEAVES FOR WINTER.

BUT few flowers are preserved, because so few present that thickness of petal which enables them to undergo the process of drying and dyeing when necessary. Chief among them is the Helichrysum, a flower that needs but little dyeing, as if cut at the proper season, and carefully dried, it retains a good deal of its clearness of tint. Amateurs who preserve some blooms, and are desirous they should possess a greater brilliance, may employ Judson's dyes, and in the same way give to their dried grasses a decorative value, albeit unnatural. Germany supplies the great bulk of the dried flowers which come into the London markets in autumn.

Acroclonium represents but a small bulk; the petals lack fibre; they are thus of an evanescent character. The same applies to Rhodanthe. The most valued is the pretty Helichrysum vestitum from the Cape, known as the Cape flower. Some say it is not a Helichrysum, but no one disputes its usefulness. The Cape flower comes over in very large bulk, very largely undyed, though a few appear in striking colours; they have proved especially valuable for church decorations. Fairy flowers are made from the silken down taken from some Asclepiad, and reversed by tying closely together the upper portions of the silken hairs, they then form a perfect ball. These are collected by children in certain districts, largely in the northern parts of Canada, and are known as milk-flower balls. They, too, are much employed in church decoration, and for the better-class bouquet work.

The homely Gnaphalium comes to us from France, where they are much grown and employed for wreaths and funeral ceremonies; they are bleached and then gaudily dyed, but few retaining the natural tint of ivory whiteness. A few years ago they were our only dyed flower. Attempts have been made to preserve other flowers, but most of them have proved too fragile to be of permanent service.

Grasses are largely employed, and some of the finer examples of recent introduction are really superb. Many of the most popular grasses come from Germany. Some take the dye without the preliminary of bleaching; some have to be bleached. Many are undyed, retaining their peculiar tints. Agrostis is one but now very little used. The Oat genus supplies many; the higher forms which find a place among our ornamental grasses are not very useful, except in bunches. Of the common Oats some large imported types appear the most useful; a big-eared Oat comes from the northern parts of Italy, and when fully expanded, the husk comes away.

and a greater decorative value is thereby acquired; the Oat takes the dye well. Some of the rich bronzy-dyed heads are very handsome. *Bromus* is perhaps the most largely used generally of any grass, being so pretty and useful, and the Quaking-grass (*Briza*) is always very popular; so are the smaller forms of *Chloris*.

The popular taste goes out to the tall and stately grasses such as the Congo or Nigger-grass, a reed-like type growing in the swamps of the Congo, the flowers in small bunches making up large ball bouquets. The Elephant-grass is in its charming silken appearance one of the appearance of berries[?]; it is very useful for the most attractive in the form of its inflorescence; a tall-growing form with long stems from the Gold Coast, associating well with the preceding. *Eulalia* is also very popular, and is imported from Florida, a beautiful tuft group, in long sprays, eight or nine of these sprays springing at intervals from the stem, and it mixes well with anything dyed or natural. *Erianthus* is another popular grass, which is largely grown in Italy, and has a plumed head like that of the Pampas-grass, many of them as large as the smaller-sized plumes of the Pampas, but to be obtained at a considerably less cost. *Lagurus ovatus*, the Hare's-tail Grass, mostly from Germany, is a pretty one for mixing, but a troublesome grass to store by dealers, for the mice find their way to it, tear the heads to pieces, probably in search of seeds, and build nests for their young with the fluffy portions.

Uniola is one of the most useful of the larger grasses, the heads on long stems, and a mass of spikelets—most useful, whether in its natural tint or coloured. This grass comes from the swamps of the Mississippi river.

But the Pampas-grass commands the largest sale. Messrs. Osman & Co., of Commercial Street, E., get through in a season from 130,000 to 150,000 heads, out of that number dyeing a very large proportion. It is in the greatest demand, which is, perhaps, not surprising when its extremely showy character is considered. Enormous quantities come from different parts of America, largely from St. Louis in the West, and from the North also. A fine companion is found in the Uva-grass, with very handsome feathery plumes on long stems, most valuable for the decoration of halls, and the corners and nooks of large rooms. The plumes come from Brazil.

A magnificent new grass is found in what is termed the "Paradise Plume," a recent introduction, the plume somewhat resembling that of the Pampas, more divided, and of greater length. This is considered the most elegant of all the long grasses which are now imported.

Palm leaves of various kinds, imported in a dried form from Germany, British Honduras, &c., are received perfectly flat and rigid, and so become suitable for forming backgrounds to large bouquets; *Areca*, *Chamædora*, *Latania*, *Cycas*, &c., are the leading forms. The leaves of *Cycas* are hard and durable, but the yellow tint is rendered green by dyeing. *Phoenix* comes over with the leaflets compressed firmly against the main rib; they are opened out, put through a certain process, and curled, and are strikingly handsome. Bulrushes come from many parts of the country, and in different varieties; the main thing is to collect them before they are too far advanced, or the top will burst, and become disfigured.

Sea-weeds are largely employed, and are regarded as among the prettiest agents used in making up decorations. In their natural con-

dition the appearance is somewhat repulsive, and the smell offensive, but when put through a certain process, and dried in various delicate shades, they are most useful. They are dropped into vases, to form the groundwork of bouquets, &c. These plants are collected in various places along the coast of Pennsylvania.

But quite a new development in the utilisation of these dried leaves of Palms, &c., has come to the fore of late, namely in the renewing of these sun-burnt leaves so that they again become a vivid green, and then building them up into stately plants so like to nature as to puzzle casual observers. The leaves are passed through a certain process to render the material supple, they are then ironed, coloured, and fixed to cleverly-imitated trunks, and so a fine specimen *Latania*, *Areca*, *Phoenix*, *Cycas*, &c., is built up in a short time, apparently so full of life and so perfect in health, that it is not surprising that these artistic forms fashioned with singular fidelity to nature are well adapted for ornamental groups, filling unsightly corners, and for furnishing entrance-halls, lobbies, staircases, &c. In hotels and restaurants they prove particularly valuable—they do not fade, are proof against excessive heat and cold, require but little attention, and are supplied either with the leaves permanently fastened to the stem, or so fitted that they can be readily removed for cleaning, for which purpose a damp sponge will be found effectual. In this form the stems are provided with the necessary apertures in which to insert the leaf-stalks. Several very faithful counterparts of *Dracæna australis*, *Thrinax parvifolia*, *Phoenix dactylifera*, *Cycas revoluta*, and others, are on view, and seeing that they can be purchased at a considerably less cost than living plants, it is not to be wondered at they are becoming much in demand. Messrs. Osman & Co. are foremost in introducing novelties, and they are to be complimented upon this latest addition to their extensive display. *R. D.* [The botanical details of some of these plants require investigation. The names given above are mostly trade-names. *ED.*]

NEW OR NOTEWORTHY PLANTS.

LÆLIA × *FINCKENIANA* var. *SCHRODERÆ*,
new nat. hybr. (L. anceps alba × L. albida).

The type specimen which bore some resemblance to *L. anceps Dawsoni*, even to the purple marks on the side-lobes of the lip and the crimson blotch on its front lobe, was illustrated in the *Gardeners' Chronicle*, December 30, 1893, p. 804. The plant more nearly resembles a strong *L. albida* in its growth, and in the form of its labellum, whose side lobes do not clip the column. It bears evident traces of that species, and consequently there is little doubt that the parentage imputed to it is correct. And now a beautiful pure white form, with the exception of a few thin purple lines at the base of the lip, has appeared in the collection of Baron Schroder at The Dell, Egham, and forms a fitting subject to name in compliment to Baroness Schroder, who, like her husband, takes a keen interest in Orchids. *L. × Finckeniæna* var. *Schroderæ* is, in every respect, similar to the original plant, except that it has pure white flowers, and no crimson blotch on the lip. *James O'Brien.*

ORCHID NOTES AND GLEANINGS.

SCUTICARIA STEELII.

For a period of about four weeks we have had this species of Orchid in flower. There are several peculiarities noticeable in the plant not observed in

Orchids generally. It blooms at the dullest time of the year, its fragrance is delicious, and, lastly, the flexible leaves, 3 to 4 feet long, having the thickness of a goose-quill, are singular-looking. Our specimen has two very short flower-scapes, each carrying three flowers of about 3 inches in diameter. The sepals and petals are of an oval form, and of a very fine soft yellow colour, blotched with brownish-purple: the labellum is three-lobed, and of a softer yellow tint than the petals. As the plant shows a few of these splendid flowers every year, we think it is doing well. The plant is fixed to a piece of cork, with sphagnum and peat placed about the roots, and is hanging near the glass. *Scuticaria Steelii* was imported into Europe in 1836 from Brazil and Sarinam. It is a species worth adding to any collection of Orchids. *J. K. B., Utrecht.*

CATTLEYA LABIATA—ALBINO.

Among the tens of thousands of *Cattleya labiata* original type, introduced within the last few years, comparatively few albinos have been seen; indeed, white flowers of any species, of which the typical form is coloured, are rare indeed, and yet we do get an occasional white, one in *C. Mossiæ*, in *C. Trianaei*, in *C. Mendeli*, in *C. Gaskelliana*, even in *C. superbum*, and in *C. Aucklandiæ*, and some other species and sub-species. It is pleasing to see, after all these years of waiting for *C. labiata*, that we have got a superabundance of it, and amongst the lot have come several with white flowers. One of the best that has come under my cognizance is now in flower in the very choice collection of E. S. Ball, Esq., of Earls Court, Bowden (gr., Mr. Alexander Hay). It is a fair-sized flower, with sepals and petals pure white, without a shade of colour, as I examined it with the eyes of a severe scrutinaer. The lip is also white, with the exception of a somewhat irregular lemon-coloured blotch towards the base of the column. The column is also white, and the lobes of the upper portion of the labellum are folded back, showing it fully exposed. The lip is more spoon-shaped than circular, like the typical form in outline, and the whole flower is chaste and beautiful. There are two flowers on the plant springing from the *labiata* typical sheath, and the plant is strong, having five leafy bulbs. It is one from an importation gathered by the collector, who saw it in flower, and labelled it; and a credit it is to him, for it has turned out in every respect according to the description sent home, that variety flowering for the first time in this country.

In this collection also is another albino, having the same purity of sepals and petals, but with the lower extremity of the lip flushed and lined with the softest sheen of pink. This, on the white ground surrounding it, and contrasting with the white segments, makes a beautiful flower, somewhat like the one exhibited by Mr. Meares before the Orchid Committee. This one is dedicated to Mr. Ball's consort, and bears the name of *C. labiata alba Ballæ*. It differs from the white *Cooksoni* in having white round the labellum, *Cooksoni* being solid, beautiful cerise lip, with by far the best formed white sepals and petals of any yet seen. *J. A.*

FLOWERS AS FOOD.

In this country, with abundance of cheap food, we are satisfied with flowers for decoration or ornament to our tables, but in many foreign countries they absolutely serve as food. It is rarely that we find the corolla of a plant serving any other purpose than as a temporary protection for the reproductive organs within. But for a flower to secrete more than half its weight of sugar, and thus become an article of economic value, and even of commerce, is remarkable. Of this, however, we have an instance in the flowers of the *Bassia* of India.

Mere fugitive structures for the most part, their transitory purpose precludes the plant wasting upon them any of its store of reserve materials. In India, the young flowers of the *Banana* are regularly eaten, and in China they are pickled in vinegar. Preserved *Mabica*, or *Mowhara*, flowers constitute an important

article of food to the aboriginal tribes of India. The fleshy snow-white flowers are produced in enormous quantities in March and April. They fall off and cover the ground beneath the trees, and are gathered eagerly by the natives during the flowering season, and eaten either raw or cooked. A single tree will yield many hundred-weight of corollas; these are eaten, as a rule, once or twice a day by the poorer classes of the wild tribes of central India, and in parts of Bombay, Rajpootana, and Bengal. In Moongbay, south of the Ganges, there are about one million *Bassia* trees, so that the yield of flowers there annually cannot be far short of 100,000 tons.

The blossoms of another species, *Bassia longi-*

in Egypt is from a hard conserve of Violets made by pounding the flower, and then boiling them with sugar. This Violet sherbet is of a green colour, and is called "the grand Signior's sherbet." The petals of flowers are much used in Roumania, in flavouring preserves; Violets, Lime flowers, and Rose petals are especially used.

Having regard to their flavour, delicate odours, and agreeable appearance, the variety of confections made there is almost infinite.

The flowers of *Melianthus major* are so full of honey that the natives of the Cape Colony, where the plants grow wild, obtain it for food by shaking the branches, when it falls in a heavy shower.

callis graminea and *fulva*, and *Lilium Thunbergii* when dried, constitute one of the choicest delicacies of the Chinese kitchen. They are used to season dishes, ragouts &c. There is a considerable trade in these Lily flowers at the different Chinese treaty ports, amounting in some instances to 73,000 cwt., as at Chinkiang in 1893. The ports in which the commerce is chiefly carried on are Hankow, Chinkiang, Shanghai, and Wychow. In 1890, 5400 cwt. of these Lily flowers were sent from Hong Kong to Macao. These flowers, plucked shortly before blooming, are grown in many provinces of China; those from Shantung and Honan are especially esteemed. When cooked as a vegetable, they have an agreeable odour and sweet taste. They are much used in the sacrifices offered to ancestors by the Chinese.

The aromatic spice, Cloves, are the dried calyces or flower-buds of *Carophyllus aromaticus*. The petals of the flowers of *Anona senegalensis* are used on the Niger for flavouring dishes. The Turks prepare a cooling drink from the flowers of *Nuphar lutea*.

Another use of flowers is in the form of saffron, the dried stigmas of the *Crocus*, which has been highly prized from a remote period as a condiment. Although not much used here for colouring and flavouring food, it is largely employed in India.

The imports of these were 339 cwt. in the financial year ending March, 1892, valued at £60,272; and in 1894, 317 cwt., value £56,014. The value of the import thus often exceeds £75,000. The stigmas are the only useful product of the flower, the rest being waste, and of these it takes some 70,000 to produce a pound of saffron. Saffron is largely grown in France, Spain, Italy, Germany, and other parts of Europe, and is also produced in some parts of Asia, China, Japan, and Tunis. It is used by "liquorists" and confectioners, and also to colour cheese and butter in Europe. Saffron-cake is a pastry coloured and flavoured with saffron.

The capers used at our tables are the flower-buds of *Capraris spinosa*, employed as a pickle in vinegar, or of *Zygophyllum Fabago*, which latter are occasionally substituted for them. Another substitute is the unripe fruit of the garden *Nasturtium* (*Tropaeolum majus*). About two million pounds of capers are collected annually in the south of Europe. Primroses are excellent in salad. Cowslip flowers fermented with sugar form a domestic wine, and are also used for a balsamic drink, known as "paigle tea." The dried blossoms communicate an aromatic fragrance to home-made wines, resembling Muscatel.

The flowers of Meadow-sweet (*Spiræa Ulmaria*) are also used by wine merchants to improve the flavour of home-made wines. The young calyces of *Dillenia speciosa* are added to curries in India. The flower-buds of *Bombax heptaphyllum* are cooked with salt and pepper, and eaten by the natives of India. The flowers of *Abutilon sculentum*, an edible, as their specific name implies. The flowers of the common Marigold were formerly used in broths and soups, but are now little regarded. *P. L. Simmonds, F.L.S.*

CYPRIPEDIUM WITH PELO-RIATED SEPALS.

PELORIA, or the development in a regular and uniform manner of parts that are usually irregular, is most common in the corolla. In the calyx, or outer whorl of the flower, it is less common. Still, we do not know how better to classify the flower of *Cypripedium insignis* exhibited by Mr. Tate at a recent meeting of the Royal Horticultural Society. The uppermost single sepal, and the lowermost which consists of two in combination, were both characterized by the white tip and the purplish-brown spots that usually characterise the upper sepal only (see fig. 129).

Other flowers on the same plant showed intermediate conditions, and it will be interesting in the future to note whether all the flowers will assume the characteristic coloration and spotting. Should they do so, the gain will be great.



FIG. 129.—CYPRIPEDIUM INSIGNIS; WITH THE UPPER AND LOWER SEPALS SIMILARLY SPOTTED.

fulis, are employed in a similar manner by the natives of Mysore and Malabar, where it abounds; they are either dried and roasted, and then eaten, or binised and boiled to a jelly. The dried small red-pinkish flowers of the *Calligonum polygonoides*, known in India as "phogalli," are eaten by the poorer classes, made into bread, and cooked with ghi (a fluid butter), or eaten separately with salt and condiments. The flowers having fallen off, are swept up from the ground, and used largely as food. The flowers fill the air with a pleasant odour, as of over-ripe Strawberries. On analysis they are found to contain about 46 per cent. of sugar, and 167 of albuminoids.

The Romans had a wine made of Violet flowers, and these flowers are still used in Turkey in the preparation of sherbets. The most esteemed sherbet

The blossoms of the Shaddock are used for flavouring sweetmeats. The calyces or flower-bracts of the Roselle or Indian Sorrel, as they ripen become fleshy, and being of a pleasant acid taste, are made into tarts and jellies in India. Rose-buds are eaten by the ladies of Arabia, boiled in sugar, and made into a preserve.

In China also dried Roses are used as a condiment. At Grasse in France, all the old and stale Violets are disposed of, chiefly to manufacturers of confections, who steam and coat them pretty thickly with flaked sugar, and then sell the confections at a high price as "confections of Violets."

The beautiful bright red flowers of *Quassia amœna* are valued in Jamaica for their stomachic properties infused in wine or water; every part of the tree being bitter. The flowers of species of Lily, *Hamero-*

OUR POULTRY.

BY HARRISON WEIR.

(Copyright.)

(Continued from p. 489.)

THERE are many more varieties of French fowls besides those mentioned, but as table-fowls none superior, and many not so good; most have "a half-bred look" about them, such as the Faverolles, La Bresse, and others. Some of the best are a black breed that I saw at St. Servan some time ago; but these were far excelled by our own Dorking, the old Kent, Sussex, and Surrey breeds. I do not mean those now reared in these counties for market purposes, but those so carefully bred and tended some forty years since, and which may be again reproduced by careful mating and selection and as carefully avoiding any contact or mixture with the Shanghai or Cochin, or what is termed the Bramah; all these are gross feeders, large-boned, and carry more offal than any of the European varieties. And yet for all this, most of the mongrel-bred new breeds generally have a Cochin or Asiatic basis, for the one reason—because they look bigger and heavier, with their large bones, fluffy feathers, and full round abdomen. Still I am hopeful that the general public is being educated, though slowly, as to what is really a good table-fowl. It is, indeed, surprising with what persistency even poultry-keepers cling to the coarse, large, ill-shaped mongrel, in preference to those of almost a perfect symmetry, and of high quality, with an even distribution of flesh and fat on the breast and without an undue quantity of inward, and therefore, as a rule, wasted fat.

In the best Kent, Sussex, and Surrey short, white-legged fowls, of medium weight there is generally great excellence, and the short-legged, sturdy old English game fowl provides the perfection of a moderate-sized bird, fattening evenly, full of flesh of the most delicate flavour, with a fineness of tissue unsurpassed by any other. And of these the white-legged, black-breasted reds are deemed to hold their own against all others. The much-vaunted Indian game, though somewhat larger, is by no means so good, scarcely ever fattening on the breast, having also more abdominal fat, and with heavier and larger bones, besides which they are worse layers than any other breed, with the exception of the Malay. The old English game is again coming well to the front, and that it is rapidly rising in the public estimation is abundantly proved by the very numerous entries at the late Poultry Show held at the Crystal Palace.

Though averse to cross-breeding or cross-bred fowls as a rule—and this for the reason that some of the most noticeable kinds of the pure breeds are so extremely good, this crossing with others must have a tendency to depreciate instead of enhancing those good qualities which they already possess—still, as there exists the craving for crossing which is, I think, most pernicious, and one that is not to be found among the breeders of cattle or sheep when once the true breeds can be got; therefore, it would be well to note some of the many crosses that have been tried with more or less success.

First, there will be considered the king of fowls, the best of table-fowls, the old English white-legged game. Here you start, as nearly as possible, with the perfection of a table-fowl, no part being out of due proportion to the rest. Therefore, if a larger bird is wanted, the undoubted best and most natural cross would be either the Dorking, or the old Kent, Sussex, and Surrey. Here you get size with quality, and as both are active, good rangers and food-seekers, the young will gain much of their living by their own exertions, besides which, this exercise also serves to make them more muscular, hence more fleshy, and even causes them to put on fat, and yet to keep in a healthy condition, unlike those that are cooped and crammed.

Next to this cross is that of the Indian (so-called) game with the Kent, &c., which produces a larger fowl, with a long, and generally a lean breast, the fibre of which is close, short, and somewhat dry, the fat generally being about the belly, with much

internal fat. I have known more than 2½ lb. to be taken out of the inside of fowls of this cross when preparing them for the cook yet they reach the ideas of some as what is a good table-fowl, being of a large size, and nice appearance to the general observer.

VEGETABLE MARROW.

THE Vegetable Marrow, of which we give an illustration (fig. 130, p. 765), was obligingly sent us under the name of Courge Patate by our honoured correspondent M. Charles Naudin, the Director of the Garden of Acclimatization at the Villa Thuret, Antibes. The drawing gives an excellent idea of the size and form of the Marrow. The flesh is yellowish, very firm, and is "very good cooked." The plant is a climber, and produces abundance of fruit. It will, says M. Naudin, succeed in England. We do not find the name in M. de Vilmorin's *Les Plantes Potagères*.

THE LIMES (TILIAS).

THE confusion which has overtaken the nomenclature of nearly all the more popular hardy trees and shrubs is shared to the full extent by the Limes. In the *List of Hardy Trees and Shrubs* issued from Kew in 1894, which, it is hoped, will become the accepted standard of nomenclature for this division of cultivated plants, about twenty species and varieties divide between them some seventy to eighty synonyms, many of which are in current use. In the hope that it may be of some help towards the adoption of a more uniform and correct naming of these trees in English gardens and nurseries, I have, in the following notes, enumerated the species and most of the important varieties in cultivation in Britain, with a description of their more essential and distinctive characters. Whilst the hybrids and intermediate forms which connect several of the species are often puzzling to identify, the leading types, with flowering and fruiting material at hand, are not difficult to distinguish, and these, of course, are the most important in the establishment of a uniform nomenclature.

Tilia is a purely north temperate genus (not represented, however, in North India or Western North America). About fifteen species are known, eleven of which are in cultivation at Kew. Most of them are lofty trees producing a soft, white, and useful timber. They have a tough inner bark from which, in the case of the North European species, ropes and the well-known Bast mats are made. The leaves are alternate, usually more or less cordate in outline, and oblique at the base. They have a somewhat distichous arrangement, and in young trees there is frequently a flat, wall-tree-like arrangement of the branches. The flowers are always of some shade of yellowish white, and fragrant; they are produced on a peduncle which for half its length is united to the mid-rib of a membranous, pale or yellowish-green persistent bract, from the middle of which it appears to spring. In the American species, in *T. argentea* and *T. petiolaris* among the European species, and in *T. Miqueliana* and perhaps other Asiatic species, the stamens are joined to petal-like scales, which are absent in the other species. The fruits are small and nut-like, rarely larger than a small Pea, varying slightly in shape from globose to ovoid.

As ornamental trees in Britain, the European Limes have proved by far the most valuable, being hardier and freer-growing than the American or Asiatic ones; one or two of the best of them, like *dasytyla* (*euchlora*) and *petiolaris*, are not so much planted as they ought to be. They might, from considerations of both beauty and variety, to some extent, at any rate, replace the common Lime in gardens and parks. All the Limes like a fairly rich and moist loam, but they succeed better than many trees do on poor soil, as is shown by those at Kew; in the latter case, however, they are very susceptible to drought, and after a dry summer lose their foliage very early. They are propagated by layers, suckers, and seed, and in the

case of special varieties, by grafts. They are subject to the attacks of various gall-making and other insects, mites, red-spider, &c. There appears to be no practicable means of combating them in the case of large trees, but healthy trees seem to withstand the attacks of most of them without serious injury. A solution of soft-soap and petroleum would probably be effective on specimens small enough for it to be applied. Few trees respond to the pruner's hand more quickly than the Limes. The chief point is to obtain and keep a single erect leader, and as long as the top of the tree is within reach, all rival ones should be stopped. Where the trees show a tendency to develop into too bushy and spreading a form, the side branches should be shortened back, so as to force the tree upwards. With Limes it is easy to do this, and yet retain the natural and informal outline of the tree.

The following is a list of species and chief varieties, with the better-known synonyms:—

EUROPEAN.

- T. cordata*, syn. *T. ulmifolia*, *T. parvifolia*, *T. microphylla*.
T. vulgaris, syn. *T. intermedia*, *T. europæa*.
 " " var. *caucasica*, syn. *T. intermedia* var. *caucasica*.
T. platyphyllos, syn. *T. grandifolia*, *T. cordifolia*, *T. europæa*.
 " " var. *asplenifolia*, syn. *T. laciniata*.
 " " var. *aurantia*, syn. *T. europæa aurea*.
 " " var. *Blechiana*.
 " " var. *obliqua*, syn. *T. Beanmontii*.
 " " var. *oxycarpa*, syn. *T. cordifolia*, var. *oxycarpa*.
 " " var. *tortuosa*.
 " " var. *vitifolia*, syn. *T. vitifolia*.
T. argentea, syn. *T. tomentosa*, *T. alba*.
T. petiolaris, syn. *T. alba pendula*, *T. argentea pendula*, *T. americana pendula*.
T. dasytyla, syn. *T. euchlora*.

AMERICAN.

- T. americana*, syn. *T. canadensis*, *T. glabra*.
T. pubescens, syn. *T. americana* var. *pubescens*.
 " " var. *leptophylla*.
T. heterophylla, syn. *T. americana* var. *heterophylla*.
T. mexicana (not in cultivation).

ASIATIC.

- T. mandachurica*.
T. Miqueliana.
T. cordata (same as European species).
T. Henryana.
T. Oliveriana. } not in cultivation.
T. Tuan.

The three cultivated American species are figured in Sargent's *Silva of North America*, t. 24—7.

EUROPEAN.

T. cordata.—This Lime, which is now admitted to specific rank, is one of the three leading forms which formerly constituted *T. europæa*—a now obsolete name. It may be distinguished from the other two (*T. platyphyllos* and *T. vulgaris*) by the following characters: It is a much smaller tree; its leaves are smaller and glabrous, with the exception of tufts of pubescence in the axils of the nerves on the lower surface; lastly, it flowers later in the season than the other two. It is found wild in Britain, although sparingly; of these three species this has the most northerly habitat, the south of Britain being about the lowest latitude in Europe it naturally reaches, but it is also a native of northern Asia. It is a tree of compact and handsome growth. The leaves are 2 inches or occasionally more in width, and of the same cordate outline as those of *T. vulgaris*. The flowers are like those of the common Lime, except that they are smaller; they are produced in great abundance during July.

T. vulgaris.—This is the common Lime or Linden, and is by far the most abundant of all the species in the gardens and woods of this country. As has already been stated in connection with *T. cordata*, this species was, along with that and *T. platyphyllos*, formerly grouped under *T. europæa*. It is intermediate between the other two in several

respects, viz., in size of leaf, in the degree of pubescence on the leaf, and in the time of flowering. It is well to remember these points of distinction, but in other respects it is so well known that it is needless to describe it. It is a lofty tree in Britain, of somewhat pyramidal shape when young, but round-topped when old. There is one tree in the Arboretum at Kew just over 100 feet high—the tallest tree in the gardens.

T. platyphyllos.—This is the most southern of the three Limes, which need to be united under the comprehensive term of *T. europæa*. Although it is joined to *T. vulgaris* by intermediate forms, probably of hybrid origin, it may, in its typical condition, be recognised (1), by being the first to flower; (2), by its broader and larger leaves; and (3), by

Kew, and the variety is now established under this name in the collection. Its peculiar character is as much marked as ever, some of the branches almost forming loops. It is not, as was at first surmised, due to injury by insects (see report of Scientific Committee, *Gard. Chron.*, 1888, ii., p. 708).

vitifolia.—Leaves of more triangular outline, and with somewhat Vine-like lobing.

T. argentea.—This fine and striking Lime has been in cultivation in Britain since 1767. Loudon, who describes it as *T. alba*, says it is a native of Hungary, and looks upon it as a variety of the Common Lime. But it is at least as distinct as several others now given specific rank. It is not so large a tree as *T. vulgaris*, rarely exceeding 50 feet in height. The leaves are unequally cordate, or almost truncate at

—it differs in its graceful, pendent growth; in its warted, slightly grooved fruits, and in the leaf-stalks being, in proportion to the blades, twice the length of those of *T. argentea*, a character of which the specific name, *petiolaris*, is a sufficient reminder. A native of Eastern Europe.

T. dasytyla.—Although at present but little known in gardens, this is undoubtedly one of the most valuable of all the Limes. It is of graceful habit and vigorous constitution, bearing some resemblance in general aspect to *T. petiolaris*. Its leaves, however, are not silvery beneath, but green on both sides; indeed, the peculiarly lustrous green of its large leaves distinguishes it from all other species. They are heart-shaped, 4 to 7 inches wide, and of leathery texture; the upper surface is glabrous, but beneath, tufts of brownish pubescence occur in the axils of the veins. The bract on the flower-stalk is lanceolate, and the fruits ovoid and downy. This species is likely to prove valuable as a town tree. It is perfectly hardy, and retains its foliage longer than the common Lime, flowering in July. It is a native of the Caucasus, and has been under cultivation over twenty years. A First-class Certificate was awarded it by the Floral Committee of the Royal Horticultural Society in August, 1890. There are trees 30 to 35 feet high in the Kew Arboretum.

AMERICAN.

T. americana.—Although an exceptionally fine tree in North American forests—where, according to Professor Sargent (*Silva*, t. 24, 25) it is 60 to 70 feet, and occasionally 120 to 130 feet high—it has not proved a success in Britain, and cannot be compared in value to the East European species. From these it may be distinguished by its large leaves, which on young trees, at any rate, are often 9 inches or more across. They are slightly and obliquely cordate at the base, and they are glabrous, except in the axils of the veins beneath, which are pubescent. Although this species is not subject to injury by frost, its branches seem very subject to decay, and all the trees I have seen are more or less crooked and flat-topped. The cleanest-grown specimen at Kew is one labelled var. *mississippiensis*; it is, however, worth growing for the striking dimensions of its leaves. The fruits are ovoid, thereby distinguishing it from the two other North American species, which have globose fruits. It was in cultivation at the Chelsea Physic Garden in 1752.

T. pubescens.—Whatever value as an ornamental tree this may have in the United States, it does not succeed well in Britain. It is represented in the collection at Kew by trees 20 feet high, but they have the same unsatisfactory appearance as their near ally, *T. americana*. The following particulars are chiefly taken from the *Silva of North America*, where it is figured at t. 26: It is nowhere a common tree, but is most abundant in South Carolina and Georgia, growing to a height of 30 to 40 feet. The leaves are 2 to 4 inches long (much larger on the small trees at Kew), pubescent on first opening, but afterwards glabrous on the upper surface. The mid-ribs, the peduncles, and the flower-buds are also pubescent. It was introduced into England in 1726. The variety *leptophylla* has larger and thinner leaves.

T. heterophylla.—From the two above-mentioned North American Limes, this is easily distinguished by the silvery-white under-surface of its leaves. Prof. Sargent (*Silva*, t. 27) describes it as a tree 50 to 60 feet high, and says that few North American trees surpass it in the beauty of its foliage. The leaves, which are bright green and smooth above, are 4 to 8 inches long, and the truncate or cordate bases are more markedly oblique than in either *T. americana* or *T. pubescens*. It was introduced in 1811, but is at present a very rare tree in England.

ASIATIC.

There is not much to be said in regard to the Asiatic Limes, as cultivated trees in England. *T. cordata* has already been described among the European species, and the only others in our collections are *T. Miqueliana* and *T. mandhurica*. I have not

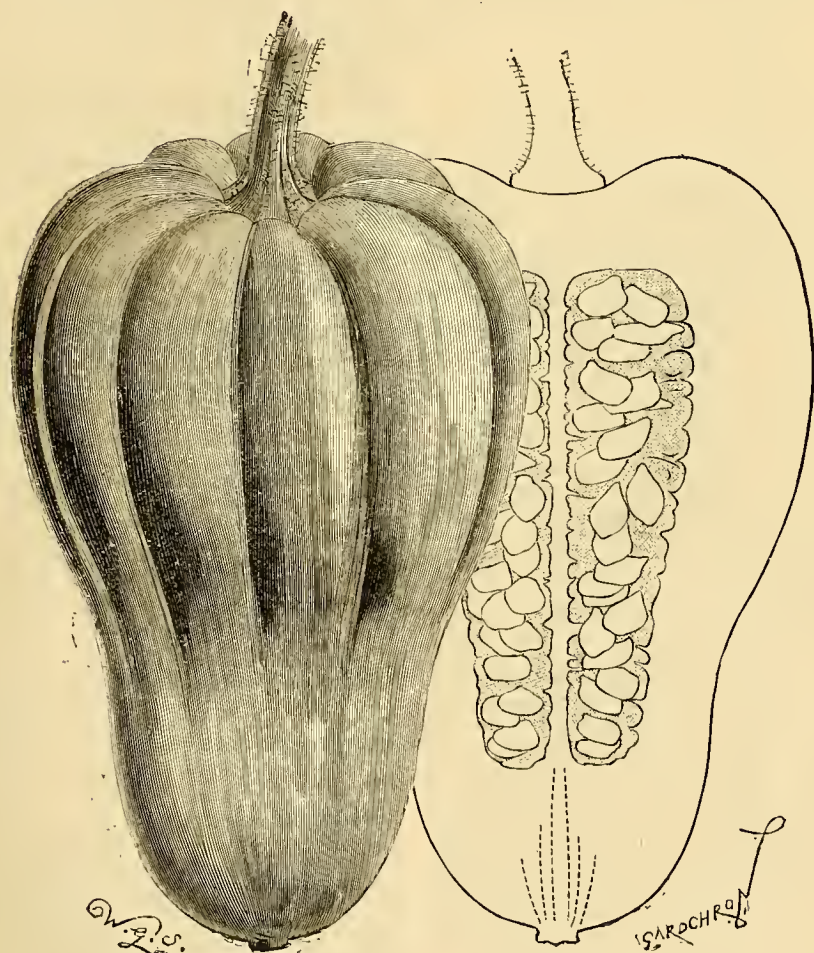


FIG. 130.—THE "PATATE" MARRON: FLESH SOLID, PALE YELLOW. (SEE P. 761.)

its leaves being pubescent usually on the whole of both surfaces, but always on the lower one. There are numerous garden varieties of this species, among which the following are the most distinct:—

asplenifolia.—A tree of very much less vigorous growth than the type, with lacinated, irregularly lobed leaves.

aurantia.—A form distinguished by the rich yellow bark of the young shoots.

Blechiana.—A strong and vigorous tree, with leaves of exceptionally large size.

obliqua.—Has a markedly oblique base of leaf. It is also known as *T. Beaumontii*.

oxycarpa.—With coarsely-toothed leaves and prominently five-ribbed fruits.

tortuosa.—In December, 1885, Mr. G. Swales sent a young Lime with curiously curved and twisted branches to the Scientific Committee of the Royal Horticultural Society. Some grafts were sent to

the base, 3 to 4 inches across, the upper surface dark green and glabrous, the lower one of a beautiful silvery hue, which gives to the tree, especially when a breeze is blowing, a conspicuous appearance. It is of erect, sturdy habit, the fruit being ovate, smooth, and traversed lengthwise by five raised lines.

T. petiolaris.—For many years the identity of this species was very obscure, as may be guessed from the string of synonyms given above. In some respects, notably in the silvery under-surface of the leaf, it resembles *T. argentea*, and it was at one time looked upon as a pendulous variety of that species. In 1884 it was figured in the *Botanical Magazine*, t. 6737, and Sir Joseph Hooker identified it as the imperfectly-described *T. petiolaris* of De Candolle. It is a tree 50 feet or more in height, with rounded leaves, having an obliquely cordate base, and measuring 2 to 4 inches in diameter. From *T. argentea*—the only species with which it is likely to be confounded

seen any living *T. cordata* that has been introduced from North Asia, but judging by the dried specimens in the Kew Herbarium they do not vary from the European forms any more than the latter do among themselves. The most obvious difference is that some of them have leaves with a white under-surface.

T. mandchurica.—A small tree at Kew under this name is 12 feet high with a bushy head. It has thin, cordate, slightly oblique leaves measuring 6 inches across, with sharply pointed, irregular teeth which are either straight or curve slightly outwards. It does not promise to equal any of the European species in beauty, at least in the London district. It is very subject to injury by spring frosts, and the branches have in consequence quite a pollarded appearance. The young bark and buds are at this season covered with a grey-brown tomentum. Professor Sargent, who describes and figures *T. Miqueliana* in the *Forest Flora of Japan*, states that the tree just described is that species, and not *T. mandchurica*. But so far as leaves go, the Kew plant agrees with Maximowicz's specimen of *T. mandchurica* gathered by himself in Amurland, and now preserved at Kew.

T. Miqueliana.—This species is a common forest tree in the northern parts of Japan, and it there attains a height of 100 feet. It is only represented by small seedlings at Kew, and it will be some time before any definite opinion can be given of its probable value in English gardens. Maries collected it in Yezzo, and his specimen is at Kew. From it, it would appear to differ from *T. mandchurica* in the more incurved teeth of the leaves, the greater obliquity of their bases, and the more obvious whiteness of the under-surface. *W. J. Bean, Arboretum, Kew.*

NEW ZEALAND FRUIT CULTIVATION.

IN these days of heavy importations of colonial and foreign fruits, it is a matter of some importance to growers and salesmen at home to realise as nearly as possible what they have to meet from their competitors in other lands; and thus it is that we take advantage of opportunities afforded by the agents of colonies and foreign powers resident in the metropolis to place the desired information on record here. Very often the power to compete possessed by our "outside" friends is over-estimated—as is the case with the colony under consideration—New Zealand. Out there, growers were going to do all sorts of things with all sorts of fruit trade—they have still to begin! In the matter of Apples, all sorts and sizes of fruit were placed on our market, and served to prove an object-lesson of what to avoid planting and sending out as eatable. To-day, old trees are being up-rooted and re-placed by finer varieties, such as are suited to English palates—the same lesson as was so well learnt by our friends in Tasmania and elsewhere. At present, the colony does not even satisfy the cravings of settlers for toothsome fruit—by-and-by they may be able to seek fresh fields with a chance of success.

This year there are 21,400 acres laid down in orchards—an increase of 313 acres on the area so returned in 1894. We may insert here the fact that a great deal of fruit consumed in the colony finds its way from other Australasian colonies and the Pacific Islands. From the North Cape to the Bluff Hill, on the extreme south of the Middle Island, a large variety of fruits is grown, such as Pears, Plums, Quinces, Apricots, Figs, Walnuts, Cherries, Gooseberries, Currants, Strawberries, and Raspberries, and produce large crops. In the Auckland district, Oranges, Lemons, and Limes flourish; many groves are now in bearing condition. The Olive flourishes in the North Island, and bears heavy crops; and the manufacture of oil is gradually becoming an important industry. Vine-growing is also carried on with far more success in many districts; tons of fruit grown under glass are sold in the Auckland markets annually. It is believed by those who know, that the production of wine may soon be entered upon in various localities; raisins, of course, will follow the

development. Auckland has extensive orchards of Apples—some of them half a century old, which produce excellent fruit—returns going up to from £40 to £50 per acre in favourable seasons—that is, when pests are kept under. In Otago orchard-planting is progressing rapidly, all fruits of the temperate zone finding a congenial soil there; railways would play an important part in this development. It may be of interest to note that the manufacture of cider is assuming considerable dimensions; also the drying of fruit, which latter is helped on by the Government in various ways. Jam is being looked after, and if—ah, that "if"—capital were but forthcoming, very much might be done in fruit-preserving for home consumption.

From the material placed at my disposal by the Agent-General, very much more of interest might be given, but space will not permit; enough, however, has been placed on record to show that much may be expected in the not far-distant future from New Zealand fruit-growers. *E. C.*

THE WEEK'S WORK.

THE HARDY FRUIT GARDEN.

By W. POPE, Gardener, Highclere Castle, Newbury.

FILBERTS AND COB NUTS.—Nuts form a profitable crop in many parts of the country and well merit attention being bestowed upon the bushes in the matter of pruning, and dressing the land round about them with manure. They succeed admirably when planted in rows midway between the lines of pyramid Apple or other fruits in the orchard proper, but better still, if a piece of land be given up to their cultivation. This should be sheltered from the prevailing strong winds, as the blossoms readily suffer from the frosty winds which are experienced at the time when Nut-bushes are usually in bloom. To secure fine crops of superior Nuts, the bushes should be planted 10 feet apart each way, and trained in much the same manner as a well-balanced Red Currant bush. Supposing the start to be made with a strong-rooted sucker, this should be cut down to about one foot of the ground, and the growths resulting reduced to three of the strongest and best placed. These during the succeeding winter should be shortened to about 3 or 4 inches from the stem. From growths springing from these cut-back shoots a sufficient number of branches will push to afford a selection for the foundation of a bush, and they should be tied to stakes stuck into the soil in a circle, the centre of the bush being kept clear of shoots. These main branches should be cut back annually at the winter's pruning about 12 or 14 inches; a good shoot being selected from each in the summer and trained as leader, and the strong lateral growth slightly shortened. When the desired height is attained, which may be in 6 to 8 feet, all coarse growths should be stopped, and at the winter pruning old bearing wood and strong shoots freely shortened, leaving the small catkin-bearing sprays untouched. It is best to defer the winter-pruning till the female blossoms become visible, thinning and shortening being then carried out with more certainty of securing a crop of nuts. Suckers should be constantly kept down, and a moderate dressing of good manure applied every year, and lightly forked into the surface. Naturally-grown bushes are, of course, much more common than these trained and closely-pruned bushes, and deserve better treatment than usually falls to their lot. In their case a slight thinning of the tops, and the clearing away of suckers, will be beneficial. A liberal dressing of manure as far as the roots extend will certainly lead to further improvement in the size and quality of the nuts. If catkins are scarce when the trees are in blossom, as sometimes happens, a few boughs of common Hazel, on which they are generally abundant, should be cut and placed about the branches for the purpose of fertilisation.

WINTER DRESSING FOR FRUIT TREES.—Now is the right time for dressing fruit trees infested with insects. The old-fashioned remedy of hot-water in which a small lump of soft-soap has been dissolved and petroleum added, is a simple and effective dressing. A wine-glassful of petroleum to each gallon of water will be as strong as it is safe to use it, and the mixture when applied should be at a temperature of 120°. Use a syringe in distributing. Keep it thoroughly mixed whilst using by returning

every other syringe-ful forcibly into the can or pail. For American blight the same mixture is very effectual if well rubbed into the infested parts with a stiff brush.

PLANTS UNDER GLASS.

By W. H. SMITH, Gardener, West Dean Park, Chichester.

LILIUM LONGIFLORUM VAR. HARRISI.—These plants should be kept free from aphid, which are apt to infest them, by an occasional fumigation or dusting of tobacco-powder or snuff, the former being the cleaner and better remedy. The pots being now filled with roots, slightly more warmth may be afforded, and weak manure-water freely applied. These Lilies should be kept pretty close to the roof and not hard-forced, or the flower-buds will become "blind."

LILIUM AURATUM AND L. LANCIFOLIUM.—The bulbs of these species should be potted when received from the nursery, and the pots plunged in coal-ashes or cocoa-nut fibre, and cold frames placed over them. They will not require any water before growth commences.

MARQUERITES.—These plants, if they are now placed in a temperature of 60° by day to 55° by night, will soon afford flowers in quantity useful for cutting. An early vinery would be a suitable place for them if they can be placed where they are not shaded by the Vines. Plants struck in the autumn should be repotted into 48 and 32-sized pots, and will make nice-sized plants for flowering in the spring.

BEGONIAS.—Seed of the tuberous-rooted varieties may now be sown, using for the purpose well-drained shallow-pans in preference to pots. Place these on a shelf in the stove, and when the seedlings appear above ground, use means to prevent their damping off.

FRESIAS.—If these bulbs have been forced hard, flowers will soon appear, and the plants should be gradually given a cooler temperature just previous to the expansion of the first blooms, which will form the right sort of preparation for the removal of the pots to the cool conservatory. Applications of weak manure-water should be afforded, which will help materially to increase the size of the bulbs and improve next year's blossoms. Another batch should be brought into a warm house, choosing the most forward of those in frames. If aphid be present on them, fumigate forthwith with Richards' Compound.

MIGNONETTE.—Seed in quantity may now be sown in 48s, using plenty of mortar-rubble finely broken in the loamy soil, and a handful of horse-droppings to cover the crocks, which should be fairly plentiful. Make the soil very firm, and place the pots when sown and watered in a slightly-warm pit close to the glass.

HINTS ON WORK IN GENERAL.—At this season when the weather is mostly unfavourable for out-of-door operations, an opportunity should be found for preparing for the spring, when nearly every kind of plant requires some sort of special attention, and many re-potting. Where sufficient shedding exists, heaps of loam should be got under cover in readiness for potting *Chrysanthemums*, *Carnations*, &c. If where the heaps are prepared a label be placed in each, indicating the use it is intended for, it will save mistakes being made, and facilitate the operations. Peaty compost may also be prepared for Ferns, stove and greenhouse plants, &c., and all the variety of items required should be got in readiness for use. Plants of all kinds should be thoroughly cleaned in the winter months; and *Begonia* tubers examined, removing from them the old roots and soil, but not to skinning them in so doing. Place the tubers in cocoa-nut fibre in boxes or pans, and store in a dry, frost-proof place. Examine also *Achimenes*, *Caladiums*, *Gloxinias*, and *Hippeastrums*, to ascertain their condition, and should any of the early *Gloxinias* have begun to grow, they should be brought into the light.

THE FLOWER GARDEN.

By BAILEY WADDS, Gardener, Birdsall Gardens, York.

BERRY-BEARING PLANTS.—When planting new shrubberies and borders, or re-arranging old ones, care should be taken to include a good number of berry-bearing plants. They are interesting and bright during the autumn, winter, and spring months, when not taken by the birds, as they often are during severe

weather. This, however, should not discourage an extensive use of such trees. The purple berries of *Mahonia aquifolia* are beautiful during the early winter, when they often resemble clusters of small black Grapes. The plant is one of the most useful for grouping in masses, and its bright golden flowers and reddish-purple foliage are very effective during spring. *Symphoricarpos racemosus* (the Snow-berry tree), with its pretty small pink flowers and large white berries, is useful for planting in the background and under the shade of other trees. It will grow in any soil, and should be well dug about, and the suckers removed, or it will quickly overrun its bounds. There are many beautiful varieties of Hawthorn (*Crataegus*), that are showy when flowering during the early summer, and they have pretty and various coloured berries in autumn. Standard trees of these may be suitably planted as single specimens on lawns and in the back part of shrubberies. *Crataegus pyracantha* var. *crenolata*, or evergreen Thorn, with its clusters of scarlet berries, is useful for planting against pillars, arbours and rains, dwelling-house, or in warm situations it will succeed as a bush plant. Another berry-bearing plant that might be more largely grown is the Sea Buckthorn (*Hippophae rhamnoides*). It is a pretty deciduous shrub, with silvery foliage, and the female plants are usually heavily laden through the winter with yellow berries. The plant is easily propagated by offsets. Plant in the background, as it grows tall. Elders with their various coloured foliage, and scarlet, golden, or purple clusters of fruit are very beautiful when grown in masses or as specimen bushes. Several varieties of Cotoneaster are also good, as *C. microphylla*, *C. buxifolia*, *C. marginata*, and *C. thymifolia*, with fine evergreen foliage and scarlet berries. The Strawberry tree (*Arbutus Unedo*), with its fine foliage and scarlet fruit, grows best in sandy loam and peat. Then there is *Aucuba japonica*, and several varieties of *Pernettya*, also many beautiful varieties of Hollies, all worth planting. The Bilberry, Blueberry, Cranberry, and other varieties of *Vaccinium*, succeed well in peaty soils. The Mistletoe (*Viscum album*) is in great demand at this season for decorative purposes. To propagate the plant, rub the seeds into cracks in the bark of Apple-trees, Thorns, Limes, and Ash. Protect them by a piece of net until the plants grow. In districts where the plant is abundant, the Mistletoe-thrush and other birds feed on the berries, and pass the seeds undigested on to the bark and between the branches of trees.

THE ORCHID HOUSES.

By W. H. WHITE, *Orchid Grower, Burford, Dorking.*

ANGRÆCUMS, ETC.—In the East Indian-house, *Angræcum sesquipedale* is fast pushing out its flower-spikes, and these should be examined daily for a small species of yellow thrips which attacks it. Should only a few of these insects be found, it is nevertheless advisable to fumigate the plants at once, and thus to destroy all those that are imperceptible to the naked eye; failing this, a whole year's inflorescence may be disfigured. The pretty *Angræcum pertusum* having flowered, should now be given a short rest, receiving no more water at the root than is sufficient to keep the surface sphagnum moist. *Angræcum pellucidum* is now producing its flower-spikes, and as these have a tendency to push themselves downward into the compost, they should be constantly watched, and assisted over the surface, so as to fall loosely over the sides of the receptacle in which the plant is growing. Should the spikes descend into damp sphagnum-moss, most of them may be lost. This species requires to be kept constantly moist at the root, until its pretty flowers commence to open. Two curious but botanically-interesting Orchids now flowering are *Arachnanthe* (*Vanda*) *Clarkei* and *A. Cathcarti*. They appear to succeed best when trained on upright Teak rafts or cylinders. As both plants have a distinctly pendulous habit when a certain amount of growth is made, they should not be uniformly tied in an upright position, but allowed to droop naturally. Unlike many other species of *Vanda*, the stem of these plants should not be cut down when they become devoid of their lowermost leaves, for if allowed their natural straggling habit of growth, the successful flowering of both plants is assured. At all seasons they require copious waterings from the syringe. *Angræcum Scottianum* succeeds well under similar treatment. It should be fixed to a cylinder of Teak-wood, and its thin stems tied firmly to the rods, so that the small roots may have something substantial to cling to, and when in active growth it is

very important to occasionally examine the plant, carefully tying the scandent growths in an upright position.

BRASSAVOLAS.—*B. grandiflora* and *B. venosa* being both in flower now, their delicious perfume pervades the whole house, especially at night and early morning. These species grow thoroughly well suspended on Teak rafts, the plants being fixed to the wood with their terete leaves in a pendent position.

CATLEYA-HOUSE.—Plants of *Cattleya Percivaliana* are now throwing their flower-spikes, and need a little extra water at the root. Should mild weather continue, this house will well suit their requirements, but in the event of severe frost a few degrees more warmth will be necessary. Plants of *Peristeria elata* whose pseudo-bulbs are fully made up, should be placed in a light position in this house, and be given sufficient water at the root to prevent shrivelling. Other species now at rest, and which require similar treatment at this season, are *Chysis Chelsoni*, *C. bractescens*, *C. Sedeni*, and *C. aurea*, also such Orchids as *Luddemannias*, *Acinetas*, *Gongoras*, *Stanhopeas*, &c.

THE KITCHEN GARDEN.

By JOHN LAMBERT, *Gardener, Powis Castle, Welshpool.*

GENERAL WORK.—The weather being too wet to work on the ground without doing harm, sundry other jobs may be attended to. Pea-stakes and Bean-roads may be cut before the sap rises, and they may be trimmed and put in sizes ready for use. Look over those saved from last season, and pick out the best to be fresh pointed. Boxes will need attention, and a regular stock of new ones should be made each year, besides repairing the old ones. Wash all pots, and put them away in a dry shed ready for use, keeping each size in its proper place. The seed-room may be overhauled, throwing away all useless seeds. New home-saved seeds may be put away in their respective drawers, which should be plainly labelled, so that they may be readily found in a busy time. Look up notes respecting crops and seeds, and put them in order, for the new seed lists are now arriving. Ice-houses, if empty, should be thoroughly cleaned out and whitewashed, and left open to sweeten. Tools that were not put in order after the work last winter, should be sharpened and mended, if necessary. Bracken or other material should be cut and put in readiness for the stacks of ice made in the open. We are still using from the outside stack, and the ice-house is not yet opened. Box-edgings that have become old and leggy should be relaid, as nothing gives a garden a more untidy or neglected appearance than badly-kept edgings to walks. If gravel can be obtained on the estate, a stock should be screened now and put ready for future use. The walks may be turned over where the practice is adopted, and if they are fresh gravelled now, a light coat later on in the spring will make all tidy. If tiles, stone, or brick edgings are used, they should be straightened and mended where necessary.

ROOT-HOUSES should be given close attention. Potatoes are, perhaps, the most important of these. Look over the tubers carefully, and remove any suspicious ones as well as as those which are decayed. Room will now be found to spread them out thinly. Onions should be sorted, and any which seem inclined to grow selected for present use. Give plenty of room to all the smaller ones of James' Keeping and other good-keeping varieties. If not yet done, tie up in bundles, or truss if plenty of time on hand, any that may have stalks enough attached. In this shape they can often be accommodated in places better adapted for keeping them. Shallots and Garlic should be cleaned and put safe from frost, ready for spring planting. Carrots, Turnips, and other roots may receive similar attention. Take off all growths, as if these are let grow, the roots are not of good flavour.

FRUITS UNDER GLASS.

By RICHARD PARKER, *Gardener, Goodwood, Chichester.*

MELONS.—In order to cut ripe fruits in April, seed should be sown in the first week in the new year, or slightly earlier. For years past it has been the practice to sow seeds for the earliest crop on Boxing-day, and I have seldom failed to cut a ripe fruit in the first week in April. Two seeds should be placed in 3-inch pots at a distance from the edge of the pots at about half an inch, and half an inch

deep, the soil being sifted loam and leaf-mould, the soil being made moderately firm below the seeds, and less so above them. Sown in this manner, the plants can be repotted or turned out without root-disturbance. It is an advantage to grow the earliest Melon-plants in pairs till they reach 1 foot in height, owing to unavoidable losses by damping, insects, &c. The pots should be clean, dry when used, and well drained. The pots containing the seeds should be plunged in a hotbed having a bottom-heat of 80°, and top-heat of 70°; germination will then take place in few days, and if the soil be fairly moist, no water will be required till the plants appear, and may not then be required. Tepid water should be used when water becomes needed, and it must be carefully afforded through the spout of a small water-can, not wetting the leaves or stem. The plants should not stay many days in the frame, or they will become drawn and weak; but they must be gradually accustomed by affording air to the frame, to a warmth of a pit or house of about 65° or 70° by day, and not less than 60° at night. Stand them on a shelf near the glass. For early work, the plants may be fruited in 10 inch pots, or two plants may be grown in a 12 inch one, but I prefer planting them out on hillocks of turf on a hot-bed. In the meantime these hot-beds should be made up in the house or pit in which the plants will be grown, using stable litter and leaves in this proportion, the first may be one-third and the latter two-thirds, which I have recommended to have in readiness. These should have been turned over and well mixed together two or three times, and then left to ferment for a few days before making the beds. This may be from 3 to 4 feet in width, and built up pretty close to the trellis, so that the plants may be near the roof glass. If the young plants occupy the house whilst the hot-bed is being made, means must be taken to let out the ammonia arising from fermentation, or they may get killed by it; indeed, it is better to have the plants meanwhile in a plant stove or Pine-pit. When forming the hillocks of soil, a late or two should be placed under each, so as not to let the roots get into the hot-bed materials, as this would result in very rank growth. Seed may soon be sown for succession, the treatment of the seed and plants being similar to that given. There must be caution used in the matter of fire-heat to young Melon-plants, or red-spider will soon infest the foliage, causing great injury to the plants.

CUCUMBERS.—Plants which may be in fruit will receive every encouragement to keep them in health, and remembering that much moisture at the roots is almost as injurious to the plants at this season as dryness. The soil should be kept fairly moist, and nothing more. A small quantity of Clay's Fertiliser, or bone-meal, afforded once a week as a surface-dressing, will keep the plants in a better condition than farmyard manure-water. Be careful in regularly removing spent foliage, male blooms, and deformed fruits, and do not allow the plants to carry any more fruit than are really required, and these should be cut before they are fully grown.

TOMATOES.—Young plants in small pots must be kept growing near the glass in a fairly warm house, ventilation being given during mild weather. The plants should not be allowed to become pot-bound, nor be over-potted. Weak liquid-manure may be afforded once or twice a week to bearing plants, and the stems tied to stakes as required. Keep the growth sturdy during dull days, as plants rendered weak in any way seldom give good crops later on. Seed of an early-fruited variety may be sown thinly in pans, and placed on a shelf in a warm-house, pricking off the seedlings when large enough to handle at 2 inches apart, and keeping them close to the glass. It is from this sowing that fruit may be gathered in April. Plants in bearing may be top-dressed with fresh loam and well-decayed manure as the roots extend. Weak manure-water made from sheep's droppings, is also beneficial in assisting the fruit to swell. Continue to ventilate the house during mild weather, affording artificial heat all the same.

SAND-HILL PLANTING.—Mr. RYDBERG (*Contrib. U. S. National Herbarium*, iii. 3, Sept. 14, 1895), has an interesting paper on the sand-hills of Nebraska. The characteristic grasses which bind the sand together are *Calamovilfa longifolia*, *Eragrostis tennisi*, *Redfieldia flexuosa*, and *Mühlenbeckia pungens*. Mr. RYDBERG recommends the planting in suitable situations of *Panicum Banksiana* and *P. ponderosa* var. *scopulorum*.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Letters for Publication.—All communications intended for publication, as well as specimens and plants for naming, should be addressed to the Editor, 41, Wellington Street, Covent Garden, London. Communications should be WRITTEN ON ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.

APPOINTMENTS FOR THE ENSUING WEEK.

SALES.

TUESDAY, DEC. 31 { Japanese Lilies, Roses, Greenhouse
Plants, &c., at Protheroe &
Morris' Rooms.
FRIDAY, JAN. 3 } Orchids, at Protheroe & Morris'
Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—36°7'.

A RETROSPECT of the progress of horticulture for the year now at its close is, as usual—

"Of a mingled yarn, good and ill together."

We hope we shall not be thought too optimistic if we say, that putting aside matters of secondary importance, the good has predominated, and horticulture has progressed. It is likely enough that anyone seeing only the routine exhibitions, for instance the endless Chrysanthemum shows, presenting little or no difference one from the other, except in extent, would say that the wheel turned round but did not advance. It is not, indeed, in this direction that experience has taught us to look for progress. The most encouraging signs we see for the advance of horticulture in general, are the steps being taken in our rural districts for the promotion of technical education. We are still a quarter, if not half a century behind other nations in this particular; but, at last, we are moving, and when we do move, we are apt to do so pretty thoroughly. Technical education is understood in various ways in the different counties. In some, it means perfected routine; in others, it means instruction in general principles; whilst in a third category, it implies not only increased skill, but skill directed by judgment begot of knowledge, which should be the highest aim of practical cultivators. Each district has its own requirements, and is influenced by its own local conditions, so that there is no necessity to uphold the one at the expense of the other; suffice it to note, with satisfaction, that in one way or in another, progress is being made, and progress of a kind that is likely to increase in volume rather than otherwise. The large extension of fruit-growing and of market-gardening is also a matter for congratulation in the present depressed state of agriculture.

The garden crops generally have been good this year, the extraordinary cold of February coming too early to inflict much damage; whilst the hot, dry autumn, if there be any thing in well "ripened wood" as offering a forecast for the future, should favour our fruit crops for the following season.

Exhibitions in London and the provinces have been more numerous than ever, but none has presented any novelty or any special feature worthy of comment in a brief retrospect like this.

Of literature pertaining more or less to horticulture, the year has been prolific. It will be sufficient to mention the completion of the

Index Kewensis, the compilation of which is indeed a boon, the appreciation of which will constantly increase as time goes on. KERNER & OLIVER'S *Natural History of Plants* is another book that will be of the utmost value to thoughtful horticulturists. Dr. WEISS, too, has rendered good service by publishing a translation of Dr. SORAUER'S popular *Treatise on the Physiology of Plants for the Use of Gardeners*. This is the nearest approach that has yet been made to LINDLEY'S *Theory and Practice of Horticulture*, the theoretical portion of which latter volume, of course, is long out of date. Professor SARGENT'S monumental work on the *Trees of North America* progresses steadily, and will be of the utmost service to arboriculturists. The numerous hand-lists and other publications issued from Kew are within the means of any ordinary gardener, and should find a place in every garden-library. Of the new edition of PAXTON'S *Calendar*, prepared by the members of the staff of this journal, it does not become us to speak further than to say that it is intended for cottagers, allotment-holders, and occupants of small gardens generally, and has found much favour with the public. The useful monograph of Masdevallis issued under the auspices of the Marquis of LOTHAN by Miss WOOLWARD is approaching completion. Another work which will take its place as a classic is Miss AMHERST'S *History of Gardening*, lately reviewed in our columns.

Forestry has at length been enriched by a scientific treatise of the first order of merit, published by Dr. SCHLICH, with the assistance of some of his colleagues at the Cooper's Hill College. A new and revised edition of our old friend BROWN'S *Forester* has also been published.

The reports of the Epping Forest Commission express in the main the views and feelings of those who have any knowledge of woodland management, and an intelligent love of natural history. They will, we hope, for a time at least, silence the clamour of well-intentioned but ill-informed enthusiasts.

The obituary record is unfortunately long, and includes the names of some of our best-known gardeners, such as WILLIAM THOMSON, THOMAS BAINES, JOHN WILLS, RICHARD GILBERT, T. H. RABONE, PETER GRIEVE, C. F. BAUSE, and others. Among men of science more or less directly connected with horticulture who have been taken from us, mention may be made of PASTEUR, HUXLEY, BABINGTON, BAILLON, BOMMER, BERNARDIN, HELLRIEGEL, RILEY, TRUFFAUT, VESQUE, Professor LAWSON, CLEGHORN, and others.

The discovery by Lord RAYLEIGH and Professor RAMSAY of a new element in the shape of argon does not seem at present to have much connection with practical gardening, but one feature of these epoch-making discoveries is, that the most unexpected results accrue from them; and we may not unreasonably look to future researches into the nature and action of this gas to supply fuller information than we have, at present, on the nutrition of plants, and the part that nitrogen plays in the vegetable kingdom.

As the discovery of argon caused a flutter of excitement among scientific men, so amongst the gardening fraternity consternation was felt at the circumstances attendant on the retirement of Mr. BARRON from Chiswick. Whatever object the Council of the Royal Horticultural Society may have had, they succeeded in wounding the susceptibilities of the gardeners and of their own committees by the ill-advised manner in which, no doubt unwittingly, they carried out their object. The Society has acted handsomely to their late Superintendent, so

that it seems clear that no personal slight was really intended to him. As Mr. BARRON retires with a substantial pension, and has been made a Life-Fellow, there is no necessity to dwell on the personal side of the question. But wholly apart from these personal considerations, there are principles involved in the unfortunate mode of action adopted by the Council which cannot be thrust aside by the somewhat lame apology that has been published on their behalf, principles which involve the honour of the several committees. These several committees have been, as usual, busily engaged during the season, and it behoves them to be more than ever stringent in their awards. Wherever circumstances permit, no definite award should be given till the exhibit has been watched during growth at Chiswick. A remark of Mr. SHEA'S in the pages of our energetic contemporary, the *Gardeners' Magazine*, illustrates the desirability of insisting, wherever it is possible, upon some more thorough test than is possible by the mere comparative inspection of flowers on a board. Mr. SHEA'S statistics show that the great majority of certificated Chrysanthemums never afterwards make their appearance on the exhibition tables; or if they do, that they speedily fail to retain the favour of the growers.

Our exhibitions may be attractive to the public and very seductive to prize-seeking exhibitors, but their main object should be the advance of horticulture—a point not sufficiently considered by the Royal Horticultural Society, and almost ignored by the provincial societies.

Of the future we need not speak now, but it is impossible not to look forward with eager expectancy to the future development of Chiswick as a trial garden and experimental station. At Chiswick we look for processes, at the exhibition table for results. The results may be the more stimulating, but the processes are the more instructive to the gardener.

THE *Journal of Horticulture* for December 5 has an excellent and interesting article on this subject, which shows, among other things, the need of maintaining at Chiswick a "type collection," not only of Grapes, but of fruits and vegetables, which could be referred to in case of dispute or uncertainty. At the same time, a collection of photographs and coloured drawings should find place in the Lindley Library, so that we might have, as botanists have in their herbaria and libraries, some authentic standard of reference. Of course, allowance must always be made for natural variation, as well as for that which is obviously the result of a change in the nutrition of the plant or other conditions. The necessity for this is well exemplified in the following extract from our contemporary:—

"We only attach small, if any, importance to slight variations in shape of berry as a factor in distinctness of variety. A few years ago we called on a large grower of Muscat Grapes for market. He was busy at the moment superintending the forking into half the length of the inside border the heaviest dressing of nitrate of soda we have ever seen or heard of being used. "Just an experiment," he remarked. When the Grapes were nearly ripe we were shown the results. The berries were half as large again as those hanging from the other half of the roof, and the oval shape had practically vanished. To use the expressive phrase of the owner, the nitrate of soda had "blown them out;" those on the other half of the roof (border undressed) were much smaller, and quite oval. This is mentioned as a striking example of variation in which the direct cause was known. We do not advise private gardeners to follow the example mentioned, or they



FIG. 131.—SYNANDROSPADIX VERMITOXICUS (Engler).

might "wear out" their Vines too soon. This market grower is always working on the express system—clearing out some houses and planting others every year; but this cannot be done in private gardens."

The general conclusion at which our contemporary arrives is stated in the following terms:—

"We are decidedly of opinion that the Grapes grown as 'Gros Maroc' and 'Cooper's Black' much too closely resemble each other to be shown as distinct varieties, and consequently an exhibit containing them must be liable to disqualification."

SYNANDROSPADIX VERMITOXICUS, Engler.*—This ornamental and very distinct Aroid flowered recently in the Royal Garden, Kew, and from it our illustration (fig. 131) was made. It is a native of Tucuman, one of the Argentine provinces, and on the first occasion of its flowering in this country, was figured in the *Botanical Magazine* at t. 7242, from a plant cultivated at Kew. In habit and foliage it bears some resemblance to a *Richardia*, but the inflorescence is more like that of *Taccarum Warmingianum* than of any other Aroid known to me. Like the rest of the group to which it belongs, its root-stock is a tuber, which is said to attain a weight of 3 to 4 lb. The leaves are three to four in number, with petioles $1\frac{1}{2}$ to 2 feet long, of a light green, marked with darker green lines, and the blade is bright green, 13 to 14 inches long, by 8 to 11 inches in breadth, cordate-ovate, acute, with wavy margins. The inflorescence is produced with the leaves, on a peduncle 6 to 8 inches long, which is of a light green, with darker green lines; the spathe is about 7 inches long, and 3 to $3\frac{1}{2}$ inches broad, erect, elliptic-oblong, concave, convolute at the apex into a subulate tail-like point; the outside is green, and the inside dull purple-madder, both sides being ornamented with short darker streaks. The lower part of the spadix which bears the female flowers is adnate to the spathe, the rest being free, and covered all round with male flowers; there is no perianth to the flower, but the green ovaries are surrounded by four ovate, obtuse, dull purplish staminodes the stamens of the male flowers are united into a stout, swollen, rose-purple column, surmounted by a small head of blackish-purple anthers. There are several other Aroids in the Argentine Provinces and South Brazil, that are more or less allied to this plant, belonging to the genera *Taccarum* and *Asterostigma*, which are ornamental in character, and well worth the trouble of introducing. A few of them have been under cultivation, but only in a very limited quantity, I believe, and they appear to have soon died out. There ought to be very little difficulty in raising them from seed, but I believe that they require to be cross-fertilised, as, in the few cases known to me, where Aroids with an inflorescence of this character have been self-fertilised, the result has always been a failure. *N. E. Brown.*

OUR ALMANACK.—Secretaries of Horticultural Societies and others, are earnestly requested to forward *immediately*, the dates of Show Fixtures and of Meetings of Botanical and Horticultural Societies of any kind for 1896, for insertion in the Almanack, to be published in our issue for January 4.

CITY OF LONDON COLLEGE, WHITE STREET, MOORFIELDS.—Professor BOULGER, F.L.S., F.G.S., A.S.I., will deliver an introductory course of twelve lectures on "Commercial Botany," on Thursdays, 8 to 9 P.M., commencing Thursday, January 9, 1896. The following subjects will be treated of: The History of our Trade in Vegetable Products—Food Substances—Drugs—Oils and Oil-seeds—Gums, Resins, and Rubbers—Dyes and Tanning Materials—Fibres and Paper Materials—Timber and other Woods—Agricultural Plants—Miscellaneous Vegetable Products.

— During Lent Term, 1896, Professor BOULGER, F.L.S., F.G.S., A.S.I., will also deliver a course of ten lectures on "Forestry" on Thursday evenings, com-

**Synandropadix vermitoxicus*, Engler, Bot. Jahrb., 1883, vol. 4, p. 82.

meencing January 16, at 9 P.M., with special reference to the examinations of the Surveyors' Institution. Practical demonstrations in the country will be given during the spring. Syllabus: Climate and Trees—Land suitable for Arboriculture—The Draining and other preparation of the Land—Nurseries and their Management—Planting Operations—Thinning and Maintenance—Felling and Barking—Timber Measurement—Exploitation and Management of Coppice—The distinctive characters of the various British Timber Trees.

KEW SEED LIST.—In the form of an appendix to the *Bulletin* for 1896, has been published a list of seeds of hardy herbaceous plants, trees and shrubs, available for exchange with other gardens and with regular correspondents. These seeds cannot be had by purchase. The list occupies no fewer than thirty-five 8vo pages of double column.

RARE BOOKS AND THEIR PRICES, with chapters on Pictures, Pottery, Porcelain, and Postage Stamps, by W. ROBERTS. (London: GEORGE REDWAY) Mr. ROBERTS has here enlarged upon and republished in book-form certain of his articles which first appeared in the *Nineteenth Century* and the *Fortnightly Review*. He treats of the present-day mania for collecting, and of the large amounts of money which those able to do so will spend on their favourite hobby. Collecting has its good and its bad sides, and both are here touched on, but the book is chiefly occupied with mention of rare books, articles of porcelain and pottery, and with quaint and true tales of the prices which some of these have fetched at different stages of their career. It is an interesting volume, both to those who find their happiness in pursuing the collecting mania and to others who prefer to watch such enthusiasts with amusement and without joining them in their pursuits.

BERLIN INDUSTRIAL EXHIBITION, 1896.—One of the special features of this exhibition is to be an interesting and instructive department of horticulture. On one of the best-situated positions, near the main building, and between the recreation-ground and the Marine Panorama, will be opened five hectares for the sole purpose of the horticultural section. This portion of the exhibition, which is already partly completed, is being carried out under the direction of the Economy Councillor, Herr L. SEITZ, an acknowledged authority on horticulture. Some eighty firms in Berlin and environs are here represented in a more or less prominent manner. About half of the ground allotted to this group is claimed by the tree plantation exhibitors, and by the landscape gardeners. A splendid park of 1900 metres square has also been skilfully arranged on well-chosen ground, and several prominent gardeners have secured a large and desirable position to utilize for original landscape gardens. A lawn-tennis ground in true English style is also contemplated. Fruit culture of every species will also play an important part in the Berlin gardening industry.

"COTTAGE GARDENING."—Vol. vi. of *Cottage Gardening*, edited by Mr. W. ROBINSON, is now ready. (Publishers, Messrs. CASSELL & Co) It treats of the usual subjects—poultry, window and town gardens, allotments, bees, simple cookery, and housekeeping; and is quite equal to the previous volumes in value and interest.

CUT FLOWERS: ORCHIDS.—M. LUCIEN LINDEN'S energy is remarkable. Not content with the direction of the Horticulture Internationale, and the publications connected therewith, he has established at Moortbeke, near Brussels, *un vaste établissement* for the sale of cut flowers of Orchids. The same enterprising man of business has, in conjunction with M. AUGUSTE DALLEMAGNE, founded at Rambouillet, France, a special establishment for the growth of Orchids.

ANCIENT SOCIETY OF YORK FLORISTS.—The annual dinner was held under auspicious circumstances on the 18th inst., there being about sixty members present. Mr. Alderman McKAY presided, and incidental to the observance of a long toast list,

it was stated that the Society intended to hold an exhibition in York during next year, contemporaneously with the show by the Yorkshire Agricultural Society. On this occasion the National Carnation and Picotee Society will also be represented. The finances of the Society are satisfactory, notwithstanding that unfortunate weather attended the recent exhibition of Chrysanthemums, there being a reserve of £210.

THE ROYAL HORTICULTURAL SOCIETY.—The meetings for 1896 have been arranged to take place as follows:—At the Drill Hall, Westminster, on January 14, February 11, March 10 and 24, April 7 and 21, May 5, June 9 and 23, July 14 and 28, August 11 and 25, September 8, October 13 and 27, November 10 and 24, and December 15. The annual general meeting will be held at the Society's offices, 117, Victoria Street, S.W., in the afternoon of February 11. The Temple Show will take place on May 19, 20, and 21. A great exhibition of British-grown fruit will be held at the Crystal Palace on October 1, 2, and 3.

VEITCH MEMORIAL MEDALS AND PRIZES.—At a meeting of the Trustees held on the 20th inst., Dr. Hogg in the chair, it was resolved to present a Veitch Medal to the following gentlemen, in recognition of their services to scientific horticulture, forestry, and arboriculture—viz, M. Henri L. de Vilmorin, of Paris; Professor Sargent, Director of the Arnold Arboretum, Boston, U.S.A.; Mr. F. W. Barbidge, M.A., Curator of Trinity College Botanic Gardens, Dublin; and Mr. Malcolm Dunn, of the Palace Gardens, Dalkeith. It was also resolved to place at the disposal of the National Rose Society two medals and two prizes of £5 each, one to be competed for at the metropolitan show held at the Crystal Palace, and the other at the northern show to be held at Ulverston; two medals and two prizes of £5 each at the disposal of the National Chrysanthemum Society, to be competed for at the Jubilee exhibition of the Society; and one medal and one prize of £5 to each of the following provincial horticultural societies, Ulster, Dandee, and Derbyshire.

QUANTITY OF WORKED TREES IN AN AMERICAN NURSERY, ETC.—As in many other commercial lines the amount of trade done in some of the United States' nurseries is prodigious, greatly exceeding anything that we can show on this side of the Atlantic, and as illustrating this fact, we take the following remarks from the *National Nurseryman*, a journal circulating amongst growers and dealers, and published at Rochester, N.Y. "The FRANKLIN DAVIS Nursery Co. We have just started into what promises to be a satisfactory fall season. Our sales, both wholesale and retail, are about the same as those of 1894, the same quantity of stock being sold, but at lower prices. We see no difference, however, in cost of production. There seems to be a strong demand for Peach trees and Japan Plums. Prices appear to be lower on everything but Peach; grades under $\frac{3}{4}$ inch in Apples and Pears are exceedingly low, and there is no chance whatever for profit at such figures. We have made pretty heavy plantings in the spring of 1895, trusting that there will be an improvement in the business by the time the stock is marketable. We budded 650,000 Peaches this season, and would have doubled it, but ran short of seed. In 1894 we budded 1,150,000. We planted 500,000 grafts in the spring of 1895, which have done well; and budded 50,000 Pear and 200,000 Apple stocks. From the general outlook, we are fearful that we have planted too much, and we are almost confident that nearly all the growers have done the same thing. There is certainly an over-production, and we do not believe that the 'hard times' are altogether accountable for the low prices. The only man who is making money now is the dealer: he buys at less than cost of production, and is able to get a fair price at retail. We have had a good growing season here, and stock never looked better. We are digging 25,000 to 35,000 trees per day without our tree-plough. It is a little too dry to run it satisfactorily." Our readers

will naturally wonder what a tree's roots look like after being ploughed out of the land. Other reports in the same journal show that the demand for Apples will run the stocks of saleable trees very low by the arrival of spring. From Topeka we learn that the autumn trade is good; a little above the average in volume. Northern and western planters are heavy buyers of Apple trees. Colorado trade gaining heavily on Ben Davis, Gano, Paragon, Arkansas Black or Jonathan. Northern trade still insists on Duchess, Wealthy, Yellow Transparent, Wolf River, &c. Cherry gives slow sale, prices lower." Apparently the demand for Apples is a heavy one in the temperate region throughout the U.S.A. Those growers in Great Britain who have suitable varieties might participate in the trade in Apples, Plums, and Cherries.

A CURIOUS CASE OF NATURAL GRAFTING.—Mr. JOHN CHEESE, of Amersham, furnished lately to the Royal Horticultural Society a photograph and description of a case in which, in spite of the severance of a branch from the main trunk of a Pear, the severed branch produces fruit year after year, communication with the leaves and trunk being carried on by means of a slender twig, which connects the severed portion with the main stem. Mr. CHEESE's account is as follows:—"In 1889, an arm of a Pear tree (Vicar of Winkfield) which did not bear, was severed for grafting. By accident, the old arm was not taken away. Next year as it blossomed, I left it to see what its vitality would come to. It produced and ripened two Pears. As it seemed vigorous, I said 'leave it another year.' It produced ten fruits. I then made a careful examination, and found that a small twig about the size of my little finger had joined itself to the old branch on the top of the wall by friction of wind. It kept on bearing. Last year [it bore] forty-two, this year just under thirty—fed entirely by the twig now almost, or quite, an inch in diameter. The branch has been in perfect vigour; and by the pencil sketch, you will see what the feeder has done. The tree being planted in an orchard, and turned over the wall (one branch) and trained down the other side (garden), makes it rather difficult to give a real idea of it"

From the sketch and photograph, it appears that the only direct communication with the roots or with the old stem, is by means of the inoculating branch. No doubt, as Mr. CHEESE says in another letter, the union was effected prior to the severance of the branch. In any case, so far as the fruiting branch is concerned, the entire supply of water must pass from the root upwards, till it reaches the slender connecting twig, then downwards to reach the fruit-bearing branch, and then more or less horizontally. The quantity of water thus supplied is sufficient to permit of the expansion of leaves, and these in due course manufacture, with the aid of the sun-light, the sugar, starch, and other products required for the maintenance of the branch, and of the fruits produced from it. Such cases are more easy of comprehension, now that we have, to some extent, got rid of the "vulgar errors" connected with the "ascent and descent" so called, of the sap.

SOUTH AFRICA.—A supplement received with an issue of the *Wynberg Times* for November 30 last gives a detailed list of the classes arranged in connection with an exhibition to be held by the Port Elizabeth Agricultural Society in April next. That there is considerable energy at this port in matters agricultural is clear from the fact that the schedule includes as many as 408 classes. Every kind of farm stock, including poultry and pigeons, will be represented, and the same may be said of farm produce, agricultural implements, and South African manufactures.

THE CAPE HERBARIUM is now under the charge of our valued correspondent, Prof. MACOWAN, the colonial botanist. The nucleus of the collection was the herbarium of ZEYHER, or what remained of it at the Cape, for a large proportion was destroyed by fire at Hamburg. The remainder of ZEYHER'S plants came into the possession of Dr. PAPPE, and at

his death they were bought by the Government for £400—a sum very far below their value. Dr. HARVEY made use of the collection for his *Flora Capensis*. After this it was much neglected, till Sir HENRY BARELY paid a surprise visit, and at his instigation steps were taken to preserve the plants in a proper manner. Prof. MACOWAN'S own collections, numbering some 5000 specimens, were added in 1881, and the collection is fairly well housed, except for the risk of fire, which is still great. The value of a herbarium and library to the colonial botanist, and those who apply to him for information on all sorts of topics, is incalculable.

"THE CENTRAL AFRICAN PLANTER."—Among the many encouraging signs of progress, we may note the publication, at Songani, Zomba, of the first number of this journal, which bears out the old adage that there is always something new from Africa. The publication will take for its model the *Ceylon Tropical Agriculturist*. Our fathers, not to mention previous generations, would have been astonished to see such signs of development in a part of Central Africa not known before the time of LIVINGSTONE in 1855. Less than twenty-five years afterwards Coffee planting began, and in 1891 a million Coffee plants were in cultivation. Coffee, indeed, is the principal subject treated of in this journal. Telegraphic communication with Great Britain *via* Cape Town was established at the time the journal went to press. May it be a good omen, and may our energetic planters not forget to occupy some part of their time in making known the resources of the country, and in sending home specimens of its flora and fauna. Who can tell that some now-unheeded plant may not eventually be more commercially valuable than Coffee. The editor is Mr. R. D. HYNDE, F.R.G.S.

THE SURVEYORS' INSTITUTION.—At the ordinary general meeting, held on Monday, December 9, 1895, the President (Mr. DANIEL WATNEY) in the chair, a paper was read by Mr. F. PUNCHARD (Fellow), entitled, "The Working of the Agricultural Holdings Act, 1883." A discussion followed, and was adjourned to the next meeting, and a vote of thanks was unanimously passed to Mr. PUNCHARD for his paper.—The next ordinary general meeting will be held on Monday, January 6, 1896, when the adjourned discussion on the paper read at the last meeting by Mr. F. PUNCHARD (Fellow), entitled, "The Working of the Agricultural Holdings Act, 1883," will be resumed. The chair to be taken at 8 o'clock. Notice is given that the Institution will be closed from Tuesday, 24th inst., to Monday the 30th inst.

THE ROYAL GARDENERS' ORPHAN FUND.—The usual monthly meeting of the committee took place at the Horticultural Club, Hotel Windsor, on the 20th inst., Mr. W. MARSHALL, presiding, there being a large attendance of members. The Secretary, Mr. A. F. BARRON, reported that he had received the sum of £105 15s. 10d. from the trustees of the William Thomson Memorial Fund, the powers as to voting at elections in respect thereof being accepted by them. It was resolved that the sum of £500 should be invested in Canadian 3½ per cent. stock. The following special receipts were announced:—Mr. H. J. JONES, Ryecroft Nursery, Lewisham, visitors to Chrysanthemum-house, £10 12s. 7d.; Scottish Horticultural Association, per Mr. R. W. E. MURRAY, Edinburgh, £5; Mr. H. HERBAT, Stanmore, Kew, £2 11s. 6d.; Mr. G. W. CUMMINS, The Grange Gardens, Carshalton, £2 10s.; Mr. W. R. BLOXHAM, Chesterfield, £2 2s.; The Market Harboro' Horticultural Society, sale of flowers at Chrysanthemum show, per Mr. G. GREEN, secretary, £1 15s.; Mr. R. INGLEBY, Chesterfield, £1 7s. 6d.; Mr. C. GIBSON, Morden Park Gardens, £1 1s. 7d.; Mr. J. MCKECHNE, Holloway, £1 1s.; Messrs. R. W. PROCTOR & SON, nurserymen, Chesterfield, sale of flowers, £1 1s.; The Croydon Chrysanthemum Society, sale of flowers, per Mr. W. B. BECKETT, £1 1s.; Kingdon Gardeners' Association, per Mr. A. DEAN, £1; Mr. W. BATES, Twickenham, 18s. 6d.; Mr. F. MILLER, Northdown, Margate,

18s. 2d.; Mr. T. NEWBOULD, Cragg Royal, Leeds, 17s. 6d.; Mr. A. J. BROWN, Chertsey, 15s. 6d.; Miss Emily ROGER, Farnborough, 13s.; Mr. W. H. DIVERS, The Gardens, Belvoir Castle, 13s. 7d.; Mr. JOHN DAY, Galloway, Garlieston, 12s.; and Messrs. H. CANNELL & SON, Swanley, 10s. It having been announced that at various times during 1896, nine children would cease to be chargeable to the fund, having reached the age of fourteen years, it was resolved that ten children should be elected at the annual general meeting to take place at Anderton's Hotel on February 20 next. The credentials of a number of children were examined and passed. A cheque was ordered to be drawn for the children's allowances for the first quarter of the coming year, amounting to £195, there being sixty children entitled to the benefit of the fund. A hearty vote of thanks was passed to the chairman for his services in that capacity during the year; and Mr. MARSHALL, in acknowledging the vote, thanked the committee for their support and attendances during the year.

THE NATIONAL AMATEUR GARDENERS' ASSOCIATION.—The annual dinner took place at the Guildhall Tavern on the 18th inst., Mr. T. W. SANDERS, the President, in the chair, about eighty persons being present, including several ladies. In proposing success to the association, the chairman said that this was the fifth year of its existence, that he had been associated with it from the first, and was well acquainted with its advantages. It was able to show that it had done good work, and therefore justified its formation. There is an increase in the number of its country members and affiliated societies; both together there are probably from 2000 to 3000 persons connected with the association. The association afforded opportunities for those amateurs interested in gardening to meet together and exhibit their skill as cultivators; and in this way they were instrumental in interesting others. Nothing in the way of an association worked on business principles can be perfect, and there were imperfections in their procedure, but the conductors were always anxious to receive suggestions for perfecting their organisation. One satisfactory feature at their monthly meetings is the collections of flowers, plants, fruits, and vegetables brought to them, and which are closely inspected by the members. Points were awarded to meritorious exhibits, which carried with it a Certificate of Merit; and when a sufficient aggregate of points was reached, a Silver Medal was awarded. Another feature was their *conversazione*, which proved so satisfactory that it will be continued on a larger scale. The President paid a tribute of acknowledgment to his brother-officers and committee, as it was mainly through their exertions they had secured so satisfactory success. The distribution of money-prizes, medals, and certificates then took place, and a succession of speeches, interspersed with music, brought an enjoyable evening to a close. It was announced that at the next monthly meeting on Jan. 7, Mr. R. DEAN will give a lecture on "Hardy Border Primroses."

GARDENERS' ROYAL BENEVOLENT INSTITUTION, ETC.—At the meeting of the Committee of the Wolverhampton Auxiliary of the Gardeners' Royal Benevolent Institution, Mr. G. A. BISHOP, the chairman, handed in his list of subscriptions which he had himself collected in the course of a few weeks, amounting to the handsome sum of £70, including twenty-six annual subscribers of one guinea each. It may be mentioned that besides, Mr. BISHOP, in conjunction with Mr. G. BRADLEY, Werge Hall Gardens, collected within twelve months, £146 for the Wolverhampton Chrysanthemum Society.

SHIRLEY, MILLBROOK, AND FREEMANTLE HORTICULTURAL SOCIETY.—The thirtieth annual general meeting of the above was held at the Shirley Hotel, Southampton, on the 17th inst., the President, A. BARLOW, Esq., presiding. The Secretary read the report and statement of accounts, showing steady

progress of the Society. The entries at the late show numbered 600, an increase on the past, and the balance in favour of the Society was £35. There was a considerable increase in the attendance, and this enabled the committee to make so good a financial report. The adoption of the report and accounts was followed by the re-election of the president, vice-president, and officers, and a ballot for a committee of twelve, for which there were twenty-four nominations. A vote of thanks to the president, the press, and the retiring members of the committee, &c., closed a very successful meeting and year.

SOCIETY OF JERSEY GARDENERS.—At a meeting of this society held on Thursday, Dec. 12, the programme was of an unusual character. Mr. A. FLATTERS, of the Manchester Microscopical Society, gave a microscopical lantern exhibition, being the first of its kind given under the auspices of the Society. These slides numbering 110, illustrated the internal structure of plants, the botanical features of each he pointed out. A number of photographs of horticultural interest, taken by the demonstrator himself upon the island, also formed part of the exhibition. Meetings are held monthly, and the Hon. Secretaries for the coming year are Messrs. E. REEVE and A. SMITH.

PLANT PORTRAITS.

CALADIUM LILIPUTENSE, Rodigas, *Illustration Horticole*, December 15. Like a dwarf form of *C. argyrites*.
COSMOS SULPHUREUS, *Garden and Forest*, p. 434.
PEAR FRANÇOIS HUTIN, *Bulletin d'Arboriculture*, December, 1895.

ROSE G. NABONNAND, Tea; *Garten*, December 14.

PLANTS AND FLOWERS AT TRENTHAM.

A GRAND display of winter-flowering plants is to be found in the houses at this place, the demand being very great. The houses at the present time are a charming sight, hundreds of plants of the brilliant *Poinsettia pulcherrima*, with enormous bracts, are splendidly grown in small pots. Quite as dazzling are the plants of *Euphorbia jacquiniæ*, whose flowering sprays are such as one seldom sees, especially in such small flower-pots as these plants are grown in, namely, small and large 48's. In these the plants maintain their healthy foliage right down to the rim of the pot. Plants of *Salvia* in variety, *Primula*, *Cineraria*, Roman *Hyacinthe*, *Tulips*, *Narcissus*, *Lily of the Valley*, &c., are grown by the thousand, and great quantities of these are now in perfection. Besides these are *Gesneras* in variety.

The Orchid-houses are likewise gay with flowering plants, and in the *Cattleya*-house several hundred blooms of *C. labiata* are expanded; *Dendrobium Phalaenopsis*, *D. Wardianum*, *Laelia anceps*, are there in great quantities. In the *Odontoglossum*-house dozens of sprays of *O. crispum* and *O. Pescatorei* had open flowers, with numbers to follow. Of *Maedevallias* great numbers of fine healthy plants were noted, which could scarcely be excelled for luxuriant growth, many of them in flower, including a grand batch of the pretty *M. tovarensis*.

A houseful of Tree Carnations and Marguerites, the picture of robust health, was remarked with hundreds of expanded flowers, consisting of all the leading varieties. The first-named are invaluable for their fragrant flowers. A grand lot of late-flowering varieties of *Chrysanthemum* are most useful plants at this season, and the plants here are now carrying enormous quantities of blossoms good for cutting, &c. *Rhododendron hybridum*, *Deutzia gracilis*, *Azalea mollis*, and *Lilies*, are extensively forced, and these will follow those already named. The healthiness of the foliage plants show that their cultural requirements are well understood; and plants were noted from small things in thumb-pots upwards to enormous specimens, their uses in the ducal mansion being numerous. The Bamboos are great favourites here, and deservedly so, for their light green, graceful foliage, and their adaptability for decorative purposes in the dwelling. In the

fruit houses good crops of late Grapes were still hanging on the Vines, and splendid fruits of Tomatos. In the early Peach-houses the trees are just on the move, and the early Vines look very promising.

Great improvements have been made by Mr. P. Blair in the pleasure-ground. Many ornamental trees and shrubs have been recently planted—indeed, the place has undergone a great transformation, and is still being improved, so that it will soon match any existing in the country.

The kitchen garden is well stocked with vegetables to meet the large demand made upon its resources. Many fine new buildings have been erected, including one in the village to serve as a lecture hall, with rooms for billiards, the library in connection with which is a very good one, the whole forming a great boon to the inhabitants of the place. The Duchess takes a great interest in the well-being of those employed upon the estate and the villagers, as the Duke of Sutherland does in horticulture. The gardens show careful cultivation and attention to detail in every part, reflecting much credit on the head gardener, Alfred Outram.

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(Concluded from p. 577.)

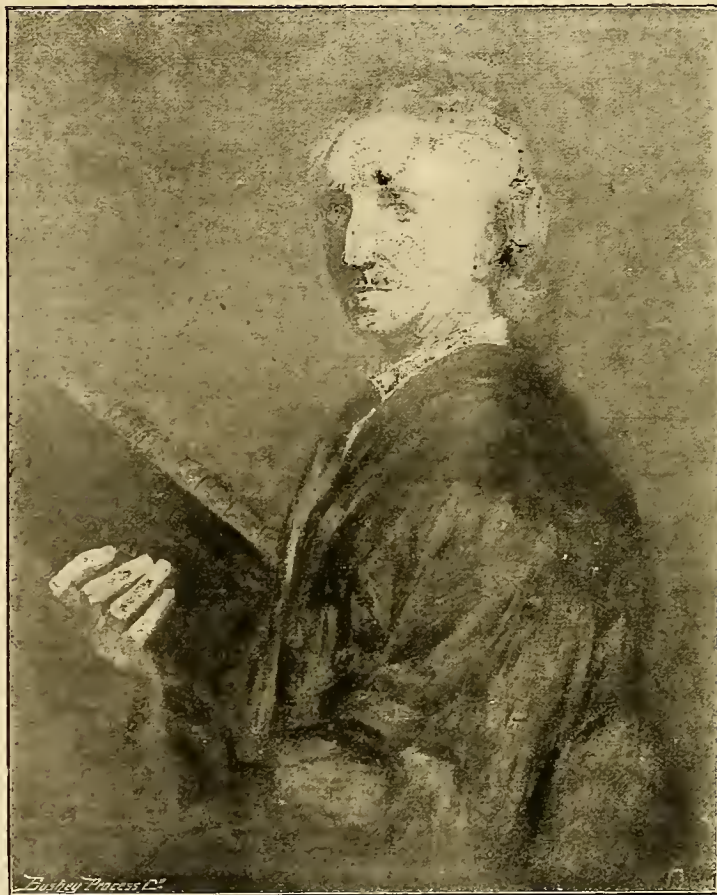
EVELYN differed from most of the savants of his day in the dislike to be ranked as an author. The establishment of the Royal Society was a proof that the learned men of the late seventeenth century desired a common meeting-place, where their theories and discoveries could be expounded to men of kindred tastes. The scientist and the antiquary were not regarded with much respect at that period, and their apparent eccentricities were made the butt of much cheap ridicule, and that ridicule, when enshrined in the "catchy" lines of Samuel Butler, had the disagreeable tendency to be accepted by the general public as truth. John Evelyn was too much of a man of the world and of a diplomatist to indulge in the little personal vagaries which at that time, and for a long period afterwards, characterised the student of abstract things. John Evelyn's appearance as an author was not, as we have indicated, the outcome of a perfectly excusable vanity, but a laudable desire that others might profit by his experience. His garden was his great hobby, and he found it so full of pleasure and instruction that he wished others to participate. Botany, like chemistry, was gradually emerging from being a mere art of empiricism, and Evelyn did more than perhaps all his contemporaries together to compel the recognition and acknowledgment of these two sciences.

Evelyn's first publication was issued in 1649, when he was twenty-nine years of age. It was not until nine years after this that the first of his long and valuable series of horticultural publications made its appearance. It is a translation of *Le Jardinier François*, which appeared at Paris in 1651, and ran into six editions in nearly as many years. It was signed by R. D. C. D. W. B. D. N., whatever these initials may or may not mean; the real name and dignity of the author being N. de Bonnefons, *valet de chambre du Roi*. It was "transplanted into English by Philocephos," and published by John Croke at the sign of the Ship in St. Paul's Churchyard in August, 1658. Evelyn was persuaded to make this translation by his friend Thomas Henshaw, to whom the work is dedicated. This book, which Evelyn regarded, and rightly so, as the best treatise then extant on gardening, is an exceedingly interesting work to the literary antiquary. The catalogues of Pears (315 in number), Peaches (37), Apples, Plums, Cherries, and other fruits are exceedingly curious. The book is a duodecimo of 319 pages, with four plates by A. Hertocks; it was an unquestionable success. A second edition appeared in 1669 (with Evelyn's name attached to it for the first time), to which was added "The English Vineyard Vindicated," by John Rose. The third edition appeared in 1672, and others in 1675, 1676, and 1691.

During the interval which elapsed between the first and the second editions of the *French Gardiner*, Evelyn wrote and published his most celebrated work, *Sylva*, "or a discourse of Forest Trees and the Propagation of Timber," to which is annexed *Pomona*, "an appendix concerning fruit-trees in relation to cider, 1664." This was reprinted in 1669, and in 1679, with considerable additions; again in 1705 with still further additions and improvements; and finally in 1725, with other works on gardening—all these were in folio. Dr. Hunter, of York, edited and annotated an edition in quarto in 1776, with a number of beautifully-engraved plates by J. Miller; of this a second edition appeared in 1786, and a fifth in 1825. *Dendrologia*, an abridgement by J. Mitchell, was issued in 1827. A very long article might be written on this most interesting

as I may justify (without immodesty) from the many letters of acknowledgement received from gentlemen of the first quality, and others altogether strangers to me." Evelyn was much disappointed at not receiving the appointment of Inspector of the Royal Forests, but the "mighty man, then in despotic power" conferred it upon another "who had seldom been out of the smoke of London, where, though there was a great deal of timber, there were not many trees."

Evelyn's next book, *Kalendarium Hortense*, or the "Gardeners' Almanack, directing what he is to do monthly throughout the year, and what fruits and flowers are in their prime," was first published in 1664, and in about forty years had run into ten editions. The British Museum copy, 1666, is interesting in having a presentation inscription to Lord Arlington in the author's handwriting. This was not



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and valuable work. *Sylva* was the outcome of an address delivered at the Royal Society in October, 1662, "upon occasion of certain queries propounded to that illustrious Assembly by the Honourable the Principal Officers and Commissioners of the Navy." The vitality of the work, seeing that it was the standard work on trees for over a century and half, does not need much demonstration. Dr. Hunter tells us that soon after the publication of *Sylva*, which made its appearance under the auspices of the Royal Society, "the spirit for planting increased to a high degree; and there is reason to believe that many of our ships which, in the last war, gave laws to the whole world, were constructed from Oaks planted at that time."

In a letter to Lady Sunderland, dated Deptford, August 4, 1690, Evelyn tells us that *Sylva* was a success "infinitely beyond my expectations," and that it has been "the occasion of propagating many millions of useful timber trees throughout this nation,

the first kalendar of gardening operations published, but it was one of the earliest which embodied the long practical experience of an able writer and close observer. There can be no doubt about the fact that this work had an extraordinary influence on English gardening, which indeed it may be said to have revolutionised. The origin of the book would appear to have been entirely private—a mere note-book of work to be done in each successive month, with no thought of publication. Writing in 1690, Evelyn informed Lady Sunderland that it was written "almost forty years since," so that it more properly belongs to his earlier works, although doubtless it contains the result of his later experiences. At all events, it was an epoch-making book, and a classic in its way.

Nearly thirty years after the *Kalendarium* first appeared, John Evelyn assisted in contributing yet another volume to the art and practice of horticulture. This time the work, *The Compleat Gardener*, was a

translation from the French of J. de la Quintinie, by George London and Henry Wise,* "to which is added his treatise on Orange trees, with the raising of Melons—omitted in the French edition," and translated into English by Evelyn. This publication, which was in folio, with a number of plates, had a long lease of popularity, to which Evelyn's "Address to the Nobility and Gentry" contributed not a little. Evelyn's last work was *Acetaria*, "a discourse on Sallets," which appeared in 1699, and of which a second edition was called for in 1706. Mention may be conveniently made here of a very interesting "letter concerning the damage done to his gardens in the preceding winter," which is published in the *Philosophical Transactions*, vol. iii., p. 28, 1634; and it should not be forgotten that it was in consequence of a recommendation of Evelyn's, in his *Fumifugium*, 1661, which dealt with the inconveniences of the air and smoke of London, that fragrant plants should be grown in nurseries, &c., in the low grounds near the metropolis, that the Lime trees were planted in St. James's Park.

Evelyn himself tells us that he delighted in "a

peculiarity known as heteroecism, or metoecism. During the summer months, examples are frequently to be observed representing various genera, but the majority of heteroecious Uredineæ belong to the genus *Puccinia*, and in this group it is a noteworthy fact that the uredospores and telentospores in all the species described are only to be found on monocotyledons—generally grasses, sedges, or rushes.

A somewhat remarkable exception, however, has fallen under my notice. The species referred to is *Puccinia Bistortæ*, Str. = *Puccinia Bistortæ*, DC., which is classed in Plowright's *Monograph of the British Uredineæ and Ustilagineæ* under *Hemipuccinia*, a group that is supposed to be without æcidiospores. After a long series of experimental cultures and observations during the past three years, the writer is convinced, beyond the slightest doubt, that this species does not only possess æcidiospores, but is heteroecious in character. In December, 1893, a short series of observations were briefly detailed (*Grevillea*, vol. 22, p. 45 to 47), which it is unnecessary here to repeat, beyond remarking that subsequent cultures have fully confirmed previous observations.

in 1895 the plants came up healthy, and remained clear of the fungus throughout the season, and evidently the mycelium also in this case is not perennial.

Germinating æcidiospores were applied to the leaves of *Conopodium denudatum* and *Polygonum Bistorta* on May 1, 1895, but not the slightest result followed on the former, whereas on the *Polygonum* uredospores made an appearance on May 15. During the past spring the fungus was observed to be extremely common in the neighbourhood of Halifax, and a number of plants of *Conopodium denudatum* growing among *Bistorta*, and bearing æcidiospores, were "marked," and for a fortnight were repeatedly visited, but no other spore form appeared on the earthnut, while uredospores showed abundantly on the *Bistorta*:

By means of the uredospores the fungus spreads rapidly, reproducing uredospores in about twelve days. The uredospores are invariably succeeded by telentospores in about the same time; for instance, in the May 1 experiment, the telentospores made an appearance on May 27. Although numerous observations were made on the telentospores during the summer and autumn, in not a single instance was an attempt at germination noticed. During the year, germinating æcidiospores and uredospores were applied to other species of *Polygonum*, including *P. aviculare*, *P. cuspidatum*, and *P. viviparum*, but without any results, although the latter is given as the host in various works. It is intended, however, to continue the experiments during the coming year. The æcidiospores were first found by my friend, Mr. James Needham, at Hebden Bridge, in May, 1893. H. T. Soppitt, Halifax.

THE WEATHER OF 1895.

THE year which is just drawing to a close has been a remarkable one in many ways, and, from a gardener's point of view, may be looked upon in some respects as one of extremes.

January commenced with a cold N.N.W. wind, which continued for some days, but there was not much frost till the 10th, when the temperature fell to 14°. On the 20th it rose to 49° in the shade, but on the 23rd it fell to 10°. There were only three nights in the month that the temperature did not fall below freezing-point, and these were on the 17th, 20th, and 21st. There were about 3.21 inches of rain, including melted snow.

February was a dreadfully cold month, there being only two nights during the whole period that frost was not registered, and these were on the 22nd and 23rd, when the mercury fell to 33° and 34° respectively. The coldest night was on the 5th, when the thermometer fell to 0.5. There was an unusually small amount of rain—0.78 of an inch only—the greater portion of which was melted snow. On three occasions only during fifty years has there been less.

March.—It was not till the 9th of this month that a general thaw set in, but the sun was so bright in the daytime, that by the 13th the ground was in good working condition, so that many of the garden crops were planted by the end of the month. Less than 2½ inches of rain fell, the greatest amount being on the 27th.

April.—The early part of this month was dry, and very suitable for outdoor work, though the nights were cold, but on no occasion did we register more than 6° of frost. Rain was pretty plentiful, during the latter part of the month; so also were slugs, for I never remember seeing such an abundance. The total rainfall was 2.14 inches.

May was a very dry month, rain falling on six occasions, and this only to the extent of .14 of an inch, this being a trifle less than in the dry summer of 1893. There were several hot days on which the thermometer in the shade rose to over 80°. Apple trees were in bloom very early, the first with us expanding on the 6th. The coldest night during the month was on the 10th, when the temperature fell to 31.5°.

June was also a month of unusual drought, and though the nights were cold, the days were warm, as there was no occasion when the maximum did



FIG. 133.—SAYES COURT, JOHN EVELYN'S RESIDENCE, DEPTFORD.

cheerful gaiety; affect and cultivate variety; the universe itself were not beautiful to me without it;" and those most conversant with his writings will readily admit that cheerfulness and gaiety were amongst the most striking characteristics of his nature. His truly was a character "full of sweetness and spirit;" and the whole of the stirring period through which Evelyn lived produced no truer English gentleman.

His portrait, see p. 772, was painted on several occasions. First by Chanterell, in 1626; by Vanderborcht, in 1641; by Robert Walker, in 1648; by Sir Godfrey Kneller, in 1685; and again by Kneller, for Pepys, in 1689. W. Roberts.

A REMARKABLE PUCCINIA.

OF the various parasitic fungi included in the group Uredineæ, few are more singular in their mode of development than those species which have the curious habit of spending part of their existence on one kind of host, and continuing it upon another at one time supposed to belong to a different genus,

The fungus first makes its appearance during the early part of April on *Conopodium denudatum*, and possibly it may have hitherto been confused with *Æcidium Banii*, DC., from which, however, it is clearly distinct, and may be described as follows: *Æcidiospores*; *Pseudoperidia* in small irregular clusters, seated on orange thickening, mostly hypophyllons, on segments and veins of the radical leaves, rarely on the cauline leaves, more elongated on the stems, and petioles nearly flat or shortly cylindrical; mouth narrowly contracted, walls rather thick, margins fragile, breaking up into white oval cellules evenly covered with minute warts 20 to 30µ in diameter. Spores globose, finely verrucose, white, endochrome, with a slight tinge of yellow, 15 to 20µ in diameter. On the radical leaves and petioles of *Conopodium denudatum* April and May.

In the spring of 1894, several plants of *Conopodium denudatum*, abundantly invaded with the *Æcidium*, were grown in pots under glass for the purpose of testing whether the æcidiospores were succeeded by any other spore form. But no further results ensued, and the plants made an appearance in 1895 apparently healthy, and remained free from the fungus, showing that the mycelium is not perennial. In like manner, in 1894, plants of *Polygonum Bistorta*, bearing the telentospores were isolated, and

* It may not be out of place to state here that the present writer contributed to the *Gardeners' Chronicle* of March 19, and May 14, 1892, a paper on "London and Wise, and their Gardening Works."

not exceed 70° in the shade; the hottest days being the 9th and 24th, when 87° was recorded on each date. Only .36 of an inch of rain fell during the month, this being the smallest amount for June registered since 1870.

July, up till the 18th, was dry and warm in the daytime, though the nights were cold. On the 16th the thermometer fell to freezing-point, while on the following day it rose to 29° in the shade, being one of the hottest days in the whole year. Between the 18th and the end of the month rain fell to the extent of 3.50 inches. The hottest night was on the 25th, the minimum being 61°.

August was rainy till the 15th, with warm weather both night and day, after which it became dry and hot, the hottest day being the 22nd, when the thermometer registered 84° in the shade. The amount of rain which fell was 2.42 inches.

September was an unusually dry month, there being only two days on which there was any registered, and these were on the 7th and 11th, the aggregate fall being .73 of an inch, which I think is the least amount for the month since 1865, in which year there was only .02. One of the hottest nights was on the 4th, the minimum being 60°. On ten occasions the maximum reached was over 80° in the shade, the highest being on the 7th, 86°, and on the 25th, 85°; on this latter date 117° was reached in the sun.

October was, in some respects, a peculiar month, for, with the exception of the first, which was very hot and dry, rain fell more or less on every day till the 9th, after which it was beautiful weather till towards the end. The warmest night was on the 6th, when the minimum was 56°; and the coldest was on the 26th, when 18° was registered. Rain fell to the extent of 2.77 inches.

November was a very wet month, rain falling on twenty-one days to the extent of 5.98 inches, which amount has only been exceeded on three occasions within the last sixty years. This is all the more remarkable, for on no occasion was there more than .81 registered, and this was on the 6th. Not once during the year have we had a flood in the river, which runs at the bottom of the garden. The warmest day was on the 17th, when the maximum reached was 62°. On only four occasions did the temperature fall below freezing-point, the coldest night being the 18th, when 25° was reached.

December, so far, has been mild, and with the exception of the 11th, when the temperature fell to 18°, the weather has been fairly mild. On the 15th the maximum was 51°. *H. C. Prinsep, Mid-Sussex.*

BULBS IN WATER.

It is saddening to note in passing through crowded streets or straggling villages how many are the amateur growers who will be disappointed of their expected harvests of Hyacinths and other bulbs to brighten and sweeten the home at this season. The bulbs, the glasses, the water are there in abundance, but the flowers will not be in blossom to welcome our family gatherings of the year, and that is the worst of it, though not quite all. The reason is not far to seek, nor difficult to avoid. Quite the contrary. Here it is. Thousands of bulbs are set in water; and in the light, in a dormant state. I have seen hatches of such perched on window-sills, shelves, and the narrower astragal between the upper and lower sashes. Within the last month or six weeks a very few of these bulbs have made much progress, and not a few of them are already rotten. In others, the tops have run far ahead of the roots, with the inevitable weakening effects.

A few bulbs of great strength of constitution have made a start, at the top and bottom, determined, as it were, to run fair at both ends, and under very unfavourable conditions. But this attempt at reciprocity of growth between root and top, or rather the precedence of root over top-growth, cannot be maintained in the full glare of a sunny window, not even through November or December fogs.

This is a matter not merely of theory, but of

observation on the part of those cultivators who can read the signs of distress shown by the bulbs grown in glasses in our windows, and which are readily interpreted. Under such unnatural conditions, it is no wonder that growth is laggard and the colour of the leaves and flowers poor, as is common in Hyacinths and other bulbs grown in water, whose roots are exposed to the light from the fire. I have observed that the greater the loss of green in the leaves the less ivory-white the roots become. But there are other causes for the lack of verdure and consequently vigour in bulbs in water than the probable diversion of chlorophyll from the leaves and flowers to the roots.

The lack of colour and the sluggish growth often arise, or are greatly aggravated, through the tops being in development ahead of the roots, which is an exact reversal of the proper order in most plants. Bulbs are partial exceptions in having a larger store of food than in other plants. Treated ever so unwisely they make efforts, more or less strong, to grow and unfold their flowers. If, however, top-growth goes ahead of root-growth, the gradual exhaustion of the stored-up supplies causes weakness and comparative failure of the development of leaves and flowers.

But bulbs are often drowned as well as lighted into failure by placing their base into the water instead of keeping it a $\frac{1}{2}$ -inch above the surface. Dormant bulbs of Hyacinths, Narcissus, &c., want nothing till roots have been made, and these the bulbs will emit at the right time. The tops should, during the first stage, be kept dry, and by this simple difference of treatment of the top and bottom of the bulb, the root will start into growth and do fairly well, even in glasses exposed to sunlight.

To have perfect bulbs in glasses, vases, baskets, &c., the bulbs should be kept cool and in the dark for a month at the least, so as to cause root-growth in advance of that of the leaves and flower stems. Having done this, and when the leaf-growth has pushed upwards $1\frac{1}{2}$ to 2 inches, and the roots are freely developing, growth will go on all right without check, if they are brought into the light.

Bulbs not grown in glasses from the first should be covered up with white sphagnum moss, Coco-fibre refuse, leaf-mould, &c., until roots form; then wash them clean, nearly fill the glasses with water, and place the bulbs over it as described above. After this change from moss, or earth, to water is effected, twilight should rule for a time—say, six days—before fully exposing the bulbs to light.

For lack of attention to such apparently minute details of culture, many amateurs have failed with Dutch bulbs, and many ceased to cultivate them, being daunted by their lack of success. As a slight protection against the mild rays of the winter sun, some cultivators make use of coloured glasses. Coloured glass is warmer than clear glass, but the heavily-coloured blues and greens defeat the chief objects of water-culture through hiding up the smaller and more interesting ramifications of the roots. But the subject of glasses, baskets, vases for the culture and display of single bulbs, and bulbs or other plants in groups requires artistic and practical solution—space for the treatment of which is not now available. Every glass and water-stand should have sufficient weight and breadth of base to prevent it being easily overturned, and it ought also to be so well provided with crystal arches, pinnacles, or other ornaments as to afford the necessary support to the roots, leaves, and flower-stems, without ties or supports, the latter being usually as ineffective as they are ugly.

When our Hyacinth-glasses and baskets become more beautiful and varied in design, we shall have not only a great development of the culture and decorative effects of ordinary species of bulbous plants, but of many other plants in water. For many years I have taken every opportunity to study gardening in our great horticultural centres, and during all these years I cannot remember meeting with one record-making illustration of aqua-culture, or its rich, novel, fresh, and charming effects, in the

Centre Avenue, Covent Garden, or in such fine provincial markets as those at Manchester, Liverpool, Birmingham, Glasgow, or Edinburgh. *D. T. F.*

HOME CORRESPONDENCE.

REORGANISING THE ROYAL HORTICULTURAL SOCIETY.—It is at once significant and instructive that there should be simultaneous editorial suggestions on this subject appearing in the leading horticultural papers, and also notes on the same matter from other sources. The obvious inference, therefore, is, that the desire for the reorganisation of the society is a wide-spread and a growing one. As we are yet several weeks from the annual general meeting of the society, the present moment seems to be a peculiarly propitious one for discussing a matter of such vital importance. I confine myself exclusively to that portion which relates to the society's committees, perhaps the most important of any that is likely to be discussed. The evident desire shown to have the operations of these committees widely extended may be regarded as signifying high appreciation of the work performed by those bodies, only it is desired that such work should not be localised in London, but should be diffused throughout the country. That, of course, with the help of the leading provincial societies may be done; but there are difficulties, all the same, to be encountered. As to how it may be done: first, the Council can instruct the Secretary to invite certain of the leading provincial societies to become affiliated to the Royal Horticultural Society. These bodies should not be too numerous, and should be representative of wide districts. Kent might have one, Sussex will find one at Brighton, Hants in Southampton, Wilts in Salisbury, Somerset at Taunton and Bath, Berks at Reading; then going northward, Birmingham, Manchester, Liverpool, Shrewsbury, York, &c., are but some of these bodies that might thus be made county or district representatives. The provincial society affiliated should then be asked to constitute local or branch committees for floral (including Orchids) and fruit and vegetable purposes. These committees should comprise the best horticulturists of the district or county, no one being a member of any two committees, and to these bodies the council of the Royal Horticultural Society should have the power of co-opting, if needed, at least three other members. Probably each branch or local committee should not exceed fifteen in number, including the chairman; whether the members of these branch committees should of necessity be fellows of the Royal Horticultural Society or not is matter for discussion, though, I think, they should be so, to put them on the same footing as are the members of the central committees. These branch committees should have full power to grant awards of merit to such things as they may esteem worthy, not previously taking such an award, and they should be held to be awards of the Royal Horticultural Society. First-class certificates should be granted only by the central committees. All these branch committees should meet once a month at least, in some central place provided by the local society; they should keep full records of their proceedings, and, so far as possible, make descriptive notes of subjects placed before them, which might be embodied in the Society's journal, and issued frequently. This would generally be more readable-matter than is found in many of the long elaborate papers published on subjects already well threshed out in the gardening papers. So far, all seems smooth enough; but now comes the difficulty. How are these branch committees to understand the nature of the standards set up by the central committees? That is indeed a difficult matter. Nothing would so soon tend to devalue the present value of the Society's awards as making them too cheap and abundant. Again, new bodies, not conversant with the experience gained at the Drill Hall and elsewhere in years past, would not know what things put before them had previously been certificated or otherwise, although that is a difficulty that may readily be overcome. So far as objections present themselves, it seems probable that none are insuperable. The policy towards these branch committees must be one of trust, tempered by careful supervision. It would be out of the question for representatives of either the council or the parent committee to attend meetings of these branch bodies except, perhaps, at their original formation. After that they would undoubtedly have to run alone. A much handsomer

certificate than is now given should be furnished, whether as an Award of merit or as a F.C.C., space being left to insert into it the name of the town or society where the award was made. It would hardly be possible to extend the system of granting medals to the provinces as is done at the Drill Hall, as that would be far too costly, and probably at the Drill Hall it would be as well to limit such awards to the ordinary card, and thus avoid appearance of favoritism for London, whilst refusing medals to the country. All the same then, card or medal awards could be made universally. Very unjust are the complaints formulated against the present composition of the Drill Hall Committee. The Council always have allotted many seats to country fellows. On the past year's Fruit Committee I count not fewer than sixteen out of forty who reside long distances from London. If they do not often attend it is purely because of distance, which, of course, means expense, and there are at least ten others who reside at distances varying from six to twenty-five miles from town; were there not a good number of metropolitan and suburban members, it would often be most difficult to make up committees. As it is, the general attendance is most remarkable and creditable. On the Floral Committee about one-third are country members. I mention these facts to show that those much-abused bodies are not quite of such localised formation as some not very good-natured critics seem to imagine. I have propounded these suggestions as affording some ground for discussion. The time for it is most propitious. *A Fellow.*

—The complaints now appearing as to the metropolitan character of the above Society have a certain amount of truth in them, but the question arises—How can it be otherwise? Obviously the Society cannot appoint persons to act as officers who are not Fellows, or even Associates. Doubtless much good might be done by local committees at various centres, if well and judiciously managed; but I fail to see how such an arrangement could be carried out in the present state of affairs. The first step necessary seems to be to get competent men in any neighbourhood to join the Society; and if those who are now complaining would do so, their suggestions would naturally receive more attention, especially if they could become acquainted with the work of the central committees, which could only come about by their attending some of the meetings of the Society. Many of the statements that are now made by persons residing in distant parts of the country would then be found to be without foundation. Another point occurs to me, viz., whether it would not be advisable, on several grounds, for the secretary to visit a few of the leading provincial shows, so as to make himself acquainted with the gardeners and horticulturists generally who frequent them; and in that and other ways get them to take an interest in the work of the Royal Horticultural Society. It is superfluous to say that if the more eminent horticulturists in the kingdom could be induced to join it, much good would result to the profession in general, and in various directions. It occurs to me that if the Gardeners' Royal Benevolent Institution finds it to its advantage to send a deputation occasionally into the country it would pay the Royal Horticultural Society to do so also. But as matters stand at present, probably not one gardener in a hundred knows either the secretary or the assistant-secretary, or would be recognised by them if they were to meet. This cannot be considered a satisfactory state of affairs. A horticultural society should exist for the benefit of horticulture, and derive its chief support from horticulturists. For efficiently carrying out these fundamental purposes and aims, the Royal Horticultural Society should be in touch, either directly or indirectly with the principal gardeners in the kingdom. The recent change at Chiswick, whereby Mr. Barron ceases from taking an active part in the Society's business, is a retrograde step, if considered in the above light, and will cause a severance of the slender connection that has hitherto existed, at least for a time, for he was a man well and wisely known, and deservedly respected by gardeners. *W. H. Divers, Belvoir Castle Gardens, Grantham.*

A HEAVY CROP OF POTATOS.—With reference to Mr. Leith's note on the above in a recent *Gardeners' Chronicle*, p. 684, I would like to say that I believe the advantages of affording space to the Potatoes are very great. Some time ago a friend of mine in the county of Fife drew my attention at the lifting season to the extra quantity and quality of

those roots which grew next the alleys. This seemed proof of the beneficial effects of sun and air on this plant. Take, for example, a row of early Potatoes planted at the foot of a south wall, which, in spite of cold spring weather, are always excellent in crop and quality, and this I have no doubt is mainly attributable to the great amount of sunlight and warmth, and the ample space they enjoy. *Andrew F. Pearson, Rathan.*

CHRYSANTHEMUMS.—I am greatly obliged for your expression of opinion respecting the two varieties of late Chrysanthemums which I sent to the office on the 9th inst. In order to avoid a lengthy communication, I was probably not explicit enough in my note respecting the variety Florence Watson. In order to make it fairly representative, I included the larger bloom from a disbudded plant, and although it looks so distinct, I assure you it is the same variety, the difference being due simply to cultivation. When disbudded to three or four buds, its blooms are excellent for decorative purposes, opening with broad florets slightly incurving, the lemon centre developing to a creamy-white, and as the bloom finishes it gradually assumes a more reflexed form with a slight curling of the florets, sufficient to distinguish it from a bloom in an earlier stage of development. I may add, that the blooms are furnished on stout stalks, requiring no support, which is an advantage. *R. Watson, Gardener, Elkington Hall.*

POTATO CULTURE.—I have this year cultivated Solanum Maglia, Fendleri, Ohrondi, X tile tuberosum, and fifty varieties of S. tuberosum, some from Paragnay and Chili, which M. H. de Vilmorin sent me, with the exception of the three first species, which I received from the Brest Botanic Garden. I quite see how different is the comparison between living plants and herbarium specimens. Certainly, Alph. de Candolle only knew S. Maglia dried or illustrated, as when the development of it is studied concurrently with that of S. tuberosum, it is difficult to see in it the original type of the latter. Mr. Arthur Sutton may be told that to avoid the difficulty of cultivating in the open ground Solanum Maglia, Fendleri, and Ohrondi, difficulties mentioned to me by the head gardener of the Brest Botanic Garden, I have this year grown the tubers of these species in large pots with sandy soil or loam. I obtained plants which flowered well and bore tubers twice as large as those which I had planted. The sides of the pots prevented the rhizomes from wandering too much, consequently the tubers were more developed, and, as is interesting to note, the gathering-in of even the smallest of the tubers was easily done. *E. Roze, Paris.*

OPENING OF THE FLOWER OF CENOTHERA SUAVEOLENS (Desf.).—The opening of flowers is usually accomplished slowly. It is interesting, then, to notice, as forming an exception to this rule, those of *C. suaveolens*, which may be said to open instantaneously; this phenomenon occurs in July, about 8 o'clock in the evening; in August, about 7 o'clock; in September, about 6 or 6.30. The four segments of the calyx begin to separate till they only cohere at their extremities, and suddenly they seem to yield to the pressure of the corolla; they become detached, and spring back sharply on the calyx-tube, and the four petals open rapidly. The stamens appear lightly infected round the style, which bears a cruciform stigma, and shows the pollen already escaped. The phenomenon of this sudden opening, which can easily be noted on the plants in gardens, can be observed on detached branches of the plant, and even on cut flowers or those partially or completely immersed in water. Incisions made in the segments of the calyx at the point of their insertion into the calycinal tube, do not seem to prevent their inflexion, they merely retard it. This is attributable to the hygrometric action of the air, as this is the more rapid in proportion as the heat of the day has been a power, and the cooling process in the evening is more noticeable. This plant being biennial, it is well to obtain, in spring, tufts with the radical leaves in order to obtain blooms in July, the month most favourable for study. *E. Roze, Paris.*

FRUIT AND POTATO GROWING IN BRITISH COLUMBIA.—With reference to your note on the above subject on page 716, December 14, I beg leave to call your attention to the following extract from a letter I have just received from an Englishman who has been a British Columbian resident for the past seven years, but who, with his wife and family, are now on their way home again to the Old Country: "This province seems getting poorer

every day; so much of the apparent well-doing and booming was only paper and ink. The Duncan-Bachelor block has just fallen into the mortgagee's hands; it cost 40,000 dollars, and is now on offer at 15,000 dollars! The Burns block offered at 14,000 dollars; this was the cost of the site alone! A block in Victoria that cost 24,000 dollars is now on offer at 6,000 dollars! In Washington State, U.S.A., adjoining us, they are sending in Potatoes, &c., to the storekeepers (paying freight and duty), and leaving to the storekeepers to remit balance, which is but little, I should think, when our local Potatoes are offered, and cannot be sold at 6 dollars (25s) per ton! Many are leaving the province daily." *Samuel Dobie, Manchester, December 14, 1895.*

RABBIT-PROOF PLANTS.—In addition to those enumerated by your correspondent, the American Raspberry, both the pink and white varieties, may be mentioned. The plants increase rapidly, and are very effective when in bloom. Another plant I have never seen attacked by rabbits is Gaultheria Shallon, a pretty, dwarf, evergreen shrub, very suitable for growing under the shade of trees. It flowers in May and June, and the fruit is much liked by pheasants. To those contemplating planting where rabbits abound, I would recommend the following:—Dogwood, Snowberry, flowering Currants, American Raspberry, and the scarlet-berried Elder (*S. racemosa*), the last a most effective shrub when laden with its beautiful fruit in the autumn; with clumps of Rhododendrons and Gaultheria by the sides of walks and rides. I think sportsmen will find that winged game will frequent the covert formed by these deciduous shrubs in preference to large masses of Rhododendrons, and the birds as well as ground-game are easily dislodged when shooting. Such plants as the common and Portugal Laurel, Berberis (Mahonia), Broom, &c., when established, are seldom injured by rabbits, except in severe weather, but it would be useless to plant them where rabbits are numerous. *George Duncan.*

COLOUR IN APPLES.—Some time since your correspondent, "A. D.," drew attention to fruits of Blenheim Orange Pippin exhibited before the Fruit Committee of the Royal Horticultural Society, which were of an exceptionally high colour; indeed, so much colour had these specimens that "A. D." had doubts of correctness of the name, suggesting Mr. Miles had made a mistake, and that what he showed was really Mère de Ménéage. I believe these are the facts of the case, but as I am writing from memory, I may be in error. I am satisfied Mr. Miles would make no such mistake. He has nearly 200 varieties of Apples, and cipes upon 40 acres of orchard under his charge. For some years past he has been applying sulphate of iron and soot as a top dressing to the land on which the trees are growing, with the object of increasing the amount of colour in the skin of certain varieties. He would, indeed, be a bold man who would say, after inspecting the whole of the trees as I did last September, that Mr. Miles has not succeeded in his endeavour. I never saw Wellington (Damelaw's Seedling) with such high colour as here. There are quite fifty trees of this Apple about twenty-six years old, which afford exceptionally heavy crops of fruit in some seasons; and one tree not dressed with these substances exhibited a marked contrast to the others. King of Pippins, Cox's Orange Pippin, and many others, I have never seen so richly coloured elsewhere. The disputed Blenheim Orange Pippin was quite exceptional too. Scores of trees of this variety are luxuriating—this is the correct word to use, and still they bear annually heavy crops of remarkably fine fruit; and this year the fruits had a more dense colouring than usual. A somewhat close system of pruning is practised, and even the standard trees of Blenheim Orange and Wellington are subjected to this. Mr. Miles is a staunch believer in the free admission of light and air to the inner parts of all the trees, no matter what their shape. *E. Molyneux.*

WEEVILS.—As even a partial remedy for the ravages caused by this pest among Ferns in established collections has a distinct value, I have no doubt some of your readers will be interested in the following results of a number of successful experiments in eradicating the grub without disturbing the plants affected. The weevil, as is only too well known, damages plants in two different ways, during its larval and during its perfect state. In the latter the weevil, as we know, creeps about mainly at night time, and gnaws holes through the fronds, or makes ugly gaps in their edges to such an extent, that where they prevail they completely

destroy the beauty of the plants, and especially of Harts-tongues where such damage is more conspicuous. The remedy at this stage is simply persistent hunting at night, taking the precaution to spread sheets of paper under the plants, so that when they drop, as they are apt to do at the least alarm, they may be seen and destroyed. It is however, in the larval or maggot stage that they do the most harm, as their attacks are then confined to the roots and crowns; and as they are busy during the dormant season as well as in the spring and autumn, the first indication of their presence, often in seed pans as well as with adult plants, is a sudden drooping and falling over of the fronds, which are then found to be quite loose, the whole of the roots and axis of growth being gone, and the plants, of course, destroyed entirely. We have repeatedly found batches of choice seedlings so invaded, that in a week or two the whole of the fronds may be blown away, not a fibre being left to attach them to the soil. Now the difficulty is, that to remove these pests has hitherto involved turning out the plants and thoroughly washing the roots in order to find the marauders, which are often snugly encoined in the heart of the plant—and this, especially in the winter season, is a risky operation, as well as a troublesome one. About a year ago, finding a batch of these larvæ, we kept them under water for several days to see how long immersion was required to drown them; but at the end of nearly a week they were still alive, and we consequently abandoned that idea of drowning them out. Subsequently, however, we plunged an affected pan under water, intending to leave it, if need be, a week or two rather than disturb a specially precious batch of plants, and next morning, after only a night's immersion, we were delighted to find all the maggots on the surface of the soil, perfectly active, it is true, but equally perfectly at our mercy, which was a minus quantity. Repeated trials since then have convinced us that plunging a plant so that water just covers the soil for twenty-four hours suffices to bring them all up in search for air, and thus to clear the pots or pans entirely with a minimum of trouble. *Chas. T. Drury.*

VARIORUM.

A TOBACCO PEST.

For a number of years a disease allied to that which attacks the Potato in this country, has caused great destruction in the seed-beds and plantations of Tobacco in the Dutch East Indies, and particularly in Sumatra. The colonial government commissioned Mr. I. VAN BREDA DE HAAN to investigate the disease, and to devise means of checking its ravages. Mr. DE HAAN discovered the cause of the disease to be a fungus nearly allied to *Phytophthora Solani*. "Nevertheless," says VON ERNEST HALLIER in the *Illustrirt. Garten Zeitung* for November, "according to my researches, this is not the case, this species of fungus not affecting the Tobacco plant at all. The latter has shown, during these investigations of Mr. HALLIER, extraordinary resistance to many bacteria, and that which causes the wet-rot of Potatoes has not the slightest injurious influence on the Tobacco plant. In fact, leaves of the latter cut from the plant remain quite fresh after being kept for four or five weeks in a damp cellar, neither withering nor decaying, not even when the gonidia of *Phytophthora* and the bacteria of the wet-rot are sown over them, the sap of the glandular hairs exerting a poisonous influence on the *Phytophthora* and these bacteria. I then," says Mr. E. Hallier, "carried out more accurate researches into the conserving properties of the leaves of Tobacco, and I am convinced that the living plant possesses extraordinary conserving and disinfecting properties. The uses of Tobacco-smoke and Tobacco-water have been known for a very long period of time for the destruction of plant lice, scale, and other injurious insects, but few persons are acquainted with the uses of the sap of the living plant, of which every gardener should keep a store for use at any season. It is not necessary to give any recipe as is the case in the use of manufactured tobacco; and every intelligent gardener will know in which cases and in which manner fresh Tobacco-

leaves or the sap of the plant should be used. For instance in the carriage of fruit and flowers, a bouquet surrounded by a holder made of fresh leaves of the Tobacco-plant will remain fresh-looking at least ten times as long as when this prudent course is not adopted!

MARKETS.

COVENT GARDEN, December 24.

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

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		d. s. d. s.
Adiantum, per doz.	4 0-12 0	Ficus elastica, each	1 0-7 6
Aspidistra, per doz.	12 0-30 0	Foliage plants, doz.	12 0-24 0
— specimen, each	5 0-15 0	Hyacinths, per doz.	9 0-12 0
Chrysanthemums,		Lilium Harrisii, per	
doz. pots ...	6 0-12 0	dozen pots ...	15 0-36 0
— (specimens), p.		Marguerites, p. doz.	6 0-12 0
plant ...	1 6- 3 0	Mignonette, p. doz.	6 0- 9 0
Cyclamens, per doz.	9 0-18 0	Palms, various, ea.	2 0-10 0
Dracæna, each ...	1 0- 7 6	— specimens, ea.	10 6-34 0
— various, p. doz.	12 0-24 0	Polkaetia, per doz.	12 0-18 0
Ericas, various, doz.	9 0-24 0	Primula sinensis,	
Evergreen Shrubs,		per dozen ...	4 0- 6 0
in variety, doz....	6 0-24 0	Tulips, bulbs, p. doz.	1 0- 2 6
Ferns, small, doz....	1 6- 3 0	Solanum, per doz....	9 0-12 0
— various, p. doz.	5 0-12 0	Spiræas, per doz....	9 0-12 0

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, Blenheim, p.		Grapes, Gros Colmar,	
bushel ...	3 0- 5 0	1st quality, lb.	1 6- 2 0
— From Nova		— Gros Colmar, 2nd	
Scotia, per		quality, per lb.	10- 1 3
barrel ...	11 0-14 0	— Alicante, 1st	
— Wellington, 1st		quality, p. lb.	1 3- 1 6
quality, per		— Alicante, 2nd	
bushel ...	4 6- 5 0	quality, p. lb.	10- 1 0
— Wellington, 2nd		— Muscat, 1st qua-	
quality, per		lity, p. lb. ...	3 6- 5 0
bushel ...	3 0- 4 0	Pine-apples, St. Mi-	
Cobs, per 100 lb. ...	30 0 35 0	chael, each ...	3 0- 7 6

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Arums, p. 12 blooms	4 0- 8 0	Orchids:—	
Azalea, 12 sprays...	0 8- 1 0	Cattleya, 12 blms.	6 0-12 0
Bonvardias, per bun.	0 6- 1 0	Odon toglossum	
Carnations, 12 blms.	1 0- 3 0	crispum, 12 blm.	3 0- 6 0
Chrysanthemums,		Pelargoniums, scar-	
per 12 blooms	1 0- 4 0	let, per 12 bunch	6 0- 9 0
— per 12 bunches	3 0- 8 0	— per 1/2 sprays ...	0 8- 1 0
Eucharis, per dozen	3 0- 5 0	Poinsettia, 12 blms.	6 0-12 0
Gardenias, per doz.	3 0- 5 0	Pyrethrum, 12 bun.	2 0- 4 0
Hyacinths (Roman)		Roses, Tea, per doz.	1 0- 3 0
12 sprays... ..	6 0- 9 0	— coloured, p. doz.	2 0- 4 6
Lapageria, per doz.		— pink, French, doz.	3 0- 4 0
liliums	0 6- 1 6	— yellow (Maré-	
Lilac, French, per		chal), per doz.	4 0- 9 0
bunch	3 0- 5 0	— red, per dozen	1 0- 1 0
Lilium Harrisii, do.	4 0- 8 0	— Safrano,	
Lily of the Valley,		French per doz.	2 0- 4 8
per doz. sprays...	1 6- 2 6	Stephanotis, 12 sps.	6 0- 9 0
Maidenhair Fern,		Tuberoses, 12 blms.	0 3- 0 6
per 12 bunches ...	4 0- 8 0	Violets, 12 bunches	1 6- 2 6
Marguerites, per 12		— Parme, French,	
bunches	1 0- 3 0	per bunch ...	2 6- 4 0
Mignonette 12 bun.	2 0- 4 0	— Czar, do. ...	2 6- 3 0
Narciss., White,		— Mimosa or Aca-	
French 12 bun.	3 0- 6 0	cia, do. ...	1 0 2 0

ORCHID-BLOOM in variety

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Cauliflowers, p. crate		Tomatoes:—	
(5 to 8 doz.) ...	10 0-13 0	— ordinary ..	4 0- 5 0
Mushrooms, per lb.	0 8- 9	— Canary Is-	
Cucumbers, per doz.	8 0-18 0	lands, per	
Onions, Eng., cwt.	5 0- 6 0	case, 12 to	
Tomatoes, Home-		14 lb. ...	5 0- 5 6
grown, Smooth,			
p. doz. lb. ...	10 0-12 0		

POTATOS.

Trade quiet; supplies heavy. Snowdrugs, 70s. to 90s.; Hebrons, 75s. to 85s.; Bruces, 45s. to 60s.; Black lands, 30s. to 45s. *J. B. Thomas.*

POTATOS.

LONDON AVERAGES: Dec. 23.—Saxons, 90s. to 100s.; Dunbar Maincrop, 70s. to 90s.; Lincoln Saxons, 70s. to 90s.; Hebrons, 70s. to 80s.; Maincrop, 50s. to 60s.; Sutton's Abundance, 50s. to 70s.; Imperators, 40s. to 50s.; Magnums, 40s. to 50s. per ton.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending December 21, and for the corresponding period last year:—1895: Wheat, 23s. 1d.; Barley, 23s. 8d.; Oats, 13s. 11d. 1894: Wheat, 20s. 8d.; Barley, 21s. 5d.; Oats, 13s. 11d.

SEEDS.

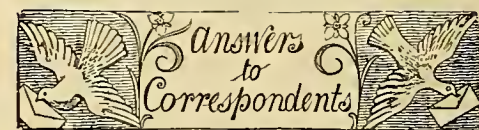
LONDON: December 21.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write, that the seed market now exhibits quite a holiday appearance, and transactions are few and far between, quotations all round are in consequence purely nominal, and no noteworthy feature whatever has developed itself. Meantime prices generally stand at a very moderate level, and with the opening of the New Year a good trade is hoped for. Niger seed on the spot appears nearly exhausted, and is much wanted. Other articles call for no comment.

FRUITS AND VEGETABLES.

FARRINGTON: Dec. 24.—Quotations:—Cabbages, Col-lard, 2s. 6d. per tally; Savoys, 4s. dc.; Cauliflowers, 6s. dc.; Parsnips, 1s. per score; Turnips, 2s. per dozen bunches; Carrots, do.; Leeks, 2s. do.; Spinach, 1s. 3d. per bushel; Celery, 13s. per dozen rolls; Horseradish, 1s. 2d. per bundle; Apples, Canadian Blenheim, 5s. per bush.; Greenings, 15s. per barrel; Baldwin, 18s.; Newtown Pippin, 18s., do.; Tucker's King, 22s. 6d., do.; Ribstons, do.; English Grapes, 1s. 3d. per pound; Almiria do., 5s. per dozen pounds.

HAY.

Average of prices at the metropolitan markets during the week ending December 23, and for the corresponding week last year:—Clover, best, 80s. to 95s.; do., inferior, 50s. to 70s.; hay, best, 80s. to 90s.; do., inferior, 36s. to 60s.; mixture, 78s. to 87s. 6d.; and straw, 20s. to 42s. per load.



BOOKS: *J. P., E. F. C.* There are no elementary books on forestry worth your studying. Get the newest, viz., *The Manual of Forestry*, in four volumes, by Prof. W. Schlich, published by Bradbury, Agnew & Co., Limited, 8, 9, and 10, Bonverie Street, E.C.—*A. G. M. Baltet's The Art of Grafting and Budding* is published by Mr. W. Robinson, 37, Southampton Street.

FUCHSIAS: *Reader.* The earliest-introduced species was *macrostemma* syn. *coccinea*, 1788; the next *lycoides* in 1796—both from Chili, and many other species in the first half of this century. The introducer of the first was said to be a sailor, whose name is not known.

HOLLY: *A. B.* It will be quite safe to cut the old tree hard back into the old wood. When the roots are bared, as you propose doing, it would be advisable to take out a trench all round the tree at a distance of 5 or 6 feet from the stem, cutting back all roots that go beyond that distance, and filling the trench with fresh soil. The new loam and manure that you top-dress with will also do for filling the trench; or if that is too extravagant, you might mix a good proportion of these materials with the staple. Lift Hollies in April, May, and August.

NAMES OF FRUITS: *J. W.* 1, Hacon's Incomparable; 2, Beauté Diel; 3, Josephine de Malines; 4, Althorp Crassane; 5, Knight's Mosarch; 6, Glout Morceau; 7, Apple Court of Wick.—*F. A. Whitehead.* 2, Claygate Pearmain; 3, Cellini; 4, Yorkshire Beauty; 5, Blenheim Orange; 6, Damelov's Seedling.—*A Southern Subscriber.* Your Apples are not known to us. They are probably some local varieties.—*W. H. Divers.* We do not recognise your Apples—No. 1 looks like Cellini, but is much sweeter than that sort, which of course you have.—*Snowdon.* 1, Golden Noble; 2, Old Golden Pippin; 3, Ribston Pippin; 4, Claygate Pearmain; 6, Wyken Pippin.

NAME OF PLANT: *A. J. C.* *Lælia autumnalis.*

COMMUNICATIONS RECEIVED—H. C. F.—J. S.—A. F. B.—H. W. W.—W. B.—H. B.—F. W. B.—W. J. B.—Harrison Weir.—I. E.—D. T. F.—A. D.—R. D.—J. L.—W. P.—W. H. S.—B. P.—J. D.—T. C. F.—M. D.—Soppitt.

CONTINUED INCREASE IN THE CIRCULATION OF THE "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper, increased to the extent of more than 50 per cent., and that it continues to increase weekly.

Advertisers are reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN, AND ALL CLASSES OF GARDENERS AND GARDEN-LOVERS at home, that it has a specially large FOREIGN AND COLONIAL CIRCULATION, and that it is preserved for reference in all the principal Libraries.

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

SEND FOR A PRICE LIST
From the Largest Manufacturer in the Trade,

H. G. SMYTH,
21, GOLDSMITH ST., DRURY LANE, W.C.

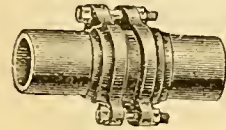
The "DENNIS"
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Complete, 50s.

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THOS. W. ROBINSON,
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In Stock Sizes.
15-oz. 21-oz. { 12x10, 18x12, 18x14, 24x14
7s. 6d. 10s. 0d. { 14x12, 20x12, 18x16, 24x16
Per 100 ft. Box. { 16x12, 16x14, 20x16, 24x18, &c.
1 1/2 x 3 Prepared Sash Bar at 5s. per 100 feet.
Flooring, 5/9 per square; Matching, 4/9; 2 x 4, at 1/2d. per
foot run. Garden Utensils, Trellis, Ironmongery, Paints, &c.
Catalogues free.

THE CHEAP WOOD COMPANY,

72, BISHOPSGATE STREET WITHIN, LONDON, E.C.

BROWN and BLACK FIBROUS PEAT, 25s.
per Ton, or 25 per Truck of 4 Tons; Bags, 5s. each.
PEAT, for forming Rhododendron, Bog, and American Plant
Beds, 21s. per Ton, or 24 4s. per Truck of 4 Tons; Bags, 5s.
THOMAS WALKER, Tekels Park, Camberley, Surrey.

ORCHID PEAT.—Dry and prepared, 5s. 3d.
per bag, on rail; 15s. per cubic yard, in 12 yard trucks.
BROWN FIBROUS PEAT, 3s. 3d. per bag; 10s. per cubic yard.
WALKER AND CO., Poole, Dorset.

RICHARDS' NOTED PEAT.

(Trade supplied on best terms).

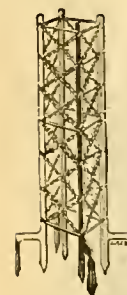
A large stock of the finest quality ORCHID PEAT. Also for
Stove and Greenhouse Plants, Ferns, Rhododendrons, &c. By
the sack, cubic yard, ton, or truck-load. Can be seen in bulk at
London Wharf. Immediate despatch by any Rail or Steamer.
Prompt and Special Quotations for delivery to any Station.
G. H. RICHARDS, Old Shot Tower Wharf, Lambeth,
London, S.E.; Peat Grounds and Depôts, Ringwood and
Wareham. Address all letters to London Wharf.

HEAD GARDENERS AND NURSERYMEN

who use BONES, should apply for price and particulars to
E. S. WILES AND LEWIS, Bone Works, St. Albans.

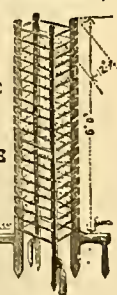
**HILL & SMITH, BRIERLEY HILL,
near DUDLEY;**

And at LONDON & DUBLIN.



Made 6 feet high by 12 in. square,
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Price, 9s. and 10s. 6d. each.

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FENCING,
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VARNISH.



As above, The Famous PORCUPINE TREE GUARD.
Price Lists Free on Application.

The Best Present for a Gardener.

VINES and VINE CULTURE.
The most complete and exhaustive Treatise on
Grapes and their Culture ever published.
Third Edition just out.
Price 5s.; post free, 6s. 6d.
A. F. BARRON, Royal Horticultural Society, Chiswick.

INCREASED CIRCULATION.

Notice to Advertisers.

THE GARDENERS' CHRONICLE

FOR

SATURDAY, JAN. 4, 1896,

WILL CONTAIN AS A

SUPPLEMENT

A

Sheet Almanac.

As a large EXTRA circulation
of this Number is guaranteed, it
will be a very valuable medium
for Advertisements.



Advertisers desirous of
securing Space in this Number are
requested to communicate with the
Publisher, not later than Monday,
December 30, 1895.

"THE PUBLISHER,"

41, WELLINGTON STREET, STRAND,

LONDON, W.C.

**THOMSON'S
VINE AND PLANT MANURE.**

The very best for all purposes.
The result of many years' experience. Largely
used both at home and abroad.

Agent for London:—J. GEORGE, 14, Redgrave Road,
Putney, S.W.
Agent for Channel Islands:—J. H. PARSONS, Market
Place, Guernsey.
Sole Makers:—WM. THOMSON AND SONS, LTD., Tweed
Vineyard, Clovenfords, N.B.

Price Lists and Testimonials on application.

Analysis sent with orders of 1/2-cwt. and upwards.

SOLD BY ALL SEEDSMEN.

SAVE HALF THE COST.

GARSDIE'S

BEDFORDSHIRE
COARSE AND FINE

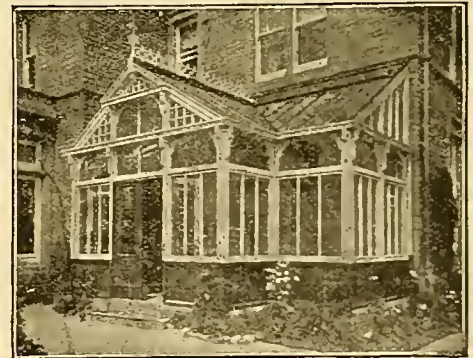
Is admitted by the
leading Nurserymen
to be the Best
Quality obtainable
in the Trade.

SILVER SAND

Consumers should Buy Direct from the Owner of these
Celebrated and Extensive Pits, which contain a practically in-
exhaustible supply of Splendid Sand, and thus save half the
ordinary cost.

Apply direct to the Proprietor for Samples and Price
free on Rail or Canal. All Orders executed with the utmost
promptness and under personal supervision. Special Rail-
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GEO. GARSDIE, Jun., F.R.H.S., Leighton Buzzard, Beds

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**HORTICULTURAL
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MANY
PRIZE MEDALS.
Awarded the only
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International Horticultural
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W. RICHARDSON & CO.,
DARLINGTON.

New and Cheaper Edition, Enlarged.
**THE HORTICULTURAL HANDBOOK AND
EXHIBITOR'S GUIDE.**

A Treatise on Cultivating, Exhibiting, and Judging Plants,
Flowers, Fruits, and Vegetables.
By W. WILLIAMSON, Gardener; revised by MALCOLM
DUNN, Gardener to His Grace the Duke of Buccleuch and
Queensberry, Dalkeith Park.
Crown 8vo, paper covers, 2s.; cloth, 2s. 6d.
"A book no one interested in horticulture can afford to be
without. . . . It is not only the most practical, but, in
its divisions and details, the most comprehensive and complete
work of its kind."—Horticultural Times.

Wm. BLACKWOOD & SONS, Edinburgh and London.

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CHERE. A monthly horticultural work, with superb Coloured
Plates and Illustrations. Published since 1865, by F. BURVE-
NICH, F. PAYNAERT, E. RODIGAS, and H. J. VAN HULLE,
Professors at the Horticultural School of the Belgian Govern-
ment at Ghent. Post-paid, 10s. per annum.
H. J. VANHULLE, Botanical Gardens, Ghent, Belgium.

Telegrams—"CONSERVATORIES, LONDON."

Telephone, No. 8246.

NOTICE to BUILDERS, SEEDSMEN, NURSERYMEN, MARKET GARDENERS, HOT-WATER FITTERS, TIMBER MERCHANTS, and the Trade Generally.

W.M. COOPER, LTD., NINTH ANNUAL CLEARANCE SALE

Office:—755, OLD KENT ROAD, LONDON, S.E.

(The Largest Steam Horticultural Works in the World.)

SHOW GROUND: DEVONSHIRE GROVE (adjoining).

NURSERIES (the most complete in the kingdom): FELTHAM and HANWORTH.

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BARGAINS.

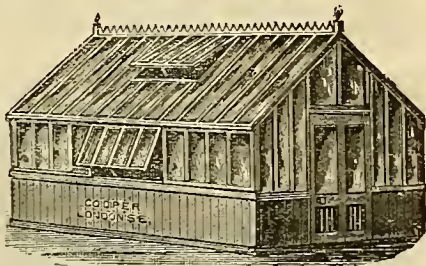
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SECOND-HAND
GOODS.

BEING at the end of the Season, we are again induced to offer our Stock on hand at ridiculously Low Prices, to make room for our SPRING STOCK, for SIX WEEKS ONLY, COMMENCING DECEMBER 9. LAST DAY OF SALE, JANUARY 18, 1896.

CONDITIONS OF SALE.—Goods are offered subject to being on hand on receipt of reply. Cash to accompany all orders, and prices to be strictly net. All orders will be executed in rotation, and carefully packed and put on rail, except those otherwise stated.

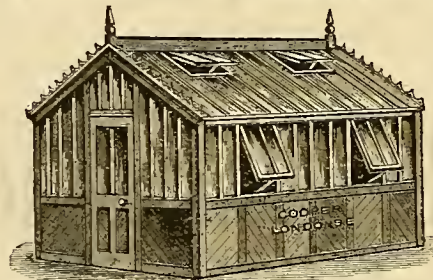
P.O.O. payable at 794, Old Kent Road; Cheques crossed "L. and S. W. Bank."

"AMATEUR" SPAN-ROOF GREENHOUSE. TENANT'S FIXTURE.



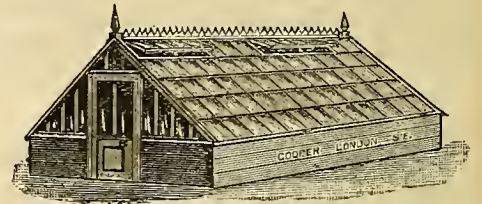
Sale price from £2 5s.

SPAN-ROOF VILLA CONSERVATORY.



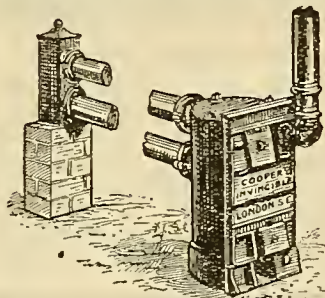
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THE AMATEUR FORCING-HOUSE. TENANT'S FIXTURE (SPAN-ROOF).



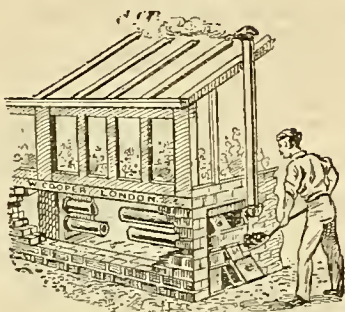
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INVINCIBLE HOT-WATER APPARATUS.



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The way our Heating Apparatus is Stoked.



IRON BUILDINGS of EVERY DESCRIPTION.

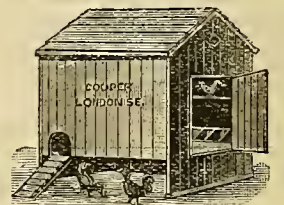
Estimates given for Timber, Iron, Glass, Heating Apparatus, Poultry Appliances, &c., &c.

IRON CHAPEL or MISSION HALL.



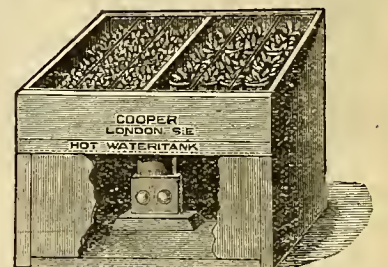
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For full particulars see Four-page Advertisement in issue of Dec. 7; or, Illustrated Sale List, post-free on application.

SPECIAL ORCHID SPHAGNUM.—Fresh picked, in three sizes, small close-growing for Odontoglossums and Masdevallias; medium for Cattleyas and Cypripediums; large for Vandas and Arides. Sample box of either of the above post free, 1s. 8d. Prices for large quantities on application to WM. BARLASS, Pitlochry, N.B.

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Guaranteed to clear out Mealy Bug.

Cleanse and prepare your Fruit Trees and Plants, both indoors and out, for a healthy start next season, and destroy Scale, Bug, Red Spider, American Blight, and the Larvæ of other insects, by using the

XL ALL LIQUID INSECTICIDE WASH

(Patent),
A pure Nicotine Preparation (under a new system), from duty-free Tobacco. Absolutely safe, and no fear of injury to the buds. In use goes twice as far as any other Insecticide.

Per Pint, 2s.; Quart, 3s. 6d.; ½ Gallon, 5s.; 1 Gallon, 10s.

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The following is from one of the largest Market Growers round London, having acres covered over with glass-houses:—

MR. THOMAS ROCHFORD writes,—

"Turnford Hall Nurseries,

"Near Broxbourne, Herts, Nov. 9, 1895.

"Please send me on 2½ gallons of your XL ALL LIQUID Insecticide; I consider this is the most effectual and cheapest Insecticide I have ever used."

To be obtained from all Nurserymen, Seedsmen, Florists, and Sundriesmen; or, direct from—

G. H. RICHARDS, Sole Proprietor, Old Shot Tower Wharf, Commercial Road, Lambeth, London, S.E.

Further Particulars and Testimonials post-free on application.

GARDENING APPOINTMENTS.

MR. CHARLES GRIST, of the Frame Ground, Newington Gardens (Parks Department), as Gardener to the Vestry of St. Luke's, R.C.

MR. HERBERT WRIGHT, for the last three years General Foreman at High Firs, Harpenden, Herts, as Gardener to Captain HAMILTON, Beckett Park, Shrivvenham, Berks.

CATALOGUES RECEIVED.

J. R. PEARSON & SONS, Chilwell, near Nottingham—Chrysanthemums.

HERB & WALLE, Naples, Italy—Seeds.

ANDREWS & Co., 21, Winchcombe Street, Cheltenham—Seeds.

DICKSON & ROBINSON, 12, Old Millgate, Manchester—Seeds.

COOPER, TABER & Co., Limited, 90, Southwark Street, London, S.E.—Wholesale Catalogue of Seeds.

H. CANNELL & SONS, Swanley, Kent—Seeds and Implements.

ARMITAGE BROS., High Street, Nottingham—Seeds.

DICKSONS, Limited, Chester—Seeds, Implements, and Garden Requisites.

BREAKFAST—SUPPER.

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GRATEFUL—COMFORTING.
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ESTABLISHED 1851.

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TWO per Cent. on CURRENT ACCOUNTS, on the minimum monthly balances, when not drawn below £100.

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For the encouragement of Thrift the Bank receives small sums on deposit, and allows interest at the rate of TWO-AND-A-HALF PER CENT. per annum on each completed £1.

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HOW TO PURCHASE A HOUSE FOR TWO GUINEAS PER MONTH.

BIRKBECK FREEHOLD LAND SOCIETY.

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The BIRKBECK ALMANACK, with full particulars, post-free.
FRANCIS RAVENSCROFT, Manager.

THE GARDENERS' CHRONICLE

PUBLISHER'S NOTICES.

GARDENERS' CHRONICLE TELEGRAMS.—The Registered Address for Foreign and Inland Telegrams is "Gardchron, London."

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9 "	..	0 5 6	20 "	..	0 11 0
10 "	..	0 6 0	21 "	..	0 11 6
11 "	..	0 6 6	22 "	..	0 12 0
12 "	..	0 7 0	23 "	..	0 12 6
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AND SIXPENCE FOR EVERY ADDITIONAL LINE.

If set across two Columns, the lowest charge will be 20s. If set across three Columns the lowest charge will be 30s. Page, 48; Half Page, 44 10s.; Column, 43.

GARDENERS AND OTHERS WANTING SITUATIONS.

28 words, including name and address, 1s. 6d., and 6d. for every additional line (about nine words) or part of a line. These Advertisements must be prepaid. This scale does not apply to announcements of Vacant Situations, which are charged at the ordinary scale.

Births, Deaths, and Marriages, 5s. each insertion.

Publishing Office and Office for Advertisements,
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WANTED by Gentleman's Son, PARTNER-SHIP in small MARKET NURSERY, or succession to same, mainly glass.—ARMITSTEAD, Winmarleigh, Garstang, Lancs.

WANTED, at the Epileptic Colony, Chalfont St. Peter, a GARDENER, experienced in Vegetable and Fruit Cultivation, and in Disposal of Produce, to Manage Garden, to work with and supervise epileptic workmen, and instruct them in Garden Work.—Apply, sending copies of testimonials, to SECRETARY, National Society for Employment of Epileptics, 12, Buckingham Street, Strand, W.C.

WANTED, HORTICULTURAL BUILDER'S MANAGER.—One thoroughly conversant with Conservatory Building and Hot-water Engineering. Competent to wait upon Gentlemen, give advice, and prepare Estimates. Good salary given to a very responsible and experienced man.—Apply, in first instance, by letter, stating experience and salary expected, to W. DUNCAN TUCKER, Conservatory Department, Tottenham.

WANTED, a GARDENER, where Boy and odd MAN are kept. Knowledge of Vines and Peaches required.—Colonel PEDDER, Kilbourne Hall, Derby.

WANTED, OUTSIDE NURSERY HANDS. Must be skilled Knifemen, and have had good general experience. Also Rose-grower and general Outside Propagator, especially of Evergreen Shrubs and Conifers.—Apply, with references and wages required, to SYDNEY S. MARSHALL, Barnham Nursery, Barnham Junction, Sussex.

WANTED, as FOREMAN, in Plant Department, under Glass, a thoroughly capable MAN, who has had experience in large establishments.—Apply, giving references, and stating salary expected, to JNO. COWAN AND CO., Ltd., The Vineyard and Nurseries, Garston, near Liverpool.

WANTED, a MAN, to take charge of the Orchids. Only those thoroughly experienced in them need apply. Wages £1 a week. Botby and vegetables.—F. CHAMBERLAIN, Deepdene Gardens, Dorking, Surrey.

WANTED, TWO WORKING FOREMEN GROWERS, one for Tomatos, Cucumbers, Mushrooms, Roses and Flowers; the other for Fruit, Indoors and Out.—State experience and salary required, to HORTUS, Woodlands, Sunbury.

WANTED, an energetic MAN, not under 30, as WORKING FARM BAILIFF. One who understands routine of Seed Farms preferred.—State age, wages required, and references, to WM. OLIBRAN AND SON, Oldfield Nurseries, Altrincham.

TRAVELLER WANTED immediately for JOHN WATERER & SONS, Limited, Bagshot. Must be a first-class man with good connection amongst gardeners, the trade, and architects. Reply by letter to The Nurseries, giving full details as to experience, references, and terms.

A WELL-EDUCATED YOUTH can be received as APPRENTICE to the Nursery and Seed Trade. Board and residence. Premium.—D. G., *Gardeners' Chronicle's* Office, 41, Wellington Street, Strand, W.C.

WANTED, YOUTH, age 15 to 17, for Gentleman's Gardens in Worcestershire. Must be first-class scholar and strong. One wishing to learn Gardening, Fruit Growing, Forestry, and General Estate work, address with all particulars—H. G., 41, Wellington St., Strand, W.C.

WANTED, an energetic and thoroughly trustworthy MAN as SHOPMAN, of good address, with a knowledge of Cut Flower and Plant Trade preferred, but not absolutely necessary.—Apply, stating age, experience, salary expected, if married or single, to WM. TROUGHTON, Seedsmen, 4, Church Street, Preston, Lancashire.

WANT PLACES.

B. S. WILLIAMS AND SON beg to intimate that they have at present in their Nursery and upon their Register some excellent Men, competent either to fill the situation of HEAD GARDENER, BAILIFF, FOREMAN, or JOURNEYMAN. Ladies and Gentlemen requiring any of the above will please send full particulars, when the best selections for the different capacities will be made.—Victoria and Paradise Nurseries, Upper Holloway, N.

Gardeners, Farm-Bailiffs, Foresters, &c.

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

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

F. SANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—
F. SANDER AND CO., St. Albans.

GARDENER (HEAD); age 31.—Mr. W. EMERTON, gardener to the Right Hon. Earl Brownlow, Belton, Grantham, can with confidence recommend a thoroughly practical man, conversant with the requirements of good establishment. Has had sixteen years' experience; four years here as Fruit and Kitchen Garden Foreman. Good references from previous places.

GARDENER (HEAD); age 30.—Mr. WARD, Stoke Edith Gardens, Hereford, would be pleased to recommend T. Stead to any one requiring the services of a good practical Gardener. Has had good experience in all departments.

GARDENER (HEAD); age 28.—Sir ALGERNON OSBORN, Bart., Chicksands Priory, Shifford, Beds, wishes to recommend his Head Gardener, E. Hawes, to any Lady or Gentleman requiring a good practical man. Excellent references.—Address as above.

JOHN FLORENCE, HEAD GARDENER, Hooton Hall, Chester, will be disengaged on January 17, and will be glad to hear of a situation. Thoroughly practical in all departments. Highly recommended.

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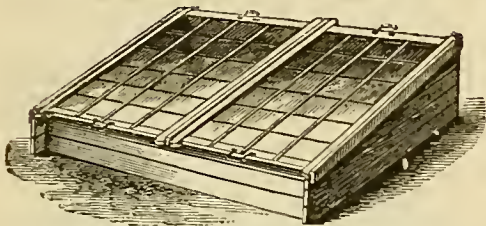
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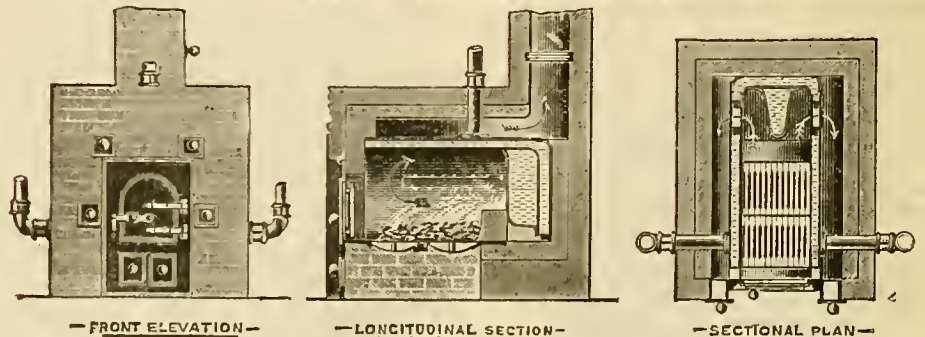
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